



The Planning Inspectorate
Yr Arolygiaeth Gynllunio



UPDATED
REPORT on the
IMPLICATIONS for
EUROPEAN SITES

Proposed East Anglia TWO
Offshore Wind Farm

An Examining Authority report prepared with the
support of the Environmental Services Team

Planning Inspectorate Reference: EN010078

~~04 March 2021~~

16 June 2021

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1 INTRODUCTION

1.1 Background

- 1.1.1 East Anglia TWO Limited (the Applicant) has applied to the Secretary of State for Business, Energy and Industrial Strategy (SoSBEIS) for a Development Consent Order (DCO) under section 37 of the Planning Act 2008 (PA2008) for the proposed East Anglia TWO (EA2) Offshore Windfarm ('the Proposed Development'). The SoSBEIS has appointed an Examining Authority (ExA) to conduct an examination of the application, to report its findings and conclusions, and to make a recommendation to the SoSBEIS as to the decision to be made on the application.
- 1.1.2 Another simultaneous and separate application has ~~been~~ made for the East Anglia ONE North (EA1N) Offshore Windfarm. This application is for a separate offshore generating station and offshore transmission system, proposed to connect at a common landfall location. The two applications also propose to use a common onshore cable corridor and a common onshore transmission system connection point. This ~~Report~~ report on the Implications for European Sites (RIES) refers to issues affecting the other application where they have a bearing on the matters covered by this RIES. This ~~Report~~ report has been compiled specifically for the EA2 Offshore Windfarm, and therefore is marked with the blue icon as set out in the Examining Authority's Procedural Decision (PD) of 21 February 2020 [PD-006].
- 1.1.3 The SoSBEIS is the competent authority for the purposes of the Habitats Regulations¹ and the Offshore Marine Regulations² for energy infrastructure applications submitted under the PA2008 regime. The findings and conclusions on nature conservation issues reported by the ExA will assist the SoSBEIS in performing its duties under the Habitats Regulations and the Offshore Marine Regulations.
- 1.1.4 This RIES compiles, documents and signposts information provided within the DCO application, and the information submitted throughout the Examination by both the Applicant and Interested Parties, ~~up to Issue Specific Hearing 9 of the Examination (19 February 2021)~~ in relation to potential effects to European Sites³. It is not a standalone document and should be read in conjunction with the ~~examination~~ Examination documents referred to. Where document references are presented in

¹ The Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations).

² The Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended) (the Offshore Marine Regulations) apply beyond UK territorial waters (12 nautical miles). These regulations are relevant when an application is submitted for an energy project in a renewable energy zone (except any part in relation to which the Scottish Ministers have functions).

³ The term European Sites in this context includes sites within the UK's national site network as defined in the Habitats Regulations, and Ramsar sites, which are included as a matter of Government policy. For a full description of the designations to which the Habitats Regulations apply, and/or are applied as a matter of Government policy, see the Planning Inspectorate's Advice Note 10.



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square brackets [] in the text of this report, that reference can be found in the Examination library published on the National Infrastructure Planning website at the following link:

[East Anglia TWO Examination Library](#)

- 1.1.5 ~~It is issued~~The RIES was first published on 04 March 2021, taking into account the Examination as above up to Issue Specific Hearing 9 of the Examination (19 February 2021). The RIES was subsequently amended as an updated version in June 2021 (see RIES Amendments and Consultation, below).
- 1.1.6 The purpose of the RIES (original and updated) is to ensure that Interested Parties including the statutory nature conservation bodies: Joint Nature Conservation Committee (JNCC) and Natural England (NE) are consulted formally on Habitats Regulations matters. This process may be relied on by the ~~Secretary of State~~SoSBEIS for the purposes of Regulation 63(3) of the Habitats Regulations and Regulation 28(4) of the Offshore Marine Regulations. Following consultation, the responses will be considered by the ExA in making its recommendation to the Secretary of State and made available to the Secretary of State along with this report. ~~The RIES will not be revised following consultation.~~
- 1.1.7 The Applicant has not identified adverse effects on European sites in any EEA States⁴ [APP-044]. Sites outside of the UK's national site network that were considered in the Applicant's screening exercise, are addressed in Section 3 of this report.

1.2 Documents used to inform this RIES

- 1.2.1 The documents use to inform this RIES are listed in Annex 1, which also sets out the documents in line with the chronology of the submission of the application, pre-examination, and ~~examination~~Examination.
- 1.2.2 The Applicant's DCO application concluded that there is the potential for likely significant effects on ~~2418~~ European sites and therefore provided an Habitats Regulations Assessment (HRA) report entitled '5.3 Habitat Regulations Assessment - Information to Support Appropriate Assessment' [APP-043] with the DCO application, together with screening and integrity matrices ([APP-045] and [APP-046] respectively).

Examination

- 1.2.3 In response to the ExA's ~~first written questions~~First Written Questions (ExQ1) [PD-018], the Applicant submitted revised screening matrices at Deadline 1 [REP1-018] and a further updated version at Deadline 3 [REP3-016] in response to comments received from NE at Deadline 2 [REP2-057].
- 1.2.4 In addition to this and in response to matters raised, the Applicant provided material related to a 'without prejudice' derogations case within

⁴ European Economic Area (EEA) States.



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the time period of examination. This RIES includes reference to this material where relevant and applicable to its purpose.

- 1.2.5 In response to an action point raised at Issue Specific Hearing (ISH)3 [\[EV-050\]](#) on 19 January 2021 ~~[\[EV-050\]](#)~~, the Applicant confirmed [\[REP5-027\]](#) it did not consider that the introduction of changes to the Habitats Regulations 2017 through the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 had any material implications for its assessments. This view was also expressed by NE following the matter being raised at ISH3 [\[REP5-089\]](#).
- 1.2.6 For those European sites and qualifying features where the Applicant's conclusions have been disputed or queried during the Examination, the matrices have been updated by the ExA, with the support of the Environmental Services Team of the Planning Inspectorate using the documents listed in Annex 1. The revised matrices are included as Annex 2 to this report.

RIES Amendments and Consultation

- 1.2.7 Subsequently, on the 30 March 2021 the SoSBEIS granted an extension of the Examination period of three months, ending on the 06 July 2021 [PD-037], in relation to both EA1N Offshore Windfarm and EA2 Offshore Windfarm. This June 2021 update to the RIES has been subject to amendments to incorporate the evidence gathered following the extension of the Examination period and to allow for consultation on this evidence. It takes into account the Examination up to and including Deadline 11 (07 June 2021).
- 1.2.8 When an examining authority publishes a RIES in relation to a DCO examination, the RIES is not normally revised to incorporate responses received from consultation, however, in this case the opportunity has been taken to do so. The updated RIES therefore also incorporates relevant comments received from Interested Parties on the RIES when published in March 2021. Annex 1 and Annex 2 of this document have also been updated accordingly.
- 1.2.9 As such, throughout this document, references to the March 2021 publication of the document appear as 'the original RIES' while the June 2021 publication is referred to as 'the updated RIES'.

1.3 Structure of this RIES

- 1.3.1 The remainder of this report is as follows:
- **Section 2** identifies the European site(s) that have been considered within the DCO application and during the examination period, up to Deadline [5.11](#). It provides an overview of the issues that have emerged during the Examination;
 - **Section 3** identifies the European site(s) and qualifying feature(s) screened by the Applicant for potential likely significant effects,



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(either alone or in-combination with other projects and plans) together with any updates to the screening submitted during the Examination. This section also identifies where Interested Parties have disputed the Applicant's conclusions;

- **Section 4** identifies the European site(s) and qualifying feature(s) which have been considered in terms of adverse effects on integrity, either alone or in-combination with other projects and plans. The section identifies where Interested Parties have disputed the Applicant's conclusions;
- **Annex 1** provides a guide to the documents used to inform the RIES, set out as a list with key dates of the application and the Examination; and
- **Annex 2** comprises matrices for those European sites and qualifying features for which the Applicant's conclusions were disputed in relation to adverse effects on integrity of European sites.



2 OVERVIEW

2.1 European Sites Considered

- 2.1.1 The Proposed Development is not connected with or necessary to the management for nature conservation of any of the European site(s) considered within the Applicant's assessment [APP-044].
- 2.1.2 The Applicant undertook an initial Habitats Regulations Assessment (HRA) screening exercise which is reported in [APP-044]. The Applicant's approach to screening (including the approach to identifying sites/features with potential to be affected by the Proposed Development) is outlined in Chapter 2 of [APP-044].
- 2.1.3 The European sites that could be affected by the Proposed Development are listed in Tables 3.2, 4.2, 5.2, 6.2, 7.3, and 8.2 of the Applicant's HRA Screening Report [APP-044]. The potential for likely significant effects was only considered further where a potential pathway for effects could be identified for individual site features.
- 2.1.4 Table 9.1 of [APP-044] summarises the sites and features for which likely significant effects could not be excluded. The outcome of this screening exercise and the degree of agreement with Interested Parties is reported in [Section 3](#) of this report. The Applicant's HRA Information to Support Appropriate Assessment Report [APP-043] reports on the reasoning and evidence the Applicant relied on to identify the potential for adverse effects on integrity of the sites and features where likely significant effects were identified. Section 4 of this report signposts the matters of examination relevant to the information to support the adverse effects on integrity assessment and signposts the relevant evidence of Interested Parties' positions on the conclusions of adverse effects and highlights where disagreement/ uncertainty remains.
- 2.1.5 As the detailed design of the Proposed Development has yet to be finalised, the zone of influence associated with the development was defined on the basis of design parameters which are stated in the Applicant's assessments to represent the maximum adverse scenario for each parameter. Decommissioning impacts are assumed to be similar to those predicted for construction. Sites which could be affected by the Proposed Development were initially identified using the criteria described in [APP-044]. During the course of the Examination, changes to some of these parameters have been adopted with the intention of mitigating adverse effects. These changes are addressed where relevant in Section 4 of this RIES.
- 2.1.6 New sub-sections addressing the RIES amendments are included where applicable within each section of the updated RIES. Other minor amendments have been made to the original RIES to provide context to these updates. These amendments have been highlighted as tracked changes to aid the reader.



2.2 HRA matters considered during the Examination

2.2.1 As set out in its HRA Integrity Matrices ([APP-046] updated at Deadline 3 [REP3-044]), the Applicant ~~concluded~~concludes that AEOI could be excluded for all of the sites and features carried through to Stage 2 of the assessment (both project alone and in-combination with other plans and projects). However, NE and other Interested Parties, including the Royal Society for the Protection of Birds (RSPB) and The Wildlife Trusts (TWT), disputed these conclusions. The sites and features where the Applicant’s conclusions regarding AEOI were disputed are listed in Table 2.0. The Examination therefore centred primarily on these points of disagreement and the reasons for disagreement.

Table 2.0: Sites and Features for which Applicant’s conclusions on AEOI were disputed during the Examination

Name of European Site	Features
Alde-Ore Estuary SPA and Ramsar	Lesser black-backed gull (breeding)
Flamborough and Filey Coast SPA	Gannet (breeding)
	Kittiwake (breeding)
	Razorbill (breeding)
	Guillemot (breeding)
	Seabird assemblage
Outer Thames Estuary SPA	Red-throated diver (non-breeding)
Sandlings SPA	Nightjar (breeding)
	Woodlark (breeding)
Southern North Sea SAC	Harbour porpoise

2.2.2 Other significant points which have been discussed in the Examination include:

- Assessment of displacement impacts (particularly in relation to red-throated diver (Outer Thames Estuary SPA) and the auk species which are features of the Flamborough and Filey Coast SPA);
- 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;



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- The approach to in-combination assessment for effects on seabird features;
- 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;
- In-combination effects from underwater noise during construction on the harbour porpoise population of the Southern North Sea SAC and the form and securing mechanism of proposed mitigation measures;
- Avoidance and reduction of displacement effects on the red-throated diver qualifying feature of the Outer Thames Estuary SPA;
- Further design amendments, such as raising wind turbine generator draught height, as mitigation to address adverse effects on seabird features from collision;
- Construction methods and mitigation measures in relation to the crossing of the Sandlings SPA by the onshore cable route; and
- The feasibility, delivery, and details of compensation measures required to address AEOI if not excluded.



3 LIKELY SIGNIFICANT EFFECTS

3.0 Assessment approach

- 3.0.1 The Applicant’s Stage 1 HRA screening exercise is presented in the HRA Screening Report [APP-044]. The Applicant’s approach to screening (including the approach to identifying sites/ features with potential to be affected by the Proposed Development) is outlined in Section 2 (HRA Methodology [APP-044]).
- 3.0.2 A total of 185 European sites were identified and included in the screening stage; all sites are listed in Table 2.2 (Sites included in Screening) of Appendix 2 of the HRA Screening Matrices [APP-045]. Sites included at Stage 1 are also presented within a series of supporting figures in Annex 1 of the HRA Report (Figures 3 to 8.1c [APP-043]). Section 2.3 (Assessment of potential effects) of [APP-045] presents the screening matrices for each of the ~~185~~186 sites and determines the risk of likely significant effects (LSE) on the relevant qualifying features of each site.
- 3.0.3 An additional eight sites for grey seal and an additional site for harbour seal were included in the screening assessment following consultation that determined that all designated sites within ~~100 km~~100km (based on the typical foraging range of grey seal and 80km average foraging range for harbour seal) should be included into the screening assessment [APP-043]. Additional SPA and Ramsar sites designated for overwintering wildfowl and waders were also included within the assessment post-screening on the basis that some of the designated species undertake seasonal migrations that may cross the EA2 wind farm array. This puts them at risk of collision therefore significant effects could not be ruled out (as stated in Paragraph 14 and listed in Table 2.2 of the HRA Report [APP-043]).

Table 3.0: Additional European Sites identified following consultation pre-application

Name of European Site	Features
Vlaamse Banken SAC	Grey seal Harbour Seal
Voordelta SAC	Grey seal
Voordelta SPA	Grey Seal
SBZ1 / ZPS 1 SPA	Grey Seal
SBZ2 / ZPS 2 SPA	Grey Seal
SBZ3 / ZPS 3 SPA	Grey Seal
Vlakte van de Raan SCI	Grey Seal
Bancs des Flandres SAC	Grey Seal



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Name of European Site	Features
Vlakte van de Raan SAC	Grey Seal
Breydon Water SPA and Ramsar	Overwintering wildfowl and waders
Broadland SPA and Ramsar	Overwintering wildfowl and waders
North Norfolk Coast SPA and Ramsar	Overwintering wildfowl and waders

The assessment of in-combination effects

- 3.0.4 The Applicant has identified pathways for potential in-combination effects within its Stage 1 HRA Report [APP-044] in relation to onshore ornithology, offshore ornithology, and marine mammals. The Applicant's approach to the in-combination assessment is outlined in Section 2.1.6 of section 2 (HRA Methodology) of the HRA Screening Report [APP-044]; Paragraph 61 of the HRA Screening Report [APP-044] confirms that the in-combination assessment presents relevant in-combination effects from projects using the six-tiered approach as devised by NE (Joint Nature Conservation Committee (JNCC) and Natural England, 2013)⁵ and as presented in Table 2.1 [APP-044]. Consultation responses presented in Table A2.3 [APP-047] show that NE expressed concern that the six-tier approach presented was too complicated, to which the Applicant responded that simplification has been considered but a decision was made to retain the approach. No further comments have been made on this point.
- 3.0.5 The Applicant's HRA Report [APP-043] presents an assessment of in-combination effects for onshore ornithology (section 3), offshore ornithology (section 4), and marine mammals (section 5). The other plans and projects included in the in-combination assessments vary depending on the features assessed.
- 3.0.6 The other plans and projects, specifically other consented and operational wind farms, included in the in-combination assessment of effects on offshore ornithology features has been a matter of disagreement during the Examination and this is discussed within the sections below for the qualifying features/sites concerned.

⁵ Joint Nature Conservation Committee and Natural England. Suggested Tiers for Cumulative Impact Assessment, 12 September 2013. JNCC, Peterborough.



3.1 Summary of HRA screening outcomes during the Examination

Sites and features screened at Stage 1

- 3.1.1 A number of sites presented in the HRA Screening Report [APP-044] were not present in the HRA Screening Matrices [APP-045]. In its First Written Questions (ExQ1) 1.2.3 of [PD-018]), the ExA highlighted that there were a number of sites (listed in Table 3.1) missing from the screening assessment and requested either justification for their omission or an updated screening assessment to include them. The ExA also noted at Question 1.2.4 that the footnotes in the HRA Screening Matrices [APP-045] do not refer to the specific paragraph numbers of the application documents in which the evidence can be found and requested that this was included in an updated screening assessment.
- 3.1.2 The Applicant subsequently submitted updated Information to support the Screening Matrices [REP1-018] with updated footnotes to include document and paragraph number references to the application materials where the evidence can be found and also included the 17 sites affected by discrepancies in its screening assessment identified by the ExA; these are listed in Table 3.1 below.

Table 3.1: European Sites affected by discrepancies identified by the ExA with the Applicant’s HRA Documents

Name of European Site	Features
Plymouth Sound and Estuaries SAC	Fish Benthic habitats (see Page 162 of [REP1-018])
Severn Estuary SAC	Fish Benthic habitats (see Page 184 of [REP1-018])
River Avon SAC	Fish (see Page 171 of [REP1-018])
Havet Omkring Nordre Ronner SAC (designation not stated in Applicant’s report)	Grey seal Harbour seal
Knudegrund SAC	Harbour porpoise
Lønstrup Rødgrund SAC	Harbour porpoise
Sandbanker ud for Thorsminde SAC	Harbour porpoise
Sandbanker ud for Thyboron SAC	Harbour porpoise
Thyboron Stenvolde SCI	Common porpoise



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Name of European Site	Features
Littoral Cauchois SAC	Benthic habitats (see Page 116 of [REP1-018])
Panache De La Gironde Et Plateau Rocheaux De Cordouan (Systeme Pertuis Gironde) SAC	Marine mammals Fish Benthic habitats (see Page 154 of [REP1-018])
Pertuis Charentais SAC	Marine mammals Fish Benthic habitats (see Page 160 of [REP1-018])
Mühlenberger Loch SPA	Marine mammals Fish Benthic habitats (see Page 135 of [REP1-018])
Schleswig-Holsteinisches Elbastuar und angrenzende Flächen SAC	Marine mammals Fish Benthic habitats (see Page 180 of [REP1-018])
Untereibe SCI	Fish (see Page 206 of [REP1-018])
Hamford Water SPA	Waterbird assemblage Breeding little tern
Hamford Water Ramsar	Waterbird assemblage Breeding little tern

3.1.3 The Screening Matrices [APP-045] numbers the sites 1 to 185. However, it was also noted that there are a number of sites that hold multiple designations (for example, sites that are covered by both an SPA and Ramsar designation) that have been grouped together. The ExA's First Written Question 1.2.5 [PD-018] noted that Ramsars and SPAs had been combined in the HRA Screening Report [APP-044] and requested the Applicant explain this approach and whether this had been agreed with NE. In its response [REP1-159] NE confirmed that the draft Statement of Common Ground (SoCG) [REP1-058] between the Applicant and NE states that this approach has been agreed. NE does not explicitly confirm that it is satisfied that the correct sites and features have been identified in the Applicant's HRA screening assessment, it confirms that it agreed with the



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scope and conclusions of the HRA Screening assessment (response to ExQ1 1.2.6, [REP1-159]).

- 3.1.4 NE [REP2-057] highlights that whilst it does not contest the conclusions of the screening assessment, some of the features and reasoning within the screening matrices [REP1-018] are incorrect. Following this, the Applicant submitted an updated 'Information to Support Appropriate Assessment Screening Matrices' [REP3-016] to reflect the correct features and reasoning.
- 3.1.5 NE [RR-059] referred to Table 12.37 of ES Appendix 12.3 (Information for the Cumulative Assessment [APP-471]) and suggested that a number of existing and operational offshore wind farms have been excluded from the Applicant's in-combination assessment. NE's comments related to concerns around subsequent underestimation of the effects on offshore ornithology, and the implications of this for the Stage 2 assessment. This matter is discussed further in Section 4 of this RIES. The approach to in-combination assessment as far as it has bearing on the screening for likely significant effects (LSE) (Stage 1 assessment) was not disputed.
- 3.1.6 As a result of the screening assessment [APP-044], the Applicant concluded that the Proposed Development is **likely to give rise to significant effects**, either alone or in-combination with other projects or plans, on the qualifying features of the European site(s) listed in Table 3.2.

Table 3.2 Sites and features screened into Stage 2 of the HRA by the Applicant

Name of European Site	Features
Sandlings SPA	Nightjar (breeding)
	Woodlark (breeding)
Outer Thames Estuary SPA	Red-throated diver
Greater Wash SPA	Red-throated diver
	Little gull
Alde-Ore Estuary SPA and Ramsar	Lesser black-backed gull
Breydon Water SPA and Ramsar	Overwintering wildfowl and waders
Broadland SPA and Ramsar	Overwintering wildfowl and waders
North Norfolk Coast SPA and Ramsar	Overwintering wildfowl and waders
	Gannet
	Kittiwake
Flamborough and Filey Coast SPA	Razorbill



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Name of European Site	Features
	Guillemot
	Seabird assemblage
Southern North Sea SAC	Harbour porpoise
The Wash and North Norfolk Coast SAC	Harbour seal
Humber Estuary SAC	Grey seal
Vlaamse Banken SAC	Grey seal
SBZ 1 / ZPS 1 SPA	Grey seal
SBZ 2 / ZPS 2 SPA	Grey seal
SBZ 3 / ZPS 3 SPA	Grey seal
Vlakte van de Raan SCI	Grey seal
Bancs des Flandres SAC	Grey seal
Vlakte van de Raan SAC	Grey seal
Voordelta SAC and SPA	Grey seal

- 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]. No other party raised concerns about the screening assessment.
- 3.1.8 The European sites carried forward to consideration of adverse effects on site integrity are summarised in Section 4 of this report.

4 ADVERSE EFFECTS ON INTEGRITY

4.0 Conservation Objectives

4.0.1 The Applicant's Information to Support Appropriate Assessment [APP-043] did not provide conservation objectives for the following sites that were carried through to Stage 2 of the assessment:

- Breydon Water SPA;
- Broadland SPA; and
- North Norfolk Coast SPA.

4.0.2 The Applicant was requested to provide the conservation objectives for these sites and explain how those conservation objectives have been considered in its assessment (ExQ1 1.2.7 [PD-018]). The Applicant submitted the requested conservation objectives at Deadline 1 [REP1-107]. As noted in Section 3.2 in relation to the assessment of LSE, concurrent Ramsar sites and SPAs have also been combined in the Applicant's HRA Information to Support Appropriate Assessment Report [APP-043], and this approach has been agreed with NE [REP1-058].

4.0.3 NE has advised that it is unable to conclude no AEOI on the Outer Thames Estuary (OTE) SPA and its qualifying feature, red-throated diver (RTD) on the grounds that the Proposed Development would undermine the conservation objectives of the SPA. This matter was discussed during the Examination and at Deadline 4, NE submitted its 'Legal Submission on RTD Displacement within OTE SPA' [REP4-089]. Further detail is provided in [Paragraphsection 4.2.19](#) of this report.

4.1 The Integrity Test

No Adverse Effect on Integrity

4.1.1 The Applicant concluded [APP-043, APP-046] that the Proposed Development will not result in AEOI of the following European sites that were carried through to Stage 2 of the assessment:

- Greater Wash SPA;
- Breydon Water SPA and Ramsar;
- Broadland SPA and Ramsar;
- North Norfolk Coast SPA and Ramsar;
- The Wash and North Norfolk Coast SAC;
- Humber Estuary SAC;
- Vlaamse Banken SAC;
- Voordelta SAC and SPA;



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- SBZ 1 / ZPS 1 SPA;
 - SBZ 2 / ZPS 2 SPA;
 - SBZ 3 / ZPS 3 SPA;
 - Vlakte van de Raan SCI;
 - Bancs des Flandres SAC;
 - Vlakte van de Raan SAC; and
 - Voordelta SAC and SPA.
- 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].
- 4.1.3 The Applicant also concluded no AEOI for the following sites:
- Alde-Ore Estuary SPA and Ramsar;
 - Flamborough and Filey Coast SPA;
 - ~~Outer Thames Estuary~~OTE SPA;
 - Sandlings SPA; and
 - Southern North Sea SAC.
- 4.1.4 The Applicant's ~~conclusion~~conclusions of no AEOI in relation to the European sites listed in Paragraph~~section~~ 4.1.3 and their qualifying features where LSE were identified ~~is~~was disputed by Interested Parties at the time of ~~writing~~publication of the original RIES, and remained in discussion as signposted in this updated RIES. The account of the examination of these matters is set out in the following sections.

RIES Amendments and Consultation

- 4.1.5 In response to a request for further information made by the ExA on 17 March 2021 [PD-034], NE confirmed that it agrees to exclude AEOI on:
- the Greater Wash SPA;
 - Breydon Water SPA and Ramsar;
 - Broadland SPA and Ramsar;
 - North Norfolk Coast SPA and Ramsar;
 - The Wash and North Norfolk Coast SAC; and
 - Humber Estuary SAC.
- 4.1.6 In its response NE states that it is unable to provide comment on sites that are not UK sites.
- 4.1.7 In [REP8-168], NE's Risk and Issues Log, it is noted that NE raised concerns around the screening out of sandwave levelling during cable-



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laying and the potential for AEOI for the OTE SPA in relation to effects on supporting habitats. The document confirms agreement that no AEOI would occur from this impact pathway following submission of information by the Applicant at Deadline 3 [REP3-059]. This matter was raised by NE in [REP1-158] separately from other submissions from NE regarding the OTE SPA, and was not addressed in the March 2021 publication of the RIES nor raised in NE's comments on it. For completeness it is included here now.

4.2 Effects on Offshore Ornithology

Introduction

- 4.2.1 The Applicant concludes in its HRA Information to Support Appropriate Assessment Report [APP-043] that there would be no AEOI on any of the designated sites and offshore ornithological features identified in Table 2.1 and Table 2.2 of [APP-043] and carried through to Stage 2 of the assessment.
- 4.2.2 At the ~~current~~ point of publication in March 2021 of the Examination original RIES, NE ~~is~~ was not satisfied that it can be excluded beyond reasonable scientific doubt that the Proposed Development would have an adverse effect alone or in-combination on the integrity of the designated sites and their ornithological features shown in Table 4.0.
- 4.2.3 At [REP5-089], NE agreed to conclude no AEOI 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, although~~ NE states ~~stated~~ that its position remains fluid in respect to this matter [REP5-089]. ~~Further detail is provided in Paragraph 4.2.18 of this~~ This matter has been subject to further development, see RIES: Amendments and Consultation section below.
- 4.2.4 The Applicant's assessment concluded that AEOI could be excluded in relation to operational displacement effects in-combination with other plans and projects on gannet [APP-043 and APP-046]. NE agree with the methodology of the assessment, however, did not agree with these conclusions with regards to the EIA and is recorded as in discussion in relation to AEOI in the SoCG between NE and the Applicant at Deadline 1 [REP1-058]. However, in-combination displacement effects on gannet ~~have~~ were ~~not been~~ raised as a concern with regards to the conclusions against AEOI by NE in [REP5-083] or [REP5-088].



Table 4.0: Ornithological features for which outstanding HRA concerns remain/remaind at publication of original RIES (all matters).

Designated site	Ornithological feature	Collision		Displacement	
		In-combination	Project-alone	In-combination	<u>Project alone</u>
Outer Thames Estuary SPA	Red-throated diver (RTD)			✓	<u>✓</u>
Flamborough and Filey Coast SPA	Kittiwake	✓			
	Gannet	✓	*	±	
	Guillemot			✓	
	Razorbill			✓	
	Seabird assemblage	✓		✓	
Alde-Ore Estuary SPA	Lesser black-backed gull (LBBG)	✓			

*The RSPB has maintained that it cannot exclude AEOI on the gannet feature of the Flamborough and Filey Coast SPA due to collision risk from the Proposed Development alone [RR-067] and [REP4-097].

+ see 'RIES Amendments and Consultation' below.

4.2.5 These sites and features were key matters discussed during the Examination.

4.2.6 This section of the RIES sets out the broader concerns and points of disagreement regarding the Applicant's general approach to the assessment of effects in relation to displacement (project alone or in-combination), collision risk (gannet alone or in-combination, other qualifying features in-combination), and post-consent monitoring. Within these overarching topics / issues, the relevant designated sites and ornithological features are discussed.

Assessment of displacement (project-alone or in-combination)

4.2.7 As presented in Table 4.1, NE ~~does~~did not agree to conclude no AEOI of the designated sites and ornithological features due to project alone or in-combination displacement impacts. ~~As discussed in detail in Paragraphs 4.2.13 to 4.2.19 of this RIES, NE's position also remains fluid in relation to project alone displacement impacts on the RTD feature of the OTE SPA.~~



Table 4.1 Ornithological features for which outstanding HRA concerns remain/remaind at publication of the original RIES (displacement).

Designated site	Ornithological feature	In-combination	Project alone
Flamborough and Filey Coast SPA	Guillemot	✓	-
	Razorbill	✓	-
	Seabird assemblage	✓	
Outer Thames Estuary SPA	Red-throated diver (RTD)	✓	✓

Outer Thames Estuary SPA – Red-Throated Diver (RTD)

RTD - assessment of displacement (overview)

4.2.8 One of the main offshore ornithology matters considered during the Examination has been the adverse effects on non-breeding red-throated diver (RTD), the qualifying feature of the ~~Outer Thames Estuary (OTE)~~ SPA, due to disturbance and displacement impacts; both project-alone or in-combination with other plans and projects.

4.2.9 The Applicant’s conclusion is that there would be no AEOI on the RTD qualifying feature of the OTE SPA (either project-alone or in-combination) in relation to the following activities:

- Offshore cable laying activities (construction);
- Vessel traffic associated with site maintenance (operation); and
- Presence and operation of the turbines (construction and operation).

4.2.10 **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 a 100% RTD displacement within a 2km buffer around ~~the each~~ cable laying vessel is a reasonable approach and that whilst ~~NE considers that~~ the level of displacement (which the Applicant calculates could affect approximately 0.6% of the total OTE SPA area) 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



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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 [Paragraphsection 4.2.31](#) of this RIES.

4.2.11 **Vessel traffic associated with site maintenance:** The operation of the site will necessitate an increase in the number of vessel journeys through the OTE SPA, involving both boats and helicopters [APP-043]. The approach to the Applicant's assessment and quantification of vessel traffic associated with operational site maintenance, including worst-case scenarios in relation to maximum anticipated vessel and helicopter movements, is set out in Chapter 4 and Table 4.1 of [APP-043]. To minimise vessel traffic in the wider area, the Applicant confirms that, where possible, vessels will follow established shipping routes between the Proposed Development and the relevant ports [APP-043]. At [RR-059], NE commented that the Applicant has not appropriately considered the impacts of increased operational vessel and helicopter activity on RTD and given that both have the potential to disturb RTD, NE advised that the impacts of these activities need to be assessed and where appropriate, mitigated. At its response to Examining Authority Written Questions (ExQ1) 1.2.10 [PD-018], NE was questioned in relation to OTE SPA operation and maintenance vessel traffic and asked to comment on whether adequate safeguards against RTD disturbance are secured in the ~~Best Practice Protocol (BPP)~~BPP [REP3-074] in the event that helicopters are used for maintenance activities. The BPP and NE's comments are discussed in further detail in [Paragraphsection 4.2.2431](#) of this RIES.

4.2.12 **Proposed array area:** NE ~~does~~did not agree with the conclusion of no AEOI in relation to in-combination displacement effects for the RTD feature of the OTE SPA in relation to impacts arising from the proposed array area [RR-059] and this point of disagreement was one of the key matters discussed during the Examination. As discussed in detail in Paragraphs 4.2.12 to 4.2.18 below, NE states that its position also remains fluid in relation to project alone displacement impacts on the RTD feature of the OTE SPA.

RTD – extent of displacement effects from the array (project-alone)

4.2.13 The EA2 wind farm does not overlap the OTE SPA and since the time of the Preliminary Environmental Information Report (PEIR) consultation, in response to concerns raised by NE, the EA2 boundary has been amended and is now located 8.3km from the OTE SPA boundary [APP-043 and RR-059]. To determine the impact of displacement from EA2 alone, the Applicant considered displacement effects extending 4km from the proposed array area [APP-043]. Based on NE guidance at the time of the assessment, the Applicant assumed between 90 to 100% of RTD may be displaced from within a wind farm and surrounding 4km buffer. It was therefore determined by the Applicant that there is potential for birds in

this region of the SPA to be displaced and to suffer mortality of between 1 to 10% [APP-043].

- 4.2.14 At [RR-059], NE ~~welcomes~~welcomed that the re-configured array is now 8.3km from the boundary of the OTE SPA. NE notes, however, based on studies at other wind farms, the extent of RTD displacement is likely to exceed 8km. NE pointed to a growing body of evidence that suggests that RTD may be displaced at greater distances than 10km from the areas of sea within offshore wind farms and from the waters in their vicinity [RR-059]. NE calculates that when a 10km buffer is applied around the array, the overlap with the OTE SPA is 4.4km² [RR-059]. Therefore, NE argues that, without modification, the Proposed Development would potentially change the local distribution and abundance of RTD in this section of the OTE SPA, which NE notes would not be consistent with fulfilling the Conservation Objectives for the OTE SPA (as detailed in Section 4.3 of [APP-043]). At Deadline 1, NE submitted its recommended approach to assessing and mitigating displacement effects on RTD from the OTE SPA [REP1-172], which advised that to address the risk of adverse impacts on the SPA, the boundary of EA2 is amended so that no part of the array is within 10km of the boundary of the OTE SPA.
- 4.2.15 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~~was discussed with NE, the RSPB, and the Marine Management Organisation (MMO) at a workshop held on the 28 July 2020. The Applicant states that following advice from NE it was subsequently agreed ~~at that workshop~~ that the Applicant would further revise the assessment to consider displacement out to ~~12.5km~~15km using 1km increments. ~~Furthermore,~~The Applicant also states that 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].
- 4.2.16 At [REP4-087], NE expressed concern in respect of the Applicant's modelling approach, specifically in relation to the "*inclusion of aerial surveys without corrections for observer bias, application of shipping lane data and pseudo-replication for spatial and temporal parameters*"~~:-~~ NE argues that such "*fundamental issues regarding the Applicant's modelling approach*" means that the Applicant's conclusion of displacement up to 7km is likely to be an underestimate. NE acknowledges that there will not be complete avoidance within the buffer, instead there is a gradual decline in displacement with increased distance from the wind farm. However, NE suggests that the area affected is significant whether the displacement is 7km, as proposed by the Applicant's modelling, or 11.5km as predicted by the London Array monitoring [REP4-087]. NE argues that the conclusions in Tables 5, 7 and 10 of [REP3-049] are unreliable because the Applicant is basing its conclusions on a modelling approach that requires further consideration and validation. NE ~~states at~~stated [REP4-087] that until the modelling approach has been validated and the issues around treatment



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of the visual aerial surveys have been addressed, it cannot agree with the Applicant's conclusions.

- 4.2.17 At Deadline 5, the Applicant provided an updated assessment of its Deadline 3 submission regarding RTD displacement in the OTE SPA 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.
- 4.2.18 [REP5-015] summarises the Applicant's review of available literature that has described RTD displacement by offshore wind farms. The Applicant reports reported that its analysis for the OTE SPA shows that RTD avoidance occurs over a much shorter range, with densities approaching background (i.e. unaffected) levels by 7km from offshore wind farms, which the Applicant believes is a "*clear indication that results obtained in one region are not automatically transferable to others*" [REP5-025]. In applying a 4km buffer, combined with an assumption of 100% RTD displacement, the Applicant argues that the worst-case has been assessed and that application of a larger buffer of complete avoidance (e.g. up to 10km) is not supported by the current analysis and "*would result in over-estimating the potential displacement effects*". Based on its review of available literature, the Applicant concludes that "*available evidence suggests that the most likely result of displacement is that there will be little or no impact on adult survival, and that any impact would probably be undetectable at the population level. Indeed, there is very little evidence to support the upper range of mortality effects for displaced birds advised by Natural England (e.g. up to 10%), and on the basis of a review of the studies (Vattenfall 2019), even an additional mortality rate of 1% is considered precautionary*". The Applicant's response therefore concludes concluded that the magnitude and extent of displacement has not been underestimated and that a displacement distance of 7 to 8km is supported by the available evidence.
- 4.2.19 At [REP5-089], in its written summary of oral representations made at ISH 3, NE reiterated its pre-application concerns regarding the boundary of EA2 but states that now that the Proposed Development has been moved (following its comments at PEIR stage) to provide an 8.3km buffer between EA2 and the OTE SPA, an AEOI alone for EA2 can be ruled out. However, at [REP4-087] and [REP5-089] NE disagrees disagreed with the Applicant's position that there will be no displacement from EA2 and maintains that there are fundamental issues regarding the Applicant's modelling approach that should be addressed before effects from EA2 can be fully ruled out. NE therefore states stated that its "*position remains fluid*" until issues around the modelling have been addressed. The Applicant indicated that it would make further submissions on this matter at Deadline 6.

RTD – assessment of displacement (in-combination)



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- 4.2.20 NE ~~does~~did not agree to conclude no AEOI in relation to RTD displacement in combination with other plans and projects and the Applicant's approach to the in-combination assessment ~~remains~~remained a matter of disagreement. NE advised at Deadline 1 [REP1-172] and again at Deadline 4 [REP4-087] that the assessment of in-combination displacement effects on RTD should include all projects not constructed at the time of the SPA surveys on which notification was based, ie projects constructed after 2002-2008.
- 4.2.21 At [RR-059], NE advised that the Applicant's in-combination operational displacement assessment totals for RTD are based on an incomplete data set. NE refers to Table 12.37 of ES Appendix 12.3 (Information for the Cumulative Assessment [APP-471]) and suggests that the following existing and operational offshore wind farms have been excluded from the Applicant's in-combination assessment:
- Gunfleet Sands;
 - Kentish Flats;
 - Kentish Flats Extension;
 - London Array; and
 - Scroby Sands.
- 4.2.22 NE ~~argues~~argued that excluding these projects reduces confidence in the in-combination assessments because the assessments include assumptions that may not reflect the full extent of RTD displacement, which will result in a significant underestimate of impacts [RR-059].
- 4.2.23 At Deadline 3 [REP3-049] and Deadline 5 [REP5-025], the Applicant provided updated assessments of RTD in the OTE SPA. At [REP5-025], the Applicant argued that several of the wind farms suggested by NE as sources of displacement were in operation prior to designation of the OTE SPA (in August 2010), or were operational before the 2018 surveys for the revised population estimate for the OTE SPA were conducted (as detailed in Table 9 of [REP5-025]). Furthermore, the Applicant ~~states~~stated that Kentish Flats, Gunfleet Sands, Thanet and Greater Gabbard were also fully operational prior to the surveys conducted in 2013 (Table 9, [REP5-025]).
- 4.2.24 There ~~is~~was ongoing dispute between the Applicant and NE regarding the existing operational wind farms identified above and whether it ~~is~~was appropriate for these projects to be excluded from the Applicant's in-combination assessment of operational displacement of RTD.

RTD displacement implication for OTE SPA conservation objectives

- 4.2.25 The conservation objectives for the OTE SPA are set out at Paragraph 78 of the Applicant's 'Displacement of red throated divers in the Outer Thames Estuary SPA' [REP3-049, updated by REP5-025]. In [REP4-089], NE ~~states~~stated that all of the objectives are relevant and must be kept in view in an appropriate assessment. However, discussion during the Examination has centred mainly on objective (d) and objective (e), which



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relate to “(d) *maintaining or restoring...the populations of each of the qualifying features* [i.e. abundance] and (e) *the distribution of qualifying features within the site* [i.e. distribution]”.

- 4.2.26 In addition to predicted displacement effects from the Proposed Development that NE argue would undermine the conservation objectives of the OTE SPA, at [REP5-089], NE ~~reiterates~~reiterated its view that ongoing displacement impacts from existing wind farm projects are resulting in the OTE SPA being in unfavourable condition, and that there is already an AEOI occurring.
- 4.2.27 Since NE ~~does~~did 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.
- 4.2.28 NE [REP4-087] also expresses concern that the location of the EA2 array is likely to cause displacement effects that will result in changes in distribution and a reduction in the availability of RTD in part of the SPA. NE argues that a change in the distribution of divers within OTE SPA is incompatible with meeting objective (e) and will result in an AEOI, either alone or in-combination with other plans and projects.
- 4.2.29 At [REP5-025], given the distance of the Proposed Development (ie 8.3km) from the boundary of the OTE SPA, and on the basis of the modelling presented in its report that finds that RTD displacement declines to zero by 7km [REP5-025], the Applicant concludes that there will be no disturbance upon the RTD population of the OTE SPA and no displacement effect and resultant change in distribution (project alone or in-combination with other plans and projects). Table 11 at [REP5-025] presents the Applicant’s summary of assessment for EA2 of potential effects on the RTD feature in relation to each of the individual conservation objectives (ie objectives (a) to (e)) of the OTE SPA. The Applicant concludes no AEOI in relation to all conservation objectives of the OTE SPA, for both the project alone and in-combination with other plans and projects.
- 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 EV034K]. NE maintained its position that it could not agree no AEOI for EA2 in-combination with other plans and projects and that its position ~~remains~~remained fluid in respect to project alone AEOI [REP5-089]. NE ~~does~~did not agree with the Applicant’s 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



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within NE's legal submissions and stated that it planned to provide its own legal submissions at Deadline 6.

RTD - mitigation

- 4.2.31 The Applicant submitted a 'Best Practice Protocol (BPP) for minimising disturbance to Red-Throated Diver' ~~for~~from 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 (~~PEMP~~). 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.

RIES Amendments and Consultation

RTD – extent of displacement effects from the array (project-alone)

- 4.2.32 The Applicant maintains its position on the displacement distance in its updated assessment of RTD displacement provided at Deadline 6 [REP6-019] and as set out in its response to NE's legal submissions [REP6-020].
- 4.2.33 At [REP6-113] and [REP8-160], NE summarises its position regarding the Applicant's overarching approach to RTD displacement modelling for both EA2 and EA1N. NE's concerns regarding lack of model validation and limitations of the Applicant's modelling approach remain, which NE maintains is "underestimating the level of displacement" [REP6-113]. NE states that the Applicant has not addressed its concerns and the Applicant "does not propose to re-visit the modelling to address the issue of the change in survey platform, or to carry out any further validation". As NE does not anticipate the Applicant's model outputs to change, NE states that "neither will our advice on the scientific robustness of the model data, and certainty around conclusions drawn from it". During the Examination (including at [REP3-054] and [REP5-082]), NE has encouraged the Applicant to explore further the option of a smaller array to enable a 10km buffer between the OTE SPA to be accommodated and thereby reduce the predicted impact to a point at which compensatory measures may no longer be necessary to ensure the integrity of the OTE SPA. At [REP6-030], the Applicant clarifies that "no further buffer distance mitigation will be implemented at the East Anglia ONE North or East Anglia TWO projects". The Applicant states that due to design limitations (ie the spacing required between turbines to avoid wake effects), safety requirements (ie to enable safety of navigation) and policy commitments (ie achieving net zero by delivering 40GW of offshore wind by 2030), it is unable to deliver a 10km buffer [REP6-030]. The Applicant maintains this position at Deadline 11 [REP11-088] (Question 3.2.7); see Section 5 of this report for further detail.
- 4.2.34 At [REP9-067], NE welcomes the inclusion of additional text under the 'Project Alone Assessment East Anglia TWO' section of [REP8-033] around



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the numbers of RTD and the area of the OTE SPA that could be subject to displacement from EA2. However, NE continues to disagree with the Applicant that there will be no displacement effect and resultant change in distribution. NE states that its 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. In its Response to London Array OWF Year 3 Ornithological Monitoring Report [REP11-122], NE notes that the monitoring evidence demonstrates that the original London Array AA significantly underestimated the extent of RTD displacement and demonstrates evidence of a larger buffer. As a result, NE advises that AEOI for London Array alone cannot be excluded.

4.2.35 At [REP10-017] and [REP11-049], the Applicant maintains its position on the extent of in-combination displacement as assessed at [REP8-033]; further updates regarding the in-combination assessment are provided in section 4.2.36 of this report. At [REP10-017], the Applicant responds to state it is evident from its before and after RTD distributions (as presented in [REP9-016]) that NE's recommendation to apply a precautionary buffer extending up to 11.5km is not supported by the survey data and available evidence. The Applicant's position remains unchanged at [REP11-049]. As set out at [REP5-089], NE has agreed that an AEOI alone for EA2 can be ruled out on the basis that the Proposed Development has been moved (following NE's comments at PEIR stage) to provide an 8.3km buffer between EA2 and the OTE SPA. In its response to R17QB.9, NE states "we accept that a case can be made that EA2 alone will not have an AEOI on RTD of the OTE SPA" [REP8-166]. At [REP11-123], NE maintains its view that EA2 will not have an AEOI alone due to the distance between EA2 and the OTE SPA; with the predicted area of habitat affected being between 0 and 0.075% of the OTE SPA. NE does note, however, that EA2 will contribute to the in-combination AEOI [REP11-123]. Furthermore, there is ongoing debate between NE and the Applicant regarding the effective area of the OTE SPA subject to displacement, as well as the Applicant's interpretation of the OTE SPA conservation objectives. Further updates regarding these matters are provided in sections 4.2.42 and 4.2.48 of this report. RTD – assessment of displacement (in-combination)

4.2.36 At [REP8-094], the Applicant maintains its position that some, if not all, of the projects within the OTE SPA should be considered as part of the baseline for in-combination effects, given that some were operational prior to designation of the OTE SPA and all were operational when the latest surveys (upon which the OTE SPA population estimates are now based) were undertaken. Notwithstanding this view, the Applicant confirms at [REP8-094] that it has included all projects within the in-combination assessment (ie [REP3-049], [REP5-025] and [REP6-019]) which allows all parties to see the effects of each project and the contribution they make to the in-combination effect. The Applicant states that "A decision can be therefore be based upon the suite of projects the decision-maker believes is appropriate to include". This matter has not been discussed any further during the Examination.



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- 4.2.37 As set out in section 4 of this report, NE remains concerned regarding the outputs of the Applicant's displacement modelling and their implications for the in-combination assessment. At [REP8-160] and [REP9-067], NE reiterates its position that the in-combination assessment needs to consider a range of displacement scenarios (and not just the outputs from the Applicant's modelling exercise) and advises that an appropriate and precautionary figure is used to assess the within wind farm displacement figure for the worst-case scenario [REP9-067].
- 4.2.38 At [REP9-067] NE expresses concern that the contribution from EA2 is not included in the Applicant's 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". At [REP8-160] and [REP9-067], NE advises that EA2's contribution to the in-combination total is included. NE acknowledges that EA2's contribution to the overall displacement effects is small compared to EA1N's contribution. However, NE states that it is nevertheless important that EA2's contribution to the area of the OTE SPA subjected to displacement is captured in the in-combination assessment. NE also advises that impacts from EA2 need to be taken into consideration in the assessment for the area 8-12km from the OTE SPA boundary [REP6-113].
- 4.2.39 In ExQ3.2.2 [PD-049], the ExA asked the Applicant to provide the modelling outputs with the worst-case (ie NE's mortality assumptions) East Anglia TWO contribution towards RTD displacement included in the in-combination assessment. The Applicant submitted an updated assessment of RTD displacement at Deadline 8 [REP8-033] and Deadline 11 [REP11-026] to include EA2 in the in-combination assessment. At [REP11-026], the Applicant states, "Although given the project alone conclusion for East Anglia TWO was that even applying the precautionary worst case assumptions (using NE's advised approach), a maximum of six birds might be displaced of which the worst case mortality rate of 10% would result in 0.6 mortalities, this project has been included in the in-combination assessment at the request of NE (REP9-067). However, the Applicant maintains that, "Given the distances of Thanet, Greater Gabbard and Galloper Offshore Wind Farms from the Outer Thames Estuary SPA (see Table 10), it is also considered that these windfarms will result in there will be no disturbance upon the red-throated diver population of the SPA and no displacement effect and resultant change in distribution. These projects are therefore too far away to affect the SPA and consequently there is no basis for including them in the in-combination assessment".
- 4.2.40 At [REP8-160], NE welcomes the inclusion of EA2 into the in-combination assessment. At Deadline 9 [REP9-067], however, NE's position remains as it did at [REP4-087] that there is already an AEOI from displacement effects of RTD in-combination from existing wind farms within the OTE SPA. Whether the total area of the OTE SPA that is subjected to some level of displacement is 31% (based on the Applicant's modelling outputs), or 47% of the OTE SPA (assuming that the extent of displacement extends to 10km), NE states that it is clear that a significant proportion of the OTE



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SPA by area is already subjected to displacement. NE therefore disagrees with the Applicant's conclusions as set out in Table 11 of [REP8-033] and sets out its own conclusions in Table 1 of [REP9-067]. In its 'Risk and Issues Log' submitted at Deadline 10 [REP10-053], NE's position on this matter remains unchanged from [REP9-067]. On this basis, NE does not agree to conclude no AEOI (in-combination with other plans and projects) on the RTD qualifying feature of the OTE SPA and this continues to be a matter of ongoing disagreement.

BEIS Draft Review of Consents

4.2.41 During August 2020, the Department for Business, Energy and Industrial Strategy (BEIS) published a Draft Review of Consents for Major Infrastructure Projects and Special Protection Areas. Through ExQ1 (Question 1.2.9) [PD-018], the Applicant and NE were asked to comment on the relevance of the draft review to the HRA for both the EA1N and EA2 projects. The Applicant and NE responded at Deadline 1 at [REP1-107] and [RR1-159], respectively. NE responded to state, in its view, that the draft review is highly relevant; advising that the appropriate assessment should include RTD as an interest feature for the OTE SPA and that EA1N and EA2 are among the list of projects that should be considered in the in-combination assessment. At [REP1-107], the Applicant considered that the conclusions of the draft review support its view that existing projects within the OTE SPA should be considered part of the baseline for the assessment of in-combination effects and that its approach to the HRA (as set out at [APP-043]) was correct to exclude a quantitative assessment for projects such as London Array, Kentish Flats, etc. However, as stated at section 4.2.42 of this report, the Applicant has now included all projects within its in-combination assessment (ie [REP3-049], [REP5-025] and [REP6-019]) for the consideration of the SoS.

RTD – “Effective Habitat Loss”

4.2.42 NE notes that predicted RTD mortality and the effect this would have on the abundance of RTD within the OTE SPA is not the only issue of concern in respect of potential AEOI on the RTD feature of the OTE SPA. In its legal submission [REP4-089] and in its 'Comments on Legal Submissions' ([REP7-070] and [REP8-160]), NE asserts that if RTDs are denied access to part of the OTE SPA due to displacement, the ecological consequence would be to “diminish the functional size of the SPA, contrary to conservation objectives” (further updates regarding conservation objectives are set out in section 4.2.48 of this report).

4.2.43 Discussions have taken place between the Applicant and NE (via legal submissions submitted into Examination) regarding the use and interpretation of the term “effective loss of habitat”. At [REP6-020], the Applicant states that its 'RTD Displacement Report' has been updated to replace the term with “effective area of the SPA subject to displacement” to provide clarity. However, the Applicant states that the evidence remains unchanged and stands by its conclusion that the extent of the habitat available for the RTDs will not change as a result of the Proposed



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Development [REP6-020]. At [REP6-020], the Applicant draws a distinction between "disturbance" and "loss of habitat". The Applicant acknowledges that there will be a small amount of "disturbance" giving rise to dynamic "redistribution" of RTD in the OTE SPA but does not agree with NE's view that RTDs will be "denied access to part of the SPA which would otherwise be suitable for them" and states that there is no evidence to support this. This matter was explored with the Applicant at ISH14 ([EV-126b]-[EV-126e]).

4.2.44 At [REP7-070], NE cites the Bagmoor Wind case (in which the issue was the exclusion of golden eagles from suitable habitat due to their aversion to wind turbines) but accept that exclusion effects exist on a continuum of severity and that Bagmoor Wind appears to have been a severe case. At [REP10-017], the Applicant states that in the Bagmoor Wind case, "there was a concluded ecological consequence (i.e. that the territory was likely to be abandoned resulting in a potential increase in disturbance), whereas for EA1N and EA2, the displacement of RTD would have effects that are too small to detect".

4.2.45 At Deadline 9 [REP9-064], NE provides its response to legal issues raised at ISH14 and to the written summary that the Applicant provided at Deadline 8 [REP8-049]. In this document, NE stands by and repeats the legal submissions that it made at Deadline 4 [REP4-089] and Deadline 7 [REP7-070].

4.2.46 At Deadline 10 [REP10-017], the Applicant responds to state that it maintains its position as set out within [REP6-020] and Appendix 1 of [REP8-093]. At [REP10-017], the Applicant points to its assessments and other available evidence to reiterate its view that not all parts of the OTE SPA are the same in terms of the densities of RTD recorded, and that the context for any impact must take into account those variations. The Applicant concludes that areas of the OTE SPA within the potential zone of influence of the wind farms have consistently recorded lower densities of birds and this is a material factor in considering the magnitude of potential impact. The Applicant states that "to treat all parts of the SPA as being of equal importance for the birds is clearly not appropriate".

4.2.47 At [REP11-123] in response to [REP10-017], NE accepts that densities of RTD do vary within the OTE SPA. However, with reference to the SPA classification process and 'maximum curvature analysis' (see Question 3.2.3 of [REP11-123]), NE states that it does not accept the implication that because some parts of the OTE SPA have lower RTD densities, that impacts on these areas should not be considered as potentially resulting in AEOI.

RTD displacement implications for OTE SPA conservation objectives

4.2.48 The Applicant submitted a response to NE [REP4-089] at Deadline 6 [REP6-020]. In its response, the Applicant states that it does not consider that its analysis contains "errors of law" as asserted by NE. The Applicant maintains its view that it has followed the correct legal approach and concludes that the Proposed Development would not adversely affect the



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integrity of the OTE SPA through “disturbance” or “displacement effects” on RTD (discussed in detail in section 4.2.20 of this report).

4.2.49 In its ‘Response to The Applicant’s Legal Submissions at ISH 14’ [REP9-064], NE stands by and repeats the legal submissions that it made at Deadline 4 [REP4-089] and Deadline 7 [REP7-070]; maintaining its view that if RTD are denied access to part of the OTE SPA that would otherwise be suitable for them, the effect is to diminish the functional size of the OTE SPA. NE states at [REP9-064] that “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”. NE disagrees that any of the five objectives should be treated as being more important, stating that this approach “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 such, NE advises that the correct way to approach the conservation objectives for the OTE 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”.

RTD – mitigation

4.2.50 The Applicant submitted an updated RTD Best Practice Protocol (BPP) at Deadline 7 [REP7-046] and Deadline 8 [REP8-036] to address comments from NE [REP4-087]. At [REP8-168] and [REP10-053], NE confirms that the BPP [REP7-046] provides appropriate best practice to mitigate disturbance from vessels and helicopters transiting the OTE SPA to an acceptable level to exclude an adverse effect. NE notes, however, that it has remaining concerns that the updated protocol does not address the impacts from the presence of the turbines or from cable installation.

4.2.51 In its Deadline 8 submission [REP8-156], the MMO stated that the RTD BPP should be conditioned in the DML and that this was under discussion with NE. The Applicant subsequently updated the dDCO in Condition 17 at Deadline 8 to include seasonal vessel management in accordance with the BPP [REP8-003]. At [REP8-094], the Applicant notes that the BPP does not apply to export cable laying in the OTE SPA over winter and the Applicant does not intend to update the BPP to include this. The Applicant confirms that the BPP only covers vessel routing between the wind farm sites and the ports. In its SoCG with NE [REP8-110], the Applicant states that the BPP for minimising disturbance on RTD is “Agreed subject to NE review of the updated document submitted at Deadline 8 and notwithstanding compensation measures”.

4.2.324.2.52 At [REP9-069] NE confirms its agreement that the updated BPP submitted at Deadline 8 [REP8-036] mitigates disturbance from vessels and helicopters transiting the OTE SPA to an acceptable level to exclude an adverse effect. However, NE has remaining concerns that the BPP does not address effects from the presence of the turbines themselves or from



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cable laying. [REP8-110] confirms NE's position. At [REP9-065] NE does not agree that the Applicant's proposed vessel management for RTD (OTE SPA) represents a compensation measure for displacement caused by the presence of turbines. In its response to ExQ3 [PD-049], NE maintains its position at Deadline 11 that the proposed compensatory measures are not appropriate to address the likely impacts [REP11-123], stating that, "We remain concerned at the lack of adequate compensatory measures for RTD at OTE SPA".

4.2.53 At [REP11-049], the Applicant reiterates its position that potential displacement impacts from operational turbines and export cable installation are not relevant to the BPP for Minimising Disturbance to RTD [REP8-036], that it states is not intended to cover these potential impacts. The Applicant states that it considers this matter to be closed. At [REP9-016] the Applicant highlights updated information with reference in its Offshore Ornithology Without Prejudice Compensation Measures document [REP8-090] and presents arguments for the appropriateness and effectiveness of the compensatory measures it proposes. These arguments are revisited by the Applicant at Deadline 10 [REP10-017] and Deadline 11 [REP11-049].

4.2.334.2.54 There have been no further developments regarding the BPP during the course of the Examination. Discussions in the later part of the Examination have centred on possible 'without prejudice' compensation measures, further detail for which is provided in Section 6 of this report.

Flamborough and Filey Coast SPA – auks (guillemot and razorbill) and seabird assemblage

4.2.344.2.55 The seabird assemblage feature of the FFC SPA comprises gannet, fulmar, kittiwake, guillemot, razorbill, puffin, herring gull, shag and cormorant [REP2-006]. At [REP2-006], the Applicant confirms that four of these species have been assessed as individual named features (i.e. ie gannet, kittiwake, razorbill and guillemot) as detailed in sections 4.6.1, 4.6.2, 4.6.3 and 4.6.4 of the Information to Support Appropriate Assessment Report [APP-043], respectively. At Paragraph 7 of [REP2-006], the Applicant lists the remaining assemblage species (i.e. ie herring gull, shag, cormorant, fulmar and puffin) and details the reasons as to why it considers that there is no pathway for effect.

4.2.354.2.56 The Applicant concludes that there will be no AEOI of the FFC SPA in relation to any of the qualifying features that comprise the seabird assemblage due to the Proposed Development alone or in-combination with other plans or projects [APP-043 and APP-046]. Given that the Applicant concludes no AEOI in relation to any of the individual components of the seabird assemblage feature, the Applicant concludes that there will be no risk of AEOI on the seabird assemblage feature itself [REP2-006].

4.2.364.2.57 NE has concluded that an AEOI cannot be ruled out in respect of the kittiwake, gannet, guillemot and razorbill features of the FFC SPA [RR-



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059]. This is also the position of the RSPB across all SPA sites on the basis of the incremental effects on the conservation status of successive wind farms on seabird species. The RSPB has also maintained that it cannot exclude AEOI on gannet due to collision risk from the Proposed Development alone [RR-067 and REP4-097].

4.2.374.2.58In addition to the remaining concerns of NE and the RSPB on the approaches taken to CRM (as set out in Paragraphsection 4.2.42 of this report), there are also specific concerns relating to the in-combination assessment of displacement for auk features of the site (i.e.i.e razorbill and guillemot), which are described in this section.

In-combination displacement – auk (razorbill and guillemot) and seabird assemblage

4.2.384.2.59In its RR [RR-059], NE advised that the in-combination auk (i.e.i.e razorbill and guillemot) operational displacement totals are based on an incomplete dataset. NE stated that the Applicant has missed several existing offshore wind farms from the scope of the in-combination assessment, including:

- Beatrice Demonstrator;
- Gunfleet Sands;
- Kentish Flats;
- Methil;
- Rampion; and
- Scroby Sands.

4.2.394.2.60Due to the exclusion of these projects, NE states that it is unable to rule out AEOI for in-combination operational displacement on razorbill or guillemot of the FFC SPA[RR-059 and AS-036].

4.2.404.2.61At Deadline 2, the Applicant provided updated in-combination displacement tables for guillemot and razorbill (auks) to address comments from NE regarding the approach to in-combination assessment for both EA2EA1N and EA1NEA2 [REP2-006].

4.2.414.2.62The Applicant notes in its comments on the NE RR [AS-036] that there are no data for the Beatrice Demonstrator project and Scroby Sands for either species [REP2-006]. For Kentish Flats and Kentish Flats Extension, there are no data for razorbill. However, displacement estimates are available for Rampion, Methil and Gunfleet Sands (both features) and for guillemot for Kentish Flats and Kentish Flats Extension. Where estimates are available, the Applicant confirmed that these have been included in updated in-combination assessment presented in the 'Cumulative Auk Displacement and Seabird Assemblage Assessment of FFC SPA and Gannet PVA' [REP2-006] for guillemot (Table 1) and razorbill (Table 2). Where no data are available, the Applicant states that the wind



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farm has been added to the table for completeness, but without any estimate.

4.2.424.2.63 The Applicant states in [REP2-006] that estimates used are the positions agreed with NE from the Norfolk Boreas Deadline 2 submission (Norfolk Boreas, 2019) but with Thanet Extension removed following its refusal of consent. The Applicant concludes overall that the updates presented do not alter the conclusions of no AEOI for the HRA within the assessments submitted (Chapter 12 Offshore Ornithology [APP-060] and the Information to Support Appropriate Assessment Report [APP-043]).

4.2.434.2.64 At Deadline 3 [REP3-116], NE stated that it welcomed the update to the in-combination displacement tables for guillemot and razorbill with the inclusion of offshore wind farms that were previously missing from the assessments and noted the limitations and lack of available data.

4.2.444.2.65 However, NE pointed to its “final advice” that it provided during the Norfolk Boreas Examination, which is that it is not in a position to advise that an AEOI could be ruled out for the guillemot and razorbill features of the FFC SPA for displacement in-combination with other plans and projects when the Hornsea Project Three and Hornsea Project Four projects are included in the in-combination totals [REP3-116].

Assessment of Collision Risk (in-combination)

4.2.454.2.66 As presented in Table 4.2, at the beginning of the Examination, NE did not agree to conclude no AEOI of the following designated sites and ornithological features due to in-combination collision impacts:

Table 4.2 Ornithological features for which outstanding HRA concerns remain remained at the publication of the original RIES (collision risk).

Designated site	Features for which outstanding HRA concerns remain	In-combination	Project alone
Flamborough and Filey Coast SPA	Kittiwake	✗ ✓ <i>including or excluding Hornsea Project Three and Hornsea Project Four</i>	
	Gannet	✗ ✓ <i>when Hornsea Project Three and Hornsea Project Four are included</i>	*
Alde-Ore Estuary SPA	Lesser black-backed gull	✓	

*The In addition, the RSPB has maintained that it cannot exclude AEOI on gannet due to collision risk from the Proposed Development alone [RR-067 and REP4-097].

Collision Risk Modelling (CRM) – model used

4.2.464.2.67 The Applicant has undertaken assessment of collision risk using Option 2 of the Band (2012) CRM. This model was used to generate



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collision risk estimates for the following ornithological features across biological seasons and annually:

- Kittiwake (breeding) (FFC SPA);
- Gannet (breeding) (FFC SPA); and
- Lesser black-backed gull (breeding) (Alde-Ore Estuary SPA and Ramsar).

4.2.474.2.68 CRM Option 2 uses generic estimates of flight height for each ornithological feature based on the percentage of birds flying at Potential Collision Height derived from data from a number of offshore wind farm sites [APP-060].

- For gannet, CRM was run with nocturnal activity factors of 25% (standard), 0% reduced, and evidence-based seasonal rates (8% in breeding season months and 4% in non-breeding season months; Furness et al. 2018b); and
- For kittiwake and LBBG, CRM was run with standard (50%) and reduced (25%) nocturnal activity factors.

4.2.484.2.69 The input parameters are provided in Technical Appendix 12.2 Annex 3 of ES Chapter 12 Offshore Ornithology [APP-470] and complete CRM results for each ornithological feature are provided in Technical Appendix 12.2 Annexes 4 and 7 [APP-060]. [APP-470] ~~also provides~~ includes collision estimates for each feature using Band CRM Option 1.

4.2.494.2.70 In its RR [RR-059], NE acknowledges that it has previously raised concerns regarding the Applicant's use of CRM Option 2 (based on the use of generic flight heights) in its main assessment to model and predict collision risk. NE previously stated that the use of CRM Option 1 (based on the use of site-specific flight height data) predicts significantly higher bird mortality than outputs from Option 2. NE therefore recommended that the Applicant applied a more precautionary approach to the assessment by adopting Option 1 outputs in order to ensure worst-case scenario bird mortality (through collision) is accounted for in the HRA assessment [RR-059].

4.2.504.2.71 However, both NE [RR-059] and the Applicant [AS-036] confirms that the use of CRM Option 2 has now been agreed in consultation with NE and the RSPB through the Evidence Plan Process (see Appendix 12.1 of Chapter 12 Offshore Ornithology [APP-060]) following advice from the digital aerial surveyor that the previously proposed method to estimate seabird flight height was insufficiently robust to be relied upon for use in the site specific (i.e. CRM Option 1) version of the Band model. Consequently, it was agreed between the Applicant and relevant stakeholders that the Option 1 collision estimates should not be used in the assessment [AS-036].



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Updates to Collision Risk Modelling

[4.2.514.2.72](#) The Applicant submitted updated collision risk estimates for [EA2EA1N](#) and [EA1NEA2](#) at Deadline 1 [REP1-047] and Deadline 4 [REP4-042].

[4.2.524.2.73](#) The most recent estimates were calculated following [a revision to the site boundary to achieve a 2km separation from the OTE SPA \(see section 4 for further information\)](#) and following the 2m increase in draught height for the Proposed Development (see section [4.2.64](#)).

[4.2.534.2.74](#) The Applicant undertook calculations for the following species that did not have very low (≤ 3) predicted collision mortalities:

- Kittiwake (FFC SPA);
- Gannet (FFC SPA); and
- Lesser black-backed gull (Alde-Ore Estuary SPA [and Ramsar](#)).

[4.2.544.2.75](#) LBBG were included due to the potential connectivity with the Alde-Ore Estuary SPA, even though the Applicant considered the original collision risk estimates to be very low [REP4-042]. The Alde-Ore Estuary SPA and in-combination collision risk to its qualifying feature, LBBG, are discussed in further detail in ~~para 4.2.77 to 4.2.79~~ [section 4](#) of this report.

Hornsea Project Three and Hornsea Project Four

[4.2.554.2.76](#) An additional matter that has been addressed during the Examination is the decision to grant consent for the Hornsea Project Three and its implication for in-combination collision totals for ornithological features of FFC SPA (kittiwake and gannet) and Alde-Ore Estuary SPA (LBBG). The Applicant provided updated in-combination collision risk estimates at Deadline 4 including in-combination collision totals for Hornsea Project Three with caveats as set out in Paragraph 4 of [REP4-042].

[4.2.564.2.77](#) In its 'Comments on Cumulative and In-Combination Risk Update [REP4-042]' at Deadline 5 [REP5-083], NE noted that the in-combination numbers included for Hornsea Project Three for all bird features (with the exception of FFC SPA kittiwakes) do not take into account the mitigation and additional baseline data provided in Ørsted's post-examination submissions for Hornsea Project Three. NE recommend that once these figures are available, all open offshore wind farm applications will need to update their collision risk (and displacement) figures in their respective HRA in-combination assessments [REP5-083]. To date, this information has not been made available.

[4.2.574.2.78](#) NE stated [REP5-083] that it [iswas](#) still considering the implications of the Hornsea Project Three decision and in-combination collision totals and [iswas](#) therefore unable to conclude no AEOI 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 ~~did~~ [did](#) not change NE's conclusions that AEOI cannot be ruled out in relation to in-combination collision effects for FFC SPA kittiwakes.



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Specific conclusions drawn in relation to these features are discussed in Paragraphs 4.2.70 to 72 and 4.2.77 to 4.2.80 the following sections.

4.2.584.2.79 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.)~~.

Proposed Non-Material Changes (NMC)

4.2.594.2.80 Discussions took place during the Examination regarding whether the proposed Non-Material Changes (NMC) at East Anglia THREE ((EA3) accepted in July 2020) and East Anglia ONE ((EA1) application expected to be submitted in early 2021) could be considered in the in-combination collision totals for gannet, kittiwake and LBBG and form part of the Applicant's proposed reduction.

4.2.604.2.81 The effect of the NMCs was initially presented in [REP1-047]. In this document, the Applicant determined that the NMCs would further reduce impacts on the key features, fully offsetting effects upon kittiwake from ~~both EA2EA1N~~ and ~~EA1NEA2~~, and partially offsetting effects on gannet and LBBG from ~~EA2EA1N~~ and ~~EA1NEA2~~.

4.2.614.2.82 NE raised concerns regarding the legal security of the proposed NMCs. NE also questioned whether the NMCs would be sufficient to prevent any further development of EA3 and EA1 in order to provide headroom for other offshore wind farm proposals [REP2-006 and REP3-116].

4.2.624.2.83 At Issue Specific Hearing 3 held on 19 January 2021, and as NE summarises in [REP5-087], the proposed NMCs are not legally secured as no determination has been made by the Secretary of State on the NMC for EA3 and no NMC application ~~has had~~ yet been made for EA1. NE notes the potential for EA3 NMC to be refused, withdrawn or amended and the possibility that the EA1 application may either not be submitted, or could be amended. NE also notes the potential for the changes to be considered material by the Secretary of State, leading to the requirement for a material change process. Noting the uncertainty remaining in the NMCs, NE upholds its advice that the in-combination assessment should include figures for EA1 and EA3 without reduction for the proposed NMCs.

4.2.634.2.84 At [REP1-047], the Applicant maintained the position that it is appropriate to use these revised figures that are subject to the NMCs in the in-combination assessments. However, at Deadline 4, in response to NE's concerns, the Applicant submitted its 'Offshore Ornithology Cumulative and In-Combination Collision Risk Update' [REP4-042] that reverted to using the 'as consented' totals for both ~~EA2 and EA1N~~ and EA2 offshore ~~wind farms~~ windfarms.



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~~4.2.644.2.85~~At [REP5-083], NE ~~welcomeswelcomed~~ that the figures included in [REP4-042] for EA1 and EA3 have reverted to those for the consented projects rather than the figures for the NMC. NE notes that the figures now included for these two projects in [REP4-042] reflect those submitted at the end of the Norfolk Boreas Examination for all ornithological features.

Collision risk mitigation - draught height increases

~~4.2.654.2.86~~NE expressed concerns about the predicted level of cumulative and in-combination impacts on North Sea seabirds [RR-059]. NE noted that in-combination effects are only likely to intensify given that additional birds from other existing and proposed offshore wind farms (with Boreas, the East Anglia projects (~~EA2EA1N~~ and ~~EA1NEA2~~), and Hornsea Project Four) are being added to these totals. NE therefore considers that without major project-level mitigation being applied to all relevant projects coming forward, there is a significant-risk of large-scale impacts on seabird populations [RR-059].]

~~4.2.664.2.87~~To minimise the contribution of the Proposed Development to the in-combination collision totals for FFC SPA kittiwake and gannet and Alde-Ore Estuary SPA LBBG [RR-059], NE recommended that the Applicant commit to raising the minimum draught height, as done by other projects (~~e.g.eg~~ Hornsea 2, East Anglia THREE, and Norfolk Vanguard), in order to minimise the Proposed Development's contribution to the in-combination collision totals.

~~4.2.674.2.88~~Taking into account NE's general concerns regarding in-combination collision risk and following detailed design reviews, the Applicant confirmed that the minimum draught height for both ~~EA2 and EA1N~~ and ~~EA2~~ would be increased by 2m, to 24m above ~~MHWS~~Mean High Water Springs. The Applicant concluded [REP1-047] that this increase in the minimum draught height would reduce the collision risk estimates at the two wind farms by up to 15% in some cases.

~~4.2.684.2.89~~In its 'Comments on Cumulative and In-Combination Risk Update [REP4-042]' at Deadline 5 [REP5-083], NE ~~welcomeswelcomed~~ the Applicant's proposed raising of the draught height. However, NE ~~requestsrequested~~ that further evidence should be provided by the Applicant as to why the draught height for ~~EA1N and EA2 and EA1N~~ cannot be further increased. NE ~~statesstated~~ that it continues to advise the Applicant to explore a minimum draught height greater than 24m to further reduce impacts.

~~4.2.694.2.90~~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 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.



Flamborough and Filey Coast SPA – gannet and kittiwake

4.2.704.2.91 NE has concluded that an in-combination AEOI cannot be ruled out in respect of all features of the FFC SPA. This ~~is~~was also the position of the RSPB across all SPA sites, on the basis of the incremental effects on the conservation status of successive wind farms on seabird species. ~~The~~In addition, the RSPB has maintained that ~~it~~they cannot exclude AEOI on gannet due to collision risk from the Proposed Development alone [RR-067 and REP4-097].

4.2.714.2.92 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 ~~Paragraphs 4.2.36 to 4.2.42 of this RIES section 4.~~

Gannet - assessment of collision risk (in-combination)

4.2.724.2.93 NE remains unable to rule out AEOI on the gannet feature of the FFC SPA for in-combination collision risk with other plans and projects when the Hornsea Project Three and Hornsea Project Four projects are included in the in-combination totals. NE's conclusions ~~remain~~remained unchanged whilst it is still considering the implications of the Hornsea Project Three decision and in-combination collision totals when this project is included (see ~~Paragraph~~section 4.2.53 of this ~~RIES~~report).

4.2.734.2.94 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~~"birds'* [AS-054]. The RSPB has also raised concerns regarding *"as-built versus consented capacity of ~~windfarms~~"windfarms'*; this matter is discussed in further detail in ~~Paragraphs~~section 4.2.57 to 4.2.62 of this RIES.

4.2.744.2.95 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 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.



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Kittiwake - assessment of collision risk (in-combination)

4.2.754.2.96 NE remains unable to rule out AEOI on the kittiwake feature of the FFC SPA on the basis that the Proposed Development would act to increase the in-combination collision impacts acting on kittiwakes from the FFC SPA [RR-059 and REP2-052].

4.2.764.2.97 At [REP2-052], NE reiterated that the Hornsea Project Three decision does not change its conclusions in relation to in-combination collision effects for FFC SPA kittiwakes for EA2EA1N. NE has advised that *“an AEOI could not be ruled out for in-combination collision risk to kittiwakes at the FFC SPA since Hornsea Project Two. Therefore, any additional mortality arising from further proposals would be considered adverse. Since Hornsea Project Two, further projects have been consented or waiting to be determined. Each project since Hornsea Two, including the proposed EA1N and EA2, makes a contribution to an in-combination total where AEOI cannot be ruled out. Therefore, even assuming the kittiwake mortality for Hornsea Project Three will be fully compensated, it does not change the fact that in-combination impacts with other projects remain”*.

4.2.774.2.98 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.

Gannet and kittiwake - mitigation

4.2.784.2.99 To minimise the contribution of the Proposed Development to the in-combination collision totals for the kittiwake and gannet qualifying features of the FFC SPA, NE recommended that the Applicant commits to raising turbine draught height [RR-059 and REP2-052]. This matter is discussed in more detail in ~~Paragraphs 4.2.63 to 4.2.67~~ section 4 of this report.

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Flamborough and Filey Coast (FFC) SPA

4.2.794.2.100 NE concluded its position for the following features of FFC SPA in [REP7-071]:



Table 4.3: Summary of NE position on Flamborough and Filey Coast SPA in-combination at Deadline 7

<u>HRA species / site</u>	<u>EA2 in-combination with other plans and projects</u>
<u>Gannet, FFC SPA: collision</u>	<u>No AEOI Excluding HP3 and HP4</u> <u>Unable to rule out AEOI including Hornsea Project 3 and Hornsea Project 4</u>
<u>Gannet, FFC SPA: displacement</u>	<u>No AEOI excluding Hornsea Project 3 and Hornsea Project 4</u> <u>Unable to rule out AEOI including Hornsea Project 3 and Hornsea Project 4</u>
<u>Gannet, FFC SPA: collision and displacement</u>	<u>No AEOI excluding Hornsea Project 3 and Hornsea Project 4</u> <u>Unable to rule out AEOI including Hornsea Project 3 and Hornsea Project 4</u>
<u>Kittiwake, FFC Coast SPA: collision</u>	<u>Unable to rule out AEOI excluding and including Hornsea Project 4</u>
<u>Guillemot, FFC SPA: displacement</u>	<u>No AEOI excluding Hornsea Project 3 and Hornsea Project 4</u> <u>Unable to rule out AEOI including Hornsea Project 3 and Hornsea Project 4</u>
<u>Razorbill, FFC SPA: displacement</u>	<u>No AEOI excluding Hornsea Project 3 and Hornsea Project 4</u> <u>Unable to rule out AEOI including Hornsea Project 3 and Hornsea Project 4</u>
<u>Seabird assemblage, FFC SPA</u>	<u>No AEOI excluding Hornsea Project 3 and Hornsea Project 4</u> <u>Unable to rule out AEOI including Hornsea Project 3 and Hornsea Project 4</u>

4.2.101 [REP7-071] confirmed that NE is satisfied that there are no AEOI for these species and features for project-alone effects and that the remaining issues were around the in-combination and cumulative effects.

Assessment of collision risk (in-combination)

4.2.102 During the course of the Examination, decisions made in respect of other plans and projects have influenced the conclusions of the assessment of in-combination effects for EA2. This has been a focus for analysis and representations during the later stages of the Examination. Other windfarm projects relevant to the EA2 in-combination assessment have been delayed or consent decisions changed, with implications for the conclusions of the Applicant’s in-combination assessment.



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- 4.2.103 In relation to Hornsea Project Three, the Applicant confirmed in [REP8-035] that the conclusions for kittiwake assumes that collisions at FFC SPA from that project are fully compensated for and therefore zero collisions at that site were attributed to Hornsea Project Three.
- 4.2.104 The RSPB's position for kittiwake differs to that concluded by NE. The RSPB concludes at Deadline 8 [REP8-171] and restates in its written response to ExAQ3 at Deadline 11 [REP11-127], that it does not agree that the compensation measures for kittiwake secured through the decision for Hornsea Project Three will address effects on that species. As such, the RSPB's position is that the in-combination annual kittiwake collisions apportioned to the FFC SPA should still include the estimated collisions at Hornsea Project Three due to the RSPB's position that these Hornsea Project Three effects will still occur. The RSPB's views in relation to the without prejudice compensation measures proposed for EA1N are explained in section 6 of this RIES.
- 4.2.105 On 18 February 2021, the decision to grant development consent for the Norfolk Vanguard offshore windfarm was overturned at the High Court. At [PD-034], the ExA issued a request to NE to confirm the implications of this decision on the proposed EA1N and EA2 windfarms. In its response, [REP8-166], NE confirmed that there was potential for the Norfolk Vanguard application to be re-submitted, and it advised that the cumulative and in-combination effect totals for EA1N and EA2 should therefore present a 'with' and 'without' Norfolk Vanguard position.
- 4.2.106 At [REP8-166], NE also addressed the ongoing uncertainty around the figures from Hornsea Project Three that should be considered in the collision risk modelling in response to ExA R17QB [PD-034]. NE noted that until revised baseline data or a worst-case scenario was available from Hornsea Project Three, no offshore windfarm in the planning system is currently in a position to update their in-combination assessments with regard to gannet, guillemot and razorbill. As such, NE can only conclude AEOI on these species.
- 4.2.107 In [REP8-035] the Applicant notes that Ørsted has yet to submit an application for Hornsea Project Four and as such, no new figures are available. The Applicant therefore was unable to include any new figures in the updated Deadline 8 assessment.
- 4.2.108 The Applicant thus provided an update to the cumulative and in-combination collision risk at Deadline 8 [REP8-035] reflecting these changes and uncertainties. The estimates for gannet and kittiwake were also amended to clarify a separate request from NE [REP7-071] about the use of the migration free breeding season figures.
- 4.2.109 The Applicant's tables for EA2 in [REP8-035] use the collision risk estimates from Deadline 8 of the Norfolk Boreas Examination as the common position for all projects. The Applicant's tables present updated results for gannet, kittiwake and LBBG alongside updates for those species considered significant in the EIA but not relevant to the HRA. LBBG was included for FFC SPA as the Applicant states that although the original



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collision risk estimates were very low for that site, it should be considered because of its connection with the Alde-Ore Estuary SPA.

4.2.110 At Deadline 9 [REP9-066], NE asked for clarification on whether the full breeding season figures were used, and this was confirmed by the Applicant in [REP10-017].

4.2.111 Following these changes, and considering the position with Hornsea Project Three and Hornsea Project Four, the in-combination totals presented at [REP4-042] and confirmed in Appendix 1 of [REP8-035] reflected:

- all post-application changes made to Norfolk Boreas and Norfolk Vanguard;
- separate consideration of totals with, and without Norfolk Vanguard;
- figures supplied in the Preliminary Environmental Information Report for Hornsea Four; and
- Thanet Extension windfarm totals removed.

4.2.112 It is also noted that any figures in the in-combination analysis taken from other projects included figures for EA1N and EA2 at the point of those applications, not following amendments made at Deadline 4 to the draught height.

4.2.113 In relation to Hornsea Project Three, the Applicant confirmed that the conclusions for kittiwake assume that collisions at FFC SPA from that project are fully compensated for and therefore zero collisions at that site were attributed to Hornsea Project Three.

4.2.114 No further amendments to the modelling itself were made after Deadline 4 and once the amendments to the totals were taken into account the Applicant maintains its position of no AEOI on all relevant sites and features.

4.2.115 In its comments on the Applicant's updated collision risk [REP8-035] document, NE [REP9-066] agrees with the corrections and updates that the Applicant has made. However, NE noted that by using the full breeding season figures for EA2, this does alter the collision predictions for EA2 alone and so those figures should be used in the overall in-combination totals, although NE note that the difference in the numbers is small and would not affect the overall totals. NE also raised questions over the detail of the estimate shown in the Applicant's tables and did not agree with the overall conclusions of no AEOI for any of the Applicant's conclusions and, specifically to the discussions in this RIES, the Applicants' conclusions for gannet and kittiwake in-combination effects on FFC SPA gannet and kittiwake and the AldeOre Estuary SPA LBBG.

4.2.116 NE's reasoning for its sustained position of AEOI on gannet and LBBG at FFC SPA is also given in [REP9-066]. It confirms that although NE agree



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that there would be no AEOI for in-combination collision effects on gannet or LBBG at the FFC SPA if Hornsea Project Three, Hornsea Project Four and Norfolk Vanguard were removed from the total estimates, the ongoing uncertainties with those projects mean that once they are included in the estimates, NE cannot rule out AEOI on either feature.

4.2.117 For kittiwake, NE [REP9-066] notes that there is already an AEOI on kittiwake of FFC SPA across consented plans and projects, and so any additional mortality arising from EA1N or EA2 can only be concluded to be an additional adverse effect.

4.2.118 NE's position at Deadline 9 for both these species therefore remained unchanged from Deadline 7 and presented in Table 4.3 of this report.

4.2.119 For guillemot and razorbill, NE's position remains the same as at Deadline 7 [REP7-071]; that it can conclude there is no AEOI for either species in-combination with other plans and project, but only where Hornsea Project Three and Hornsea Project Four are excluded from the collision estimates. Where these two projects are included, NE remain unable to conclude there will be no AEOI.

4.2.120 It is noted that in its SoCG [REP8-105], the RSPB's position on in-combination effects on gannet, kittiwake, razorbill and guillemot has not changed since the RSPB's Deadline 4 submissions following the Applicant's updated in-combination collision risk assessment provided at [REP8-035].

4.2.121 However, at [REP8-165] NE confirmed that it was satisfied that there are no AEOI on the other species associated with the seabird assemblage of FFC SPA and Ramsar and Alde-Ore Estuary SPA and Ramsar. The focus of the discussion on these sites for Deadline 10 and Deadline 11 has therefore been on proposed without prejudice compensation measures for kittiwake, gannet, guillemot and razorbill features as NE suggest in [REP8-165]. Consideration of without prejudice compensation measures for effects on these features is covered in section 6 of this report.

4.2.122 Deadline 10 of the Examination included confirmation from the Applicant [REP10-017] in response to ExQ3 that in addition to updating the figures used in [REP8-035] to take account of NE's comments and some minor errors in data, that the amended figures from non-material changes recently approved for East Anglia Three would be included in the updated figures . These were presented by the Applicant in a revised version of [REP8-035] as the final cumulative and in-combination collision risk at Deadline 11 [REP11-027]. This includes presenting 'with' and 'without' Hornsea Project Three, Hornsea Project Four and Norfolk Vanguard in line with NE's request in [REP8-035]. The Applicant concluded that including the non-material changes resulted in a reduction in collision risk and as such, the updated results did not alter its position of no AEOI at Deadline 11.

4.2.123 NE however raised concerns at Deadline 11 [REP11-121] about the approach of relying on reduced collision estimates from other consented projects, noting NE's representation to the East Anglia One non-material



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change. It remains concerned about the approach of using these figures in order to 'free up' headroom and confirmed NE has recommended that BEIS review this so that it is addressed in a legally robust manner.

Collision risk mitigation – draught height increases

Gannet and kittiwake - mitigation

4.2.124 As stated in section 4 of this report, NE has advised that the applicant consider further increases to draught height as mitigation for effects on gannet and kittiwake.

4.2.125 At Deadline 6 [REP6-044], the Applicant submitted more reasoning around NE's request for further increases in draught height, in response to a request to consider this from the ExA at ExQ2 [REP6-116]. The Applicant concluded that further increases in draught height up to 30m would be technically possible but would have a commercial impact on the project. This is because the depth of water at EA2 adds constraints on the type and depth of foundations that could be used and this ".....sets a limit at which the technical requirements of types of foundations become commercially unviable at this location" ..."Alternative, different foundation types would be required adding significant complexity, cost and reduced supply chain flexibility to the projects." No further increases to draught height are therefore proposed by the Applicant and this is confirmed in the cumulative and in-combination collision risk update at D8 [REP8-035] and Deadline 11 [REP11-027].

Alde-Ore Estuary SPA and Ramsar – Lesser black-backed gull (LBBG)

LBBG - assessment of collision risk (in-combination)

4.2.804.2.126 NE ~~remains~~remained unable to rule out AEOI on the LBBG feature of the Alde-Ore SPA for in-combination collision risk with other plans and projects (including or excluding in-combination collision totals from the Hornsea Project Three and Hornsea Project Four projects [RR-059 and REP3-117]).

LBBG – apportioning rates

4.2.814.2.127 At [REP1-170], NE provided specific comments on the Applicant's apportioning of impacts to LBBG from the Alde-Ore Estuary SPA in relation to the Proposed Development. NE advised [REP1-170] that a range of potential breeding season apportioning rates are considered for the Proposed Development alone to reflect the uncertainty. NE states that this is consistent with rates provided during the Norfolk Vanguard and Norfolk Boreas Examinations. For Norfolk Vanguard and Boreas, the range advised by NE was 10%-30%. However, given that the Proposed Development is located closer to the Alde-Ore colony than the Norfolk projects, NE considers that the range of apportioning values needs to reflect the closer proximity of EA2EA1N and therefore potentially higher use of the proposed area by LBBG from the Alde-Ore Estuary SPA. NE stated that it would welcome discussions with the Applicant to identify an



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appropriate range for breeding season apportioning of predicted collision mortalities to the Alde-Ore Estuary SPA. NE suggested that consideration is given to other LBBG breeding colonies also located within foraging range of the [EA2EA1N](#) and [EA1NEA2](#) sites (including town colonies), their proximity to the offshore wind farms compared to the Alde-Ore colony and also the sizes of these colonies compared to the Alde-Ore colony (ideally data used on colony sizes should be contemporaneous with the baseline survey data). Consideration should also be given to foraging area segregation of colonies.

[4.2.824.2.128](#) 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 (~~HP3 for clarification~~) 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-combination collision totals when this project is included (see [Paragraphsection 4.2.4378](#) of this [RIESreport](#)).

LBBG - mitigation

[4.2.834.2.129](#) To minimise the contribution of the Proposed Development to the in-combination collision totals for the LBBG qualifying feature of the Alde-Ore Estuary SPA, NE recommends that the Applicant commits to raising turbine draught height [RR-059 and REP2-052]. This matter is discussed in detail in [Paragraphssection 4.2.63 to 4.2.67](#) of this report.

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LBBG - assessment of collision risk (in-combination)

[4.2.130](#) At [REP7-071] NE stated that it was unable to rule out in-combination AEOI for LBBG as a result of collision. NE agrees with no collisions being apportioned from Hornsea Project 3 and Hornsea Project 4.

[4.2.131](#) At [REP9-066], NE repeated similar concerns surrounding ongoing uncertainty with the figures associated with other plans and projects, detailed for the FFC SPA in 4.2.101 of this updated RIES and therefore not repeated here. In addition, using the mortality figures from the Norfolk Boreas Examination, and given the predicted growth rates and status of the gannet population, NE concludes that it is not possible to rule out AEOI for EA1N in-combination with other plans and projects.

LBBG - mitigation

[4.2.132](#) As stated in section 5 of this report, the Applicant maintains that further raising of the draught height to address effects is not viable.

[4.2.133](#) Representations at Deadline 10 and Deadline 11 therefore concentrated on 'without prejudice' compensatory measures for this qualifying feature of Alde-Ore Estuary SPA.



Offshore Ornithology - post-consent monitoring

Offshore In-Principle Monitoring Plan (IPMP)

4.2.844.2.134 As stated in the Applicant's Offshore IPMP [APP-590], the document serves as a key mechanism through which the relevant regulatory authorities can be assured that required offshore monitoring activities associated with the construction and operation of the offshore infrastructure for the proposed EA2EA1N project will be formally controlled and mitigated. [APP-590] covers all receptor groups (including Offshore Ornithology and Marine Mammals) identified in the HRA.

4.2.854.2.135 NE's main concerns related to the proposed post-consent monitoring for Offshore Ornithology [RR-059]. Given NE's general concerns about predicted levels of in-combination impacts on seabirds and the potential contribution of the Proposed Development to those impacts (should it be consented), NE considers that the following aspects are likely to be relevant for consideration and should be treated as the main priority for post-consent monitoring:

- Validating levels of RTD displacement;
- Improving understanding of collision risk (which NE suggests could potentially include monitoring of collisions at the site via cameras on turbines, improvements to modelling, options for mitigation and reduction); and
- Collection of reliable data on seabird flight heights.

4.2.864.2.136 The Applicant submitted an updated Offshore IPMP at Deadline 3 [REP3-040]. In Paragraph 44, the Applicant states its "support, in principle" for joint industry projects/strategic seabird activity monitoring programmes. NE provided some interim comments on the Offshore IPMP at Deadline 4 [REP4-087], primarily advising that monitoring should focus on the extent of displacement pre and post construction.

4.2.874.2.137 At [REP5-086], NE raised concern that the current Offshore IPMP does not propose any project specific bird monitoring, and that the in-principle monitoring only makes reference to supporting joint industry/strategic monitoring for ornithology. NE's view is that this approach is not sufficient and that the Offshore IPMP needs to state what monitoring will be conducted in relation to the Proposed Development, alongside firm commitments and frameworks for delivering the proposed monitoring.

4.2.884.2.138 ~~At~~ ~~As discussed at~~ ISH3 on 19 January 2021, ~~the Applicant confirmed that the EA2 Offshore IPMP would be updated to include monitoring of RTD and~~ further comments from NE on the technical scope of the EA2EA1N Offshore IPMP ~~are~~were expected as the Examination progresses.



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Offshore In-Principle Monitoring Plan (IPMP)

4.2.139 In its amended and updated IPMP at Deadline 6 [REP6-015], the Applicant confirms a commitment to increase monitoring across areas of offshore concern. In relation to seabirds, the updated IPMP includes installation of a collision risk monitoring system that will align with the monitoring programmes in place for East Anglia One, East Anglia Two and East Anglia Three. Details of the monitoring would be provided in a post-consent Monitoring Plan. The Applicant also amended its plans for OTE monitoring of RTD displacement to confirm it would be carried out pre- and post- construction.

4.2.140 At [REP7-074] NE noted that any monitoring relating to without prejudice compensation measures for offshore ornithology should be included in the compensation packages and not within the IPMP itself, but made no further comments on the offshore ornithology element of the IPMP. [REP8-027] provided a further update to the Applicant's IPMP but did not include further additions or amendments to the proposals for offshore ornithological monitoring.

4.2.141 In [REP9-069], NE confirmed that the Applicant has addressed its previous comments in relation to the IPMP, and it had no further comments to make.

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] ~~disagreed~~ 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 Deadline 1 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 porpoise during construction. Whale and Dolphin Conservation also expressed concerns about adverse effects of construction noise on harbour porpoise [RR-090].

Southern North Sea Special Area of Conservation (SNS SAC)

Harbour porpoise and underwater noise

4.3.2 A draft Marine Mammal Mitigation Protocol (MMMP) was submitted by the Applicant [APP-591] for the purpose of securing embedded mitigation measures to reduce/avoid noise impacts to marine mammals in the SNS



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SAC. These measures included establishing a mitigation zone based on the maximum potential range for permanent auditory injury, termed Permanent Threshold Shift, via the activation of Acoustic Deterrent Devices (ADDs) and soft-start and ramp-up methods of working. The MMMP also presented commitments to restrictions related to UXO clearance and piling events during construction of the Proposed Development, stating that these were in addition to the measures within the draft MMMP.

- 4.3.3 The Applicant also submitted an In-Principle Site Integrity Plan (IPSIP) [APP-594] which set out the approach to delivery of mitigation measures to avoid AEOI on the qualifying features of the SNS SAC, with a final [Site Integrity Plan \(SIP\)](#) to be approved post-consent. The purpose of the IPSIP is to provide a framework for the agreement and delivery of further mitigation measures that may be required based on the final Proposed Development design and actual in-combination scenario at the time of construction.

MMMP and SIP Measures

- 4.3.4 SNCB guidance thresholds used by the Applicant for disturbance state that *“displacement of harbour porpoise should not exceed 20% of the seasonal component of the SAC area at any one time and / or on average exceed 10% of the seasonal component of the SAC area over the duration of that season”* To ensure this is adhered to, the Applicant proposes additional mitigation measures in its HRA [APP-043] at paragraph 431, where based on a worst-case scenario of 100% disturbance from the Proposed Development in the offshore development area, only one UXO detonation (clearance) and/or piling event would occur *“at any one time”* and there would be no concurrent UXO/piling events between [EA2EA1N](#) and [EA1NEA2](#) should they be constructed at the same time. These measures are secured through the draft MMMP [APP-591] and an [in-principle In-Principle Site Integrity Plan \(IPSIP\)](#) [APP-594] which are secured as certified plans in [article Article](#) 36 of the DCO [{\(at application \[APP-023\], latest version at time of writing \[REP5-003\],\)}](#). Separate MMMPs and SIPs will manage piling and UXO clearance mitigation and will be finalised post-consent. The submitted MMMP and IPSIP contained no formal commitment to limit the number of overall UXO/piling events that could occur in a 24-hour period.
- 4.3.5 Based on these mitigation measures, the Applicant concludes in section 5 of the HRA no AEOI for the SNS SAC in relation to the conservation objectives for harbour porpoise. TWT [RR-091] and NE [RR-059] [disagreedisagreed](#) that there will be no in-combination AEOI on the SNS SAC as a regulatory mechanism is not in place to manage underwater noise from multiple projects potentially in construction during the same timeframe as the Proposed Development. Following ISH3 (19 January 2021) at Deadline 3 the MMO referred to its work alongside NE under the Southern North Sea Regulators Working Group [REP3-109] in seeking a mechanism to manage activities which generate noise, but [at this time](#)



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- acknowledged the positions of NE and TWT in that a solution is not likely to be found prior to the closure of the Examination.
- 4.3.6 NE [RR-059; Appendix B] contests the approach set out in the Applicant's HRA [APP-043] that more than one UXO/piling event should not take place within a ~~24hour~~24-hour period "*at any one time*" preferring the wording used in the JNCC (2020) guidance "*in any given day*".
- 4.3.7 NE ~~highlight~~highlighted that the current HRA assessment of "*at any one time*" in a 24-hour period has potential to cause displacement of up to 32% of the winter area of the SNS SAC and therefore potential for a significant effect. NE and the MMO [REP1-144] ~~propose~~proposed that these events should be limited to one per 24-hour period via condition in the Deemed Marine Licence (DML) across both ~~EA2 and~~ EA1N and EA2 projects.
- 4.3.8 At Deadline 1, the Applicant submitted an addendum of Information to Support Appropriate Assessment [REP1-038] to update the impacts to integrity assessment; in paragraph 17, the Applicant commits to no concurrent piling/UXO detonation without mitigation within a 24-hour period for the Proposed Development alone and no concurrent piling between ~~EA2 and~~ EA1N and EA2 "*in any given day*". It goes on to state that in the summer season, potentially more than one UXO/piling event could occur within a 24-hour period provided it can be demonstrated that effective mitigation is in place and such evidence would need be presented in the relevant SIP post-consent (paragraph 22). The Applicant submitted an updated MMMP [REP3-042] and IPSIP [REP3-044] at Deadline 3 reflecting these changes and committing to consider commercially available mitigation alternatives where they would be effective.
- 4.3.9 NE [REP3-118 and REP4-090], TWT [REP4-125] and the MMO [REP4-081] contested the wording of paragraphs 26 of the MMMP [REP3-042] and 51 of the IPSIP [REP3-044] where it states that UXO/piling events may be undertaken "*without at source mitigation*" and stated that no piling/UXO detonation should occur without mitigation unless consent has been obtained from the MMO following consultation with NE. Both request that these commitments are conditioned on the face of the DML in their own right, without the wording "*without at source mitigation*". The Applicant explains [REP4-016] that embedded mitigation would still be implemented for UXO/piling events as described in the MMMP and that "*without at source*" mitigation pertains only to additional measures such as bubble curtains.
- 4.3.10 The Applicant responded at Deadline 4 [REP4-016] reiterating that more than one event could only occur if mitigation measures (such as bubble curtains) could ensure that impacts would remain below the disturbance threshold (20%). It referenced conditions 12 and 13 of the transmission assets DML (Schedule 14), and conditions 16 and 17 of the generating assets DML (Schedule 13) [REP3-011] which determine that the MMMP and SIP must be submitted to and approved by the MMO before any UXO/piling events can commence. The Applicant stated a view [REP4-016]



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that these conditions provide flexibility in applying up to date science, guidance and techniques in securing and implementing appropriate mitigation measures and provides an opportunity to account for any conservation objective changes prior to approval of the final MMMP and SIP and commencement of offshore construction activities. The Applicant also committed to consulting with NE and TWT through the IPSIP.

- 4.3.11 The updated IPSIP at Deadline 3 [REP3-044] also included an expansion in scope to include mitigation for project alone effects. TWT [REP4-125], MMO [REP4-081] and NE [REP3-118] commented that whilst proposing mitigation measures post-consent in the SIP for in-combination impacts is acceptable to ensure development can proceed, this is not appropriate for project alone impacts/effects which should be determined and mitigated pre-construction to give confidence in the assessment conclusions. The Applicant's position at Deadline 4 [REP4-016] was that it considered that many of the reasons why the SIP can be used to manage in-combination impacts applied equally to project-alone effects. In the Applicant's Deadline 5 response [REP5-013, point 047] to the MMO [REP4-081] response, the Applicant confirms that it is exploring the possibility of project-alone effects being captured through a condition to the DML and DCO.
- 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 iswas anticipated to be submitted at Deadline7.
- 4.3.13 The MMO [REP1-144 and REP4-081] stated its preference for a separate marine licence to control UXO detonations to allow for an up to date assessment, including of other noisy activities in the area at the time, prior to commencement of detonations. The Applicant responded at Deadline 5 that its position was that inclusion of UXO clearance in the DMLs is appropriate and that following discussions with the MMO this approach had been agreed. The Deadline 5 submission from the MMO [REP5-075] states that a separate licence for UXO clearance is considered most suitable, however provided its concerns can be addressed and there are no outstanding project alone AEOI the inclusion of UXO clearance in the DMLs could be acceptable. The ExA explored the MMO's position on the matter at ISH7, where the MMO stated that discussions were ongoing with the Applicant on addressing its concerns but that it maintains a preference for inclusion of UXO clearance activities in a separate marine licence [EV-102].
- 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 at Deadline 3 [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



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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 within this approach [EV-103]. Comments from other parties ~~are anticipated~~ were received at Deadline 7- (see RIES Amendments and Consultation section below).

- 4.3.15 NE [RR-059, REP1-056 and REP4-095] and TWT [REP4-125] highlight the need for a regulatory mechanism to be developed by a competent authority to manage multiple SIPs across different projects as during construction and post-consent, new developments may come online, therefore a process for managing potential threshold exceedances needs to be in place. This matter was explored in ISH7 on 17 February 2021, during which the Applicant set out the likely responsible parties during construction and post-consent [EV-102].
- 4.3.16 In its Deadline 5 submission [REP5-075] the MMO makes reference to its involvement in the recent Review of Consents undertaken by the Department for Business, Energy and Industrial Strategy (BEIS) and subsequent work to vary existing DMLs for a number of other wind farms. In its representation, the MMO explains the implications of this work in relation to the requirement for and function of SIPs to manage noise impacts to the SNS SAC. The MMO provides details of updated wording to the DML Conditions pertaining to UXO clearance and pre-construction plans and documentation which it considers acceptable. It also requests and sets out a new SIP condition to be added to the DMLs. Further information from parties ~~is anticipated~~ was received at Deadline 7.

ADD mitigation, and alternative mitigation techniques

- 4.3.17 Section 2.4 of the MMO's RR [RR-052] recommends other noise impact mitigation methods such as bubble curtains and TWT [REP4-125] suggest exploration of UXO removal or leaving in-situ.
- 4.3.18 NE [REP1-166] raised the possibility of amending conditions for UXO detonation with cluster detonations within a 5km radius as an alternative mitigation technique. The Applicant included alternative mitigation techniques in the revised MMMP [REP3-042] and IPSIP [REP3-044] submitted at Deadline 3. NE welcomed the inclusion [REP4-090] however it commented that further information is required to understand the feasibility and appropriateness of the clustering technique.
- 4.3.19 Alternative mitigation techniques matters (including deflagration) were explored by the ExA at ISH7 on the ~~17th~~ 17 February 2021, where the Applicant responded that these techniques were included in the draft MMMP and IPSIP as potential options, and the use of them will be a matter for the final MMMP and SIP, depending on the information which becomes available as a result of detailed design investigations [EV-102] and the



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experience from other projects. The MMO supported this approach at ISH7 [EV-103].

- 4.3.20 TWT [REP4-125] request that monitoring is undertaken for ADD mitigation to improve understanding of its range of effectiveness in light of the limited and differing amount of scientific evidence available. TWT also highlighted the application of an assumed maximum charge weight of 800kg by other projects, for example Hornsea Project Three, and questioned if the Applicant's assumption of a 700kg maximum was justified [REP3-042].

RIES Amendments and Consultation

Harbour porpoise and underwater noise.

- 4.3.21 The Applicant's comments on the original RIES [REP8-094] confirmed that only the harbour porpoise qualifying feature of the SNS SAC was a matter of discussion with NE, the MMO, and TWT. Impact-effect pathways other than underwater noise have not been matters of discussion during the Examination.

MMMP and SIP measures

- 4.3.22 The Applicant submitted an updated MMMP [REP7-030] and IPSIP [REP7-031] at Deadline 7, responding to comments received from IPs. The updated documents contain specific reference to DML conditions (Condition 27 of Schedule 13 and Condition 23 of Schedule 14) within the updated dDCO submitted at Deadline 7 [REP7-006]. The conditions prevent concurrent piling, concurrent UXO detonations or a combination of the two, and restricts the number of noisy events to one within a 24-hour period during the SNS SAC winter period. The commitment to no concurrent piling or UXO clearance between EA1N and EA2 stipulated in the MMMP and IPSIP is also formally secured by these conditions.
- 4.3.23 In its comments on the original publication of the RIES, NE clarified that the SNCB noise management guidance thresholds are 20% displacement over the relevant area of the site in any given day, not season as stated [REP8-167]. NE states in [REP8-168] it is content that with restrictions as above on noisy events, the disturbance thresholds for harbour porpoise will not be exceeded. NE confirmed that it is satisfied that there will be no AEOI of the SNS SAC from the Proposed Development alone [REP8-167].
- 4.3.24 The ExA issued a request [PD-034] for further information on 17 March 2021 asking NE to confirm its position on in-combination effects, in response to which NE advised that AEOI on the SNS SAC could not be excluded due to the absence of a wider regulatory mechanism to manage multiple SIPs [REP8-166]. NE reflect this in its 'Risks and Issues Log at Deadline 8 and Deadline 9 [REP8-168, REP9-069]. This is a view supported by TWT [REP8-183]. The MMO acknowledged NE's point and the industry-wide need, but states that the SNS SAC SIP is appropriate to manage in-combination noise impacts along with the SNS Regulators Working Group [REP8-156, REP9-060]. The Applicant responded to NE comments in



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[REP9-017] noting the MMO's acceptance of the project-level mechanisms in place.

- 4.3.25 At Deadline 11 the MMO responded to ExQ3 [PD-034, 3.2.21] with a copy of the SNS Regulators Working Group Terms of Reference [REP-116] confirming that control of in-combination underwater noise impacts on the SNS SAC is within the scope of the Group's responsibilities [REP11-114]. In response to the same question, NE indicated it would await the MMO's response [REP11-123].
- 4.3.26 The updated MMMP and IPSIP submitted at Deadline 7 also included removal of consideration of effects from the project alone. The MMO agreed with these amendments [REP8-156] and NE states in REP8-168 that its concerns over this matter were resolved by the Deadline 7 revisions to the IPSIP. TWT also supports these amendments [REP8-183]. The ExA asked NE to respond to the appropriateness and confidence in the delivery of the IPSIP mitigation measures [PD-049, 3.2.22], to which NE confirmed it was content with the IPSIP [REP11-123].
- 4.3.27 At Deadline 6 the Applicant confirmed no change to its position that UXO clearance was appropriate to include in the DML but that the wording of the DML conditions was close to being agreed [REP6-029]. The MMO stated its continued in-principle position that UXO clearance activities should be undertaken under separate marine licence [REP8-156, REP9-060].
- 4.3.28 However, on a 'without prejudice' basis to this position, the MMO has stated satisfaction with the wording in the DMLs and welcomed the inclusions at Deadline 7 [REP7-006] of submission of activity close out reports following UXO clearance, and ensure a separate SIP is produced 6 months prior to each noisy activity. The MMO agree with the inclusion of new condition at Deadline 8 [REP8-003] securing separate SIP submission for piling and for UXO clearance activities. (Conditions 26 and 27 of Schedule 13 and Conditions 22 and 23 of Schedule 14). [REP8-003] also addresses requests from NE to insert 'relevant SNCB' into the text of the DML conditions where this is relevant.
- 4.3.29 The Applicant has clarified in updated documents at Deadline 7 that 'UXO detonation' can include detonation of a single UXO or a cluster of UXOs together under certain circumstances. At Deadline 8 the MMO advised that 'UXO detonation' should be defined within the draft DMLs [REP8-156]. However, at Deadline 9 the MMO welcomed the changes made by the Applicant to the MMMP and IPSIP [REP7-030 and REP7-031] to define this and control the circumstances under which detonation clustering would be permitted [REPO-060]. NE confirmed it is content with this definition [REP8-161]. The ExA requested NE's views on the relevant Deadline 7 DML Conditions [PD-034] to which NE responded [REP8-166] with reference to its submission at Deadline 8 [REP8-163] and further at [REP9-068]. NE has no outstanding comments in relation to the DML Conditions.



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4.3.30 The updated wording in Part 5 of draft Condition 16 (Schedule 12 of the dDCO) and Condition 12 (Schedule 14) which relates to the timescales of discharge and approval of documents has been agreed with NE [REP6-115, REP8-168] and the MMO [REP6-104, REP9-060].

Acoustic Deterrent Devices mitigation, and alternative mitigation techniques

4.3.31 NE had raised the matter of clustered UXO detonation as an alternative mitigation technique [REP1-166, REP4-090]. The matter was further discussed between the Applicant and NE [REP8-161] subsequent to Deadline 7. Clustering of UXO detonations as a mitigation tool has been removed by the Applicant in the updated versions of the MMMP [REP7-030] and IPSIP [REP7-031] and NE [REP8-161] and the MMO [REP9-060] have confirmed satisfaction with this approach. The MMP and IPSIP allow for clustered detonation in specific circumstances (see above).

4.3.32 At Deadline 6, the Applicant submitted an updated Offshore IPMP [REP6-015] in response to discussions with Interested Parties on monitoring requirements. NE provided comment at Deadline 7 [REP7-074] and the MMO at Deadline 8 [REP8-156].

4.3.33 The ExA's 17 March request for further information asked for NE's views on the scope and content of the monitoring provisions included within this document. NE responded [REP8-166] referring to its comments at Deadline 7. The Applicant submitted an updated draft at Deadline 8 [REP8-028] following discussions with IPs, to which the MMO and NE confirmed it was content at Deadline 9 [REP9-060, REP9-063].

4.3.34 With reference to its Risks and Issues Log [REP10-053] NE confirmed at Deadline 10 that it considered matters associated with marine mammals to be resolved [REP10-050].

4.4 Effects on Onshore Ornithology/ Terrestrial Ecology

4.4.1 The Applicant concludes in its HRA Information to Support Appropriate Assessment Report [APP-043] that there would be no AEOI on the Sandlings SPA as a result of construction phase habitat loss and disturbance to the qualifying features of breeding woodlark and breeding nightjar. NE disagreed with this conclusion in [RR-059]. NE [REP2-053] requested further information in relation to the proposed mitigation and construction methods before it would be in a position to exclude AEOI.

Sandlings SPA

4.4.2 The Applicant's Habitats Regulations Assessment – Information to Support Appropriate Assessment [APP-043] considered the potential for construction phase habitat loss and disturbance to breeding bird qualifying features of the Sandlings SPA during cable installation. ~~The paragraphs below set~~This section sets out the main areas of discussion during examination to ~~date~~19 February 2021.



Horizontal Directional Drilling (HDD) vs open-cut trench methodologies for crossing the Sandlings SPA

- 4.4.3 The Applicant prepared an Outline Landscape and Ecological Management Strategy (OLEMS) to accompany its Environmental Statement [APP-584]. This explained the preference for the cable route crossing of the Sandlings SPA to be carried out utilising open-cut trench methods. The OLEMS was subsequently updated during the Examination following feedback from Interested Parties and amendments to the design [REP3-030]. Following discussion at ISH7 (17th February 2021) the Applicant committed to a further update of the OLEMS to be submitted at Deadline 6 [EV-107].
- 4.4.4 In paragraph 37 of the HRA [APP-043] the Applicant ~~has~~ assessed the impacts associated with both open-cut (trench) and HDD methodologies for crossing the Sandlings SPA. In Table 3.1 [APP-043], the Applicant states that the worst-case scenario for habitat loss impacts are associated with the use of the open-cut crossing methodology. Conversely, worst-case for disturbance impacts are associated with the HDD crossing methodology. In Table 3.2 and section 3.3 of [APP-043], the Applicant states that an open-cut crossing technique is preferred for the onshore cable corridor route on the basis that duration of the works will be significantly less (an estimated ~~1~~one month, outside of the breeding season within the SPA and 2 months within a 200m buffer set around the SPA boundary) compared to HDD (which will last more than a two year period assuming that works are seasonally restricted). The Applicant therefore concludes that a reduced period of disturbance would be preferable using an open-cut technique to cross the SPA rather than an extended period of disturbance using an HDD technique.
- 4.4.5 Both NE [RR-059] and Save Our Sandlings [REP3-122], put forward their preference for HDD methodologies to undertake the crossing, to avoid habitat loss. The RSPB commented on a need for more information on working methods in its relevant representation [RR-067]. At points 2 and 3 of its response to NE, the Applicant [AS-036] stated that habitat loss impacts using an open-cut method have been minimised by crossing the SPA at its narrowest point and reducing the onshore cable route working width to 16.1m. The cable working width for ~~EA1NEA2~~ would also be 16.1m and situated adjacent to that of the Proposed Development in this location. This is secured by Requirement 12.
- 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 ~~EA2EA1N~~ and ~~EA1NEA2~~ 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.



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- 4.4.7 The Applicant submitted an Outline SPA Crossing Method Statement [REP1-043] which provided further details on the potential methodologies to be adopted for open-cut and HDD crossings and concluded the Applicant's preference for open-cut method. NE responded to this document [REP2-053] stating that it considered open-cut methods would divide the SPA and have wider ecosystem impacts, and that such habitat loss could cause disruption over multiple breeding seasons beyond installation. NE requested further information on open-cut operations including plant and machinery required for excavating and backfilling the SPA crossing and the working area within the 200m buffer. Based on the current information at the time, NE is was not content to rule out AEOI on the Sandlings SPA from construction effects. The Applicant [REP3-070] explained that whilst open-cut methods will result in direct habitat loss within the SPA, there will be no loss of functioning habitat for SPA qualifying species (nightjar and woodlark). This is based on their known distributions. Any land lost would be reinstated as soon as practicable following completion of the works and prior to commencement of the 5- five year habitat management period. It also stated that it would continue to liaise with NE in order to ensure the final SPA Crossing Method Statement provides adequate mitigation. At ISH3 (19 January 2021) the Applicant indicated that it hoped to agree a crossing solution with NE by Deadline 6 of the Examination [EV-047].
- 4.4.8 NE also requested justification as to the habitat reinstatement and enhancement within the SPA crossing, its function, timeframe and monitoring, advising that enhancement should go beyond the proposed 5five years post-cable installation [REP2-053]. NE provided further comment at Deadline 4 [REP4-092] on the matters pertaining to the proposed enhancement measures. The Applicant responded at Deadline 5 [REP5-015] restating previous information and committing to work with NE.
- 4.4.9 Further discussion was held at ISH3 on 19 January 2021 on these matters. The Applicant states in its written summary of oral case that matters yet to be agreed with NE are were:
- The conclusions regarding the effects of open-cut trench crossing of the SPA;
 - The worst-case scenario assessed in [APP-043]; and
 - The details of the mitigation proposed for habitat loss [REP5-027].
- 4.4.10 The Applicant's Statement of Common Ground with the RSPB [REP1-395] records that the RSPB supportssupports 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 D5Deadline 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



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~~proposed additional mitigation measures include ensuring that replacement nesting habitat is in place and functional before any crossing works take place, 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.]..~~

~~4.4.11 NE provided further comments on the OLEMS at D5 [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 5 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.~~

~~4.4.124.4.11 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 its 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 D6 [EV-101].~~

Seasonal Restrictions on SPA Crossing

~~4.4.134.4.12 NE [RR-059] requested seasonal restrictions on the SPA crossing to avoid works taking place during the bird breeding season and requested that this was secured in the DCO and Code of Construction Practice. In response, the Applicant stated in the Outline SPA Crossing Method Statement (Section 2.4 [REP1-043]) that no construction works associated with the SPA crossing if undertaken by open cut trenching will be undertaken within the SPA or 200m buffer during nightjar and/or woodlark breeding bird season (01 February to 31 August; this extends slightly beyond the breeding season) unless otherwise agreed with the local planning authority (LPA) and NE. The Applicant stated this seasonal restriction would not apply if the crossing was undertaken by HDD [REP3-084].~~

~~4.4.144.4.13 The Applicant submitted an updated OLEMS [REP3-030] to reflect this commitment. The OLEMS sets out the content of an Ecological Management Plan (EMP) to be produced post-consent and the EMP will include a Breeding Bird Protection Plan securing seasonal restrictions. However, the Applicant considered that these measures were sufficiently secured through Requirement 21 of the draft DCO [APP-023], as NE is named as a statutory consultee on the EMP. Within the Requirement, construction of the onshore works cannot commence until the approval of the EMP by the LPA.~~



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~~4.4.154.4.14~~ Within its comments on the OLEMS [REP5-084], NE ~~acknowledge~~acknowledged that the updated OLEMS provided additional clarity and ~~accepts~~accepted 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 (~~17th~~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.

Hundred River Crossing and potential impacts to the Sandlings SPA

~~4.4.164.4.15~~ The Applicant proposes in ES Chapter 22, paragraph 203 [APP-070] that its preferred method to cross the Hundred River is open-cut trenching which would result in temporary impacts to the bed and bank habitats. NE highlights in its RR [RR-059] that this is hydrologically linked to Sandlings SPA and requests an assessment of alternative crossing methods to include HDD under the Hundred River. In its representation, NE advises that should HDD be used, details of the methodology will be required and mitigation should be in place to prevent bentonite breakout and to manage any potential breakout. NE ~~suggests~~suggested that an outline bentonite frackout document should be provided for each of the HDD locations.

~~4.4.174.4.16~~ The ExA explored the question of alternative crossing measures and the potential for impacts to the Sandlings SPA in ExQ1 (questions 1.2.66 and 1.2.67) [PD-018]. The Applicant responded to these questions in [REP1-107] stating that an account of the options considered and of the mitigation measures to be employed to avoid adverse effects would be submitted in an Outline Watercourse Crossing Method Statement at Deadline 3.

~~4.4.184.4.17~~ The Applicant states in its ecological clarification note [REP1-023] that the final methodology for crossing the Hundred River will be decided post-consent in agreement with the LPA through a final Watercourse Crossing Method Statement secured by Requirement 22 of the DCO. The Applicant submitted an OLEMS at Deadline 2 which includes an EMP at section 10 [REP3-030] however, this provides limited information and no assessment of potential impacts to the Sandlings SPA features as a result of crossing the Hundred River.

~~4.4.194.4.18~~ The Applicant submitted an Outline Watercourse Crossing Method Statement (OWCMS) [REP3-048] at Deadline 3 which presents an assessment of two alternative methods of crossing the Hundred River (dry and flume pipe techniques). Appendix 4 of the OWCMS explains that trenchless techniques are not considered viable due to the number of constraints, the lack of lateral space and the duration and plant machinery required for the works.

~~4.4.204.4.19~~ Following review of the OWCMS [REP4-092], NE highlighted that the document does not present a specific discussion on potential environmental impacts to Sandlings SPA and requested that either an Outline EMP or a revised OWCMS is submitted to the Examination. NE acknowledged that while mitigation measures are to be included in the



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approved EMP post consent, it expressed concern that in the absence of this information it will not have the opportunity to comment or agree to no AEOI to the SPA in relation to the Hundred River crossing before close of the Examination. The Applicant responded at Deadline 5 stating that an updated OWCMS would be submitted at Deadline 6, to include a HRA screening exercise to address this point [REP5-015].

~~4.4.21~~4.4.20 East Suffolk Council provided comment on the OWCMS [REP3-048] at Deadline 4, querying whether a restricted working width narrower than the proposed 70m could be achieved at the river crossing [REP4-059]. The Applicant responded at Deadline 5 [REP5-010] providing justification for the widths required and stating that the crossing method would remain under review.

~~4.4.22~~4.21 At ISH7 on 17 February 2021, the Applicant re-confirmed that an updated OWCMS, which will take account of the Sandlings SPA, ~~will~~would be provided at ~~D6~~Deadline 6 [EV-101 and EV-107].

Air quality effects on Sandlings SPA

~~4.4.23~~4.22 At Deadline 1 the Applicant produced an Onshore Ecology Clarification Note [REP1-023] to address comments raised by NE, East Suffolk Council and Suffolk County Council during the SoCG process. Following comments from NE at Deadline 2 in relation to this note [REP2-055], the Applicant submitted an updated document [REP3-060] and an Air Quality Clarification Note [REP3-061]. NE provided comments at Deadline 4 [REP4-092] acknowledging the information as adequate in terms of identifying air quality impacts, but requesting a full assessment of the resulting effects of change in air quality during construction and decommissioning on the supporting habitats of the Sandlings SPA. NE also noted that mitigation should be provided if the assessment was unable to rule out significant effects. The Applicant responded [REP5-015], agreeing to consider mitigation depending on the assessment work and stated a response would be provided at Deadline 6.

~~4.4.24~~4.23 The ExA explored this matter at ISH7 (~~17th~~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~~machinery (NRMM) 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].

RIES Amendments and Consultation

4.4.24 The SoCG between the Applicant and NE states agreement that there would be no AEOI on Sandlings SPA from the crossing of the onshore cable construction, subject to mitigation as contained in the Outline SPA Crossing Method Statement, CoCP, and OLEMS. The SoCG records matters remaining under discussion with respect to these documents as submitted at Deadline 6 and their securement in the dDCO, however these



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matters have progressed since that point and are now resolved (see below). The SoCG also agrees that AEOI are unlikely to arise from downstream impacts from the Hundred River Crossing, subject to the measures controlled by the final OWCMS [REP8-108].

- 4.4.25 The SoCG between the Applicant and the RSPB [REP8-104] states that the outcomes of the Applicant's HRA [APP-043] are agreed subject to the agreement of the Outline SPA Crossing Method Statement and the proposed mitigation being secured.

Horizontal Directional Drilling (HDD) vs open-cut trench methodologies for crossing the Sandlings SPA

- 4.4.26 The Applicant submitted an updated Outline SPA Crossing Method Statement and OLEMS at Deadline 6 [REP6-036 and REP6-007 respectively]. The OLEMS has been further updated at Deadline 8 [REP8-019] and Deadline 10 [REP10-005]. NE provided comments on the Deadline 6 revisions of these documents at Deadline 8 [REP8-162], stating that an AEOI of the Sandlings SPA is unlikely to occur from an open-cut trench option of crossing. NE expressed some residual concerns related to provisions for establishing effectiveness of mitigation and monitoring recovery of habitats.

- 4.4.27 The Applicant's response in [REP9-016] (point 3a) clarifies that the mitigation referred to relates to bird species which are features of the Leiston-Aldeburgh SSSI, and confirms that the species which are qualifying features of the Sandlings SPA would not be subject to habitat loss. Amendments have been made to this RIES following confirmation from NE in response to ExQ3 [PD-049, Q3.2.34] that its comments related to SSSI species and not qualifying features of the Sandlings SPA [REP11-123].

- 4.4.28 The updated Outline SPA Crossing Method Statement commits to installation of ducting for both EA1N and EA2 in parallel along the whole onshore cable route including within the SPA [REP6-036].

- 4.4.29 Comments were received from ESC at Deadline 7 [REP7-063] seeking clarification on the need for intrusive pre-construction surveys within the SPA. The Applicant responded in [REP8-048] that the Outline SPA Crossing Method Statement submitted at Deadline 6 confirms that no pre-construction surveys will be carried out in Work No. 12 during the nightjar or woodlark breeding season, and that pre-construction surveys would be subject to approval by the relevant planning authority under the EMP secured in the dDCO.

Seasonal Restrictions on SPA Crossing

- 4.4.30 Control of the proposed seasonal restriction remained a concern for NE at Deadline 8 [REP8-162] advising that it must be explicitly named as a consultee in the final CoCP. At Deadline 9 [REP9-069] it notes that the update OLEMS [REP8-019] has updated sections relevant to NE's remit but that this previous advice regarding the CoCP remained unchanged. The Applicant responded in [REP9-016] setting out discussions held and



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submitted an updated CoCP at Deadline 10 [REP10-003] to specifically list the plans where the Applicant will consult the relevant SNCB including those relating to the Sandlings SPA.

Hundred River Crossing and potential impacts to the Sandlings SPA

4.4.31 The Applicant submitted an updated OWCMS at Deadline 6 [REP6-041] and a further update at Deadline 8 [REP8-084]. NE responded to the inclusion of a Habitats Regulations Screening assessment of downstream impacts to Sandlings SPA (presented in Appendix 5 of [REP6-041], stating agreement with the conclusion that there is unlikely to be an AEOI subject to the proposed controls and mitigation [REP8-162]. The updated OWMS confirms that the Applicant has ruled out the use of trenchless techniques at the Hundred River crossing [REP8-084].

4.4.32 The matter of a restricted working width at the river crossing was discussed at ISH7, with ESC seeking a reduction to the 70m proposed in the Deadline 3 version of the OWCMS. ESC raised this matter again in [REP7-063] in relation to the updated OWCMS [REP6-041]. The Applicant has responded explaining its approach and that width will be restricted further at detailed design if possible [REP8-048].

Air quality effects on the Sandlings SPA

4.4.33 Following on from earlier comments, at Deadline 9 ESC also provided comment on the updated OLEMS, OWCMS, and Outline CoCP [REP9-040]. With reference to the Outline CoCP, ESC provide advice regarding mitigation and monitoring for emissions from NRMM at the onshore cable landfall area. The Applicant submitted Version 6 of the Outline CoCP at Deadline 10 [REP10-003] responding to these comments.

4.4.34 In response to NE's comments at Deadline 4 [REP4-092] the Applicant provided an update to its Onshore Ecology Clarification Note [REP6-025] 6. No further comments have been received from NE.

4.4.35 In response to ExQ3 [PD-049, 3.2.28] NE confirmed it did not consider ammonia emissions from vehicles/machinery to represent a pathway for significant impacts to the SPA [REP11-123].

5 ALTERNATIVES AND IROPI

5.0.1 The disagreement regarding the conclusions of AEOI in relation to the sites and features discussed above was identified in the Relevant Representations from NE and the RSPB [RR-059 and RR-067 respectively].

5.0.2 Prior to the commencement of the Examination, there have been other DCO applications where some of the same designated sites and features had been relevant considerations (Norfolk Vanguard Offshore Wind Farm, Norfolk Boreas Offshore Wind Farm, and Hornsea Project Three Offshore Wind Farm) where the competent authority has sought information on the HRA derogation tests (Alternative Solutions, and Imperative Reasons of Overriding Public Interest (IROPI)) during the decision period.



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- 5.0.3 With reference to these other recent NSIP applications, the ExA issued a request (PD18, contained within [PD-013]) on 16 July 2020 asking the Applicant if there was a need to engage with the derogation tests under the Habitats Regulations, and if so, to provide the relevant information. PD18 also sought the views of NE on this matter. In response, NE provided comment that it was in the process of reviewing the relevant decisions and would also await further information expected at Deadline 1 regarding mitigation options to inform a full response [PDA-003]. The Applicant deferred response on the HRA derogations tests until Deadline 3 when it was anticipated that updated information regarding all affected qualifying features would be available [PDA-001].
- 5.0.4 The ExA requested an update on the relative positions of the Applicant and the Interested Parties, in particular NE, at ISH1 on 01 December 2020 on the need for consideration of the HRA derogations. The Applicant reiterated its confidence in its conclusions of no AEOI for all sites assessed, however confirmed it intended to submit a 'without prejudice' HRA derogations case, to include an examination of the alternative solutions considered [REP3-084].
- 5.0.5 Subsequently at Deadline 3, the Applicant submitted 'ExA.AS-7.D3.V1 EA2 HRA Derogation Case - Version 1' [REP3-053] as a response to PD18 in order to assist a full consideration of aspects of derogation (on a without prejudice basis) during the Examination. In this document, the Applicant restated its position that that there would be no AEOI ~~on~~ any European sites.
- 5.0.6 At ISH3 on 19 January 2021, Interested Parties were asked to draw on the Applicant's Deadline 3 submissions and responses made to them at Deadline 4. NE's interim comments at Deadline 4 [REP4-088] and its written summary of oral case [REP5-089] make reference to the proposed compensation measures, but do not make comment on the alternative solutions or IROPI case presented in the Applicant's documents. Further comments from NE submitted at Deadline 5 provide advice in relation to the approach to establishing the need for compensation measures, but again did not provide comment on the case for alternatives and for IROPI presented by the Applicant in REP3-053 [REP5-082].
- 5.0.7 The Applicant's HRA Derogations Case [REP3-053] does not include information relating to the OTE SPA or the FFC SPA qualifying features of guillemot and razorbill, the Sandlings SPA, or the SNS SAC, which at the time of its submission were still in dispute regarding the conclusions of AEOI. The ExA asked the Applicant in ExQ2 (question 2.2.1, [PD-030]) to explain why these sites and qualifying features were not included in [REP3-053-]. Question 2.2.2 asked NE, the RSPB and the MMO for their views on whether all of the necessary European sites and qualifying features were included in [REP3-053-]. Responses to ExQ2 ~~are~~were requested for Deadline 6, ~~which is not included in the scope of this RIES.~~
- 5.0.8 At ISH7 on 17 February 2021 the Applicant was questioned as to why SNS SAC was not included in the HRA Derogations Case [REP3-053]. The



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Applicant responded that it was confident that agreement on no AEOI could be reached in relation to this site [EV-102]. The Applicant indicated that an updated Derogation Case would be submitted at Deadline 6.

5.0.9 The ExA explored the Applicant's case for no alternative solutions at ExQ2 [PD-030]. Questions 2.2.3, 2.2.6, and 2.2.7 were directed to the Applicant asking for further information on the decisions made regarding design of the Proposed Development and the constraints identified to adopting larger wind turbine generators (beyond the parameters assessed), array order limits, alternative turbine layouts, and alternative minimum turbine draught height.

5.0.10 Question 2.2.8 of ExQ2 asked the Applicant, NE, and the RSPB to expand on the information in [REP3-053] on IROPI, regarding the significance of the Proposed Development's contribution to the public interests set out. This question also asked for comment on the justification that the reasons were overriding, in particular whether these reasons could be affected by the discussions and disagreements around the predictions of effects of the Proposed Development and conclusions of no AEOI on any of the European sites considered. Responses to ExQ2 were requested for ~~DE~~Deadline 6.

RIES Amendments and Consultation

Scope of the Derogations Case

5.0.11 The Applicant provided responses to the ExQ2 [PD-030] at Deadline 6 [REP6-061]. Question 2.2.1 related to the reasoning behind the scope of the 'without prejudice' derogations case, specifically the exclusion of the qualifying features of guillemot and razorbill of the FFC SPA, red-throated diver of the OTE SPA, harbour porpoise of the SNS SAC, and woodlark and nightjar of the Sandlings SPA. The Applicant responded in [REP6-061].

5.0.12 In ExQ2, and the ExA request for further information, [PD-034], NE's views were sought on the scope of the derogations case and the Applicant's response to ExQ2. NE refers to [REP8-167] for detail, but in summary does not consider that compensation is required for the SNS SAC. NE confirmed [REP8-166] that following adoption of suitable mitigation (see Section 4.4 above) there would be no AEOI on the Sandlings SPA and therefore this site can be excluded from the 'without prejudice' derogations case. NE considers that compensation measures are required in relation to in-combination effects on red-throated diver of the OTE SPA and guillemot and razorbill of the FFC SPA [REP5-088].

5.0.13 The Applicant submitted an updated Derogations Case at Deadline 6 [REP6-044], which ~~is not included~~was further updated at Deadline 8 [REP8-088] in response to matters discussed at ISH14 (16 and 17 March 2021) and ongoing submissions from and discussions with stakeholders. The updated derogations case restated the Applicant's position on the need for the Proposed Development, the alternatives explored and the stated social, economic and climate change benefits from the Proposed Development that the Applicant bases its conclusions on for IROPI. A



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further update of the Derogations Case was submitted by the Applicant at Deadline 11 [REP11-069].

Alternatives

- 5.0.14 The ExA examined the consideration of alternative project designs through written questions [PD-030]. The Applicant responded at Deadline 6 [REP6-061], providing further information regarding the technology likely to be available, the known spatial constraints, and commercial considerations. The Applicant makes reference to the updated HRA Derogation Case [REP6-044] which includes an indicative layout plan of 67 turbines as requested by the ExA. The Applicant's response states that it does not consider layout and turbine size to be viable alternatives but that increasing draught height above 22m above MHWS was technically feasible, up to 30m above MHWS. As discussed in Section 4, the Applicant has committed to a draught height of 24m above MHWS but has ruled out further increases due to commercial viability [REP8-035].
- 5.0.15 NE responded to the Applicant's Derogations case at Deadline 7 [REP7-071] advising that the Applicant should continue to explore mitigation for effects on RTD by further increasing the buffer between the array area and OTE SPA, and provided advice that the proposed compensation measures were not sufficiently detailed at this stage and must be developed further prior to consent (see section 6 of this RIES). Further advice in response to the updated document [REP8-088] was provided by NE [REP9-063], adding that the constraints against relocation/amendment of the EA1N development area described by the Applicant appear hypothetical and may be manageable. In its response to the RIES [REP8-167] NE commented that a smaller array could allow for an increase of the distance between the OTE SPA and EA1N, which it advises could be considered as an 'alternative solution' within the scope of this RIES meaning under the relevant guidance relating to the Habitats Regulations.
- 5.0.16 The Applicant produced a Layout Principles Statement at Deadline 8 [REP8-076]. This set out the recommendations that the Applicant has followed in determining the spatial layout of the array. Subsequent minor amendments were made to this document to remove reference to the transmission DML, and submitted at Deadline 9 [REP9-031].
- 5.0.17 In its submission at Deadline 10, the MMO defers matters relating to the Applicant's derogations case to NE [REP10-049] and state that it had no comment on the Applicant's Layout Principles Statement [REP8-076] and subsequent update [REP9-031]. NE made no reference to the Layout Principles Statement in its Deadline 9 or Deadline 10 responses.

IROPI

- 5.0.18 The ExA asked the Applicant to expand on aspects of its case for IROPI in Q2.2.8 in [PD-030]. The Applicant provided a response in [REP6-061] setting out how the Proposed Development is anticipated to contribute to the 2030 target for offshore wind and role in addressing the influence of climate change. In response to the ExA questions [PD-030], NE [REP6-



116] stated that given its organisational remit it cannot comment on IROPI.

5.0.19 At ISH 14, the Applicant was asked to consider whether its position on IROPI would alter if the starting point was an acceptance of AEOI. In the Applicant's response to the ISH Action points [REP8-093] and its updated Derogations Case at [REP8-088, and REP11-069], it sets out its belief that even if the SoS was to conclude that there were AEOI for any of the SPA sites, that " there is a demonstrable overriding public interest in the Project and the policy objectives it would serve, which outweigh the risk of any adverse impact on each site." The Applicant also states in Section 7, Summary, of that document that following engagement with Interested Parties and consideration of their Relevant Representations, there is no change in its position of no AEOI stated at the time of the application.

5.0.20 NE was asked by the ExA [PD-034] to respond to the Applicant's argument in [REP6-044] that climate change was a greater influence on the reduction in seabird populations than offshore windfarms. NE responded in [REP8-166] to again advise that it does not comment on IROPI cases.

6 COMPENSATORY MEASURES

6.0.1 At Deadline 3 the Applicant submitted a document entitled 'HRA Compensatory Measures' [REP3-054], setting out an outline of the measures proposed for the affected qualifying features of the Alde-Ore Estuary SPA, and FFC SPA. The sites and qualifying features covered by the HRA derogations document are set out in Table 1.1 of the document. As identified in Section 5 above, the document excludes discussion of the RTD qualifying feature of the OTE SPA, which at the time of its submission was still in dispute regarding the conclusions of AEOI. The document does not include the harbour porpoise, qualifying feature of the SNS SAC or the qualifying features of the Sandlings SPA.

6.0.2 At Deadline 4, NE stressed in interim comments [REP4-088], the need to reach agreement on the Proposed Development effects alone or in combination before determination of the need for and scale/nature of any compensation measures can be made. NE's interim comments at Deadline 4 provided advice on the compensation options that should be considered for kittiwake and gannet (FFC SPA), LBBG (Alde-Ore Estuary SPA), and red-throated diver (OTE SPA). Options included predator control in specific circumstances, provision of artificial nest sites for gannet and kittiwake, and advice that any compensatory measures for RTD need to be focussed on the removal of anthropogenic pressures within the OTE SPA [REP4-088]. 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.

6.0.3 The RSPB provided comments on the proposed compensatory measures at Deadline 4 [REP4-097], stating its position that compensation remained



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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 ~~that~~ this is inwith 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.

- 6.0.4 The RSPB also provided comments on the specific measures proposed in relation to each qualifying feature, and advice on the feasibility and remaining barriers to delivery of the measures. The submission from the RSPB at Deadline 4 reserved detailed comment regarding measures for RTD until further details were available [REP4-097]. Included in these comments, the RSPB disagreed that predator management in relation to lesser black-backed gull of the Alde-Ore Estuary was a compensatory measure and is in fact an existing necessary site management measure. The ExA asked the RSPB in ExQ2 2.2.10 to provide more detail on the delivery of this measure as part of site management. The Applicant responded to the RSPB's Deadline 4 comments at Deadline 5, explaining where matters were in dispute and where further discussion and exploration into the form of the compensation measures was being undertaken [REP5-016].
- 6.0.5 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 management undertaken by Ørsted, which was 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].
- 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/would 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~~was 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].
- 6.0.7 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



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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~~was considered to ensure this measure is additional and specific to EA2.

6.0.8 The ExA explored ~~through~~ ExQ2 [PD-030] whether all possible measures to reduce impacts had been considered in relation to design of the Proposed Development (see ~~Section~~section 5 of this report). Question 2.2.9 asked the Applicant to respond to the comments made by NE in [REP5-082] in relation to the proposed compensatory measures, and to clarify how compensatory measures proposed in [REP3-054 ~~are~~] were intended to be secured in the ~~dDCO~~draft DCO including allowing for long-term monitoring and adaptations should monitoring indicate measures are ineffective. Responses to these questions ~~have been~~were requested for Deadline 6- [EV-121].

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].

RIES Amendments and Consultation

Scope of Compensation Measures

6.0.10 In its response to the March 2021 RIES the Applicant stated it considered that it had exhausted all avenues for mitigation for effects on RTD [REP8-094], referring to information presented at Deadline 3 [REP3-052 and REP3-073] relating to the constraints limiting the extent of the 'buffer' between the Proposed Development and the OTE SPA. Section 4 of this report signposts information related to RTD mitigation. Section 5 of this report signposts evidence related to consideration of 'alternative solutions' including in relation to array layout.

6.0.11 Following ISH14 (Biodiversity and Habitats Regulations Assessment, 16 and 17 March 2021) NE provided Appendix K6 [REP8-165] confirming that it does not consider that compensatory measures are required for any other bird species which form part of FFC SPA seabird assemblage, aside from kittiwake, gannet, guillemot and razorbill. Furthermore, as signposted in Section 5 above, NE has confirmed that compensation is not required for SNS SAC [REP8-167] or the Sandlings SPA [REP8-166].

6.0.12 The RSPB expressed the view that the seabird assemblage of the FFC SPA should also be included due to in-combination effects [REP8-171].



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6.0.13 Section 4 of this RIES explains the position that was reached by Deadline 11 in relation to those sites and features where in-combination AEOI were still in dispute. The Applicant has maintained its position that none of the SPAs will be subject to AEOI, nevertheless has continued to explore compensation measures for RTD of the OTE SPA, LBBG of the Alde-Ore Estuary SPA and Ramsar, and kittiwake, gannet, guillemot and razorbill features of the FFC SPA.

6.0.14 The Applicant submitted an updated Offshore Ornithology Without Prejudice Compensation Measures document at Deadline 6 [REP6-045] and Deadline 8 [REP8-089]. The updated document submitted at Deadline 6 included possible compensation measures relating to guillemot and razorbill (FFC SPA). The Deadline 8 version of this document added a proposal for a new measure - research into and reduction of ornithological by-catch and, dependent on the outcome of the research, funding for a fishing gear change scheme. NE provided comments to the Deadline 6 submission in [REP7-071] and on the updated version in [REP9-065]. The RSPB also provided comments at Deadline 8 [REP8-171] and Deadline 9 [REP9-071]. The Applicant responded to the RSPB [REP10-018] and the RSPB provided further advice at Deadline 11 [REP11-126]. More detailed discussion of the points made is provided under the sub-headings below.

6.0.15 The ExA explored requests for greater detail on compensation proposals in ExQ3 [PD-049, 3.2.8], asking NE and the RSPB to provide specific comment. NE responded in [REP11-123] providing advice on the detail required, including design, location, evidence of deliverability, evidence of landowner and other legal agreements, clear aims and objectives and mechanisms for adaptive management, timescales for implementation, and approvals and governance. The RSPB responded with reference to its general position adopted for Hornsea Three and a list of common and species-specific requirements considered advisable to secure prior to consent [REP11-127]. The Applicant responded maintaining its position that sufficient detail has been provided to allow the SoSBEIS to discharge its duties as competent authority [REP11-088]. Nevertheless, it has provided an updated Appendix 1 and Appendix 5 to its Offshore Ornithology Without Prejudice Compensation Measures document [REP11-071] to address comments related to strategic delivery alongside Norfolk Boreas Ltd. of compensation measures for kittiwake (FFC SPA) and lesser-black backed gulls (Alde-Ore Estuary SPA and Ramsar).

6.0.16 Both NE and the RSPB have advised in their submissions that robust quantification of effects is necessary prior to identifying the nature and magnitude of compensation [REP7-071, REP11-127]. The Applicant has provided updated information in relation to RTD at Deadline 11 [REP11-071] in response to ExAQ3.2.14 [PD-049].

Timing, Duration, and Security of Compensation Measures

6.0.17 The ExA questioned the Applicant as to how the proposed compensation measures would be secured in ExQ2 [PD-030, 2.2.9]. The Applicant responded in REP6-061 with the intention to include a new Schedule in the



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dDCO which could be removed given its position of no AEOI for all European sites, or retained should the SoSBEIS take a different view.

- 6.0.18 A new schedule to the dDCO was introduced by the Applicant at Deadline 7; Schedule 18. This pertains to the compensatory measures matters to be included in the dDML [REP7-006]. The ExA made a request for further information to NE immediately following the hearing [PD-034] seeking NE's views on the timing and security of the proposed compensation measures.
- 6.0.19 NE responded [REP8-166] referring to its Appendix G5 [REP8-163] which contained a number of comments on Schedule 18. The MMO also commented [REP8-156], supporting NE's view that compensation must be detailed prior to consent. This view was echoed by the RSPB [REP8-171]. The Applicant responded to NE's submission in [REP9-016] and to MMO's submission at [REP9-021], explaining that an update to Schedule 18 (Version 5 of the dDCO, [REP8-003] had been made, which included amendments made to address comments, and that a further update to the dDCO was proposed. The Applicant's position is that Schedule 18 needs to retain adequate flexibility to allow for refinements post-consent, as the compensation measures are developed with stakeholders.
- 6.0.20 NE provided a further submission at Deadline 9 [REP9-068] in response to Version 5 of the dDCO, acknowledging the updates presented with reference its previous advice given in Appendix G5 [REP8-163] and stating it remained valid.
- 6.0.21 The MMO confirmed that it considered Schedule 18 to be an appropriate mechanism to secure compensation measures [REP8-156]. The MMO provided comments on the content and wording of Schedule 18 at Deadline 9 [REP9-060] and in its Deadline 10 response [REP10-049]. The MMO echoed NE concerns regarding delaying compensation discussions to the post-consent period, but deferred to NE regarding the adequacy and appropriateness of the compensation measures.
- 6.0.22 At Deadline 10 the RSPB expressed its continued position that the wording of Schedule 18 does not contain adequate detail on how a strategic and collaborative approach to compensation measures would be achieved [REP10-054]. The Applicant responded at Deadline 11 [REP11-055], with reference to the use of implementation plans to be based on the compensation plan contained within the Offshore Ornithology Without Prejudice Compensation Measures document [REP11-071] to deliver this approach.
- 6.0.23 The RSPB [REP8-171] provided comment, regarding the lifespan of the compensation measures with reference to EC guidance⁶. The Applicant responded [REP9-020] by outlining its proposals for the time periods of implementation, stating that the EC guidance does not require measures

⁶

EC (2018) Managing Natura 2000 sites – The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (21/11/18) C(2018) 7621 final



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to be implemented in perpetuity as put forward by the RSPB. At Deadline 10 the RSPB advised that limiting the compensation to the lifetime of the Proposed Development is inappropriate, with reference to the Hornsea Three consent decision and compensation measures relating to kittiwake [REP10-054]. The Applicant reiterated its response to ExAQ3.2.12 (see below) in REP11-055.

- 6.0.24 The ExA explored this matter asking the Applicant, NE, and the RSPB for their views in relation to kittiwake and all other bird species affected in the context of existing policy and guidance and the content of Schedule 18 [PD-049, 3.2.12]. The Applicant responded to these points [REP11-088] and provided an updated Offshore Ornithology Without Prejudice Compensation Measures document [REP11-071]. This included a commitment for measures to remain in-situ until decommissioning or following a determination on duration made by the SoSBEIS (whichever is later).
- 6.0.25 In response to ExAQ3, NE advised that the approach would need to be specific to each measure, and that a review of compensation would be required prior to decommissioning to decide options. NE also acknowledged the existing policy position to protect compensation sites similarly to classified SPAs [REP11-123]. The RSPB responded, expanding on previous comments in [REP4-097]. It considers that compensation should be provided beyond the lifespan of the Proposed Development due to delays in the anticipated effect of the measures, and accumulated annual losses of breeding adults [REP11-127].
- 6.0.26 NE and the RSPB have expressed concern around the timescales for proven success and establishment of compensation measures, with advice related to artificial nesting sites for kittiwake given as an example [REP8-163, REP9-069, REP10-054]. The Applicant has accepted that for bird species subject to collision risk, a time lag will occur between the impact and the success of compensation measures creating a 'mortality debt' [REP9-016, REP10-017], but maintains that the effect on the populations concerned would be very small and a long lead-in time to compensation would be disproportionate [REP11-055, REP11-088]. The ExA asked NE for its views [PD-049, 3.2.11] to which NE responded in [REP11-123]. NE is of the view that the uncertainty around the effectiveness of the proposed compensation and the timescales of any results makes it difficult to accept the Applicant's position, advising that to be able to do so would require demonstration that any time-lag and 'mortality debt' would not be detrimental to the colonies of birds affected. NE also advises that Schedule 18 could be drafted to allow timely implementation without necessarily requiring implementation in advance of operation.
- 6.0.27 The ExA also asked the Applicant about the implications for the Proposed Development of including a requirement in Schedule 18 for compensation to be functioning prior to adverse effects arising. The Applicant provided a response in [REP11-088] maintaining its position and setting out the implications for delivery of the construction programme and operational first power generation.



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6.0.28 The ExA asked the Applicant to respond to NE's advice to include a requirement for the justification of the locations of compensation measures in terms of ecological appropriateness in Schedule 18 [PD-049, 3.2.10]. The Applicant stated with reference to [REP11-071] that it does not consider any amendment to Schedule 18 necessary in this regard as location of measures will need to be approved by the SoSBEIS in consultation with the relevant SNCB, but intends to update the dDCO at Deadline 12 to address NE's comment.

Appropriateness of Compensation Measures Proposed

All sites and qualifying features-prey availability via fisheries management

6.0.29 The Applicant provided further commentary in relation to prey enhancement as a viable compensation measure at Deadline 6 in its Offshore Ornithology Without Prejudice Compensation Measures Annex 1 [REP6-046]. The ExA explored this matter in PD-034, requesting comment from NE on relevant examples of compensation measures. NE responded that no examples were available but that its advice was based on wider ecological understanding that improving bird productivity would compensate for mortality [REP8-166].

6.0.30 At Deadline 8, the Applicant updated its Offshore Ornithology Without Prejudice Compensation Measures document [REP8-089] following further research and consultation with Defra on prey availability compensation measures. The Applicant states in this document that Defra has confirmed the Applicant's position that fisheries management is not a viable project-led approach.

6.0.31 The Applicant also provided comments on the March 2021 publication of the RIES in REP8-094, clarifying (with reference to [REP3-054] and [REP4-097]) its understanding that NE wanted prey enhancement retained as an option but that it and the RSPB agreed it was not a viable option for delivery by an individual project.

6.0.32 NE provided comments on the Applicant's document [REP6-046] at Deadline 10 [REP10-051]. NE acknowledges the challenges associated with this measure but maintains that the option should be considered because of the potential for ecological benefits and the absence of viable alternatives. NE supports a strategic approach and advises the Applicant to continue exploring this measure and discussing it with relevant stakeholders and government. Specific comments on the content of [REP6-046] were also provided by NE in [REP10-051]. The ExA asked the Applicant to respond to this in ExAQ3.2.19, to which the Applicant agreed with the potential benefits of prey availability measures, but with reference to [REP6-046], practical means of delivery have not been possible to establish [REP11-088].

6.0.33 The ExA asked NE about the realistic prospect of a strategic approach within the period necessary for commencement of the Proposed Development, and advice on how developers could progress [PD-049, 3.2.20]. NE responded that it is aware options are being considered



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outside of the Proposed Development, but considers that developers could contribute in the future and therefore advises the option to do so is retained for the Proposed Development [REP11-123].

FFC SPA - Gannet, guillemot, razorbill; and Alde-Ore Estuary SPA and Ramsar - lesser black-backed gull

6.0.34 Regarding the inclusion of ornithological by-catch reduction as a potential compensation measure for the species above, NE advised that implementation of by-catch reduction measures that would benefit FFC SPA populations closer to the colony itself would be needed [REP9-065]. The RSPB provided information at Deadline 9 on its UK and International project work in mitigating seabird by-catch and advice on how the effectiveness of measures could be maximised. The RSPB position at Deadline 9 was that as described, the proposals would not be effective [REP9-071]. The Applicant responded at Deadline 10 emphasising that the location of the proposals was chosen for practical reasons given its parent company presence in the region (Scottish Power Renewables), and that other areas may be possible. The Applicant acknowledged RSPB's expertise in this area and the need to continue discussions, and provided responses to RSPB's detailed comments on by-catch [REP10-018]. The RSPB did not add to its Deadline 9 comments at Deadline 10 [REP10-054]. The RSPB responded to [REP10-018] at Deadline 11, summarising its concerns regarding evidence for benefit, timeframes needed to identify specific options and implement them, choice of geographical area, and the absence of reliable contextual data. It states that its position has not changed and provides advice on engagement between the Applicant and Defra regarding the UK Seabird Bycatch Plan of Action in order to align work undertaken [REP11-126].

OTE Estuary - red-throated diver

6.0.35 The ExA questioned the Applicant at ExQ2 [PD-030, 2.2.11] about the feasibility of removal of existing wind turbines, following on from the suggestion from NE at Deadline 5 [REP5-082]. The Applicant responded that this was not considered to be feasible due to the difficulty in securing such agreements due to the very high amount of financial reparation which would be needed and the fundamental incompatibility with the 2030 target for offshore wind delivery [REP6-061].

6.0.36 The Applicant explored alternative measures in the form of nesting raft provision, fisheries management and prevention of oil spills in [REP8-089]. The only proposed compensation measure for effects on RTD considered to be feasible and potentially effective is vessel navigation management of existing shipping lanes and those related to East Anglia Three Offshore Wind Farm.

6.0.37 Advice was provided by NE in [REP9-065] (and in [REP7-071] in relation to the earlier version of the Applicant's document). NE does not agree that the Applicant's proposed vessel management for RTD (OTE SPA) represents a compensation measure for displacement caused by the presence of turbines. It also advises that vessel navigation management



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in relation to East Anglia Three is unlikely to be sufficient, given the magnitude of vessel impacts arising from that development was deemed at the point of decision to not result in AEOI on the OTE SPA. The RSPB [REP8-171] supported NE's Deadline 7 comments. The Applicant responded to NE [REP8-049 and REP9-016] and to the RSPB [REP9-020].

6.0.38 In REP9-016 the Applicant highlights updated information with reference to Section 10.4, Appendix 6 in its Offshore Ornithology Without Prejudice Compensation Measures document [REP8-090], and presents arguments for the appropriateness and effectiveness of this measure. These arguments are revisited by the Applicant at Deadline 10 [REP10-017].

6.0.39 In its response to ExQ3 [PD-049] NE maintains its previously stated position that the proposed compensatory measures are not appropriate to address the likely impacts of displacement from the presence of WTGs and that mitigation by way of increasing the distance between the Proposed Development and the OTE SPA should be implemented [REP11-123].

6.0.40 The ExA also explored the evidence provided on quantification of effects on RTD in ExQ3 [PD-049] by asking the Applicant to clarify this information presented in [REP8-089]. The Applicant provided a response in [REP11-088]. NE also responded to this question advising that the quantification of effect should be in terms of the impacts on the OTE SPA conservation objectives. As set out in this RIES, there remains disagreement on the quantification of effects on RTD and the consequences for the OTE SPA conservation objectives (see Section 4) which is a fundamental consideration for the design and delivery of any compensation measures.

FFC SPA - gannet, kittiwake, guillemot and razorbill

6.0.41 **Gannet** - The RSPB [REP8-171] advised that use of artificial nest sites for gannet is not viable as a compensation measure due to lack of supporting evidence, consistent with NEs comments on this measure at Deadline 7 [REP7-071]. The Applicant [REP10-018] maintained the position set out in [REP8-090] in its response to these comments.

6.0.42 The RSPB also highlighted the difficulties in adopting plastic waste removal from nests and chicks as a compensation measure and commented that only a small level of mortality is known to arise from plastic waste meaning the evidence of benefit to the population is limited [REP9-071]. NE supported the concerns of the RSPB regarding removal of plastic waste to reduce gannet mortality (FFC SPA) [REP9-065].

6.0.43 In response to the comments from NE and the RSPB the Applicant restated its position that gannet populations in UK SPAs are in favourable condition and therefore maintains that there is no risk of AEOI and no compensation is required [REP10-017]. It states that while this measure is not proposed as part of the compensation measures, it has included plastic waste removal as a line of inquiry for the future [REP10-017, REP10-018].

6.0.44 **Kittiwake** - NE requested more detail regarding design and implementation of the proposals for artificial nest sites for kittiwake (FFC SPA) [REP9-065]. The RSPB had also commented at Deadline 4 [REP4-



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097] and Deadline 8 [REP8-171] supporting NE Deadline 7 comments [REP7-071] that insufficient evidence had been provided to give confidence that the proposals would be successful. The Applicant responded to NE's comments with its position that the compensation measures were adequately described and secured given the low numbers of birds affected and the need to retain flexibility for future refinements [REP10-017].

6.0.45 In response to the RSPB's comments the Applicant stated that ample evidence exists to give a high confidence that this measure will be successful. The Applicant went on to state that identification of locations, obtaining necessary rights, and implementation are considered achievable and no further detail is considered necessary at present [REP10-018]. At Deadline 10 the RSPB refers to its previous comments that the evidence for success is equivocal [REP10-054]. The Applicant's response at Deadline 11 provides more justification for its position that while such measures have yet to be implemented as compensation in the context proposed, strong evidence exists that kittiwakes would use artificial nesting structures and that an increased productivity would result [REP11-055].

6.0.46 The ExA asked NE to expand on its request for more detail [PD-049, 3.2.9]. NE referenced its answer to Question 3.2.8 and specifically requested that the Applicant demonstrates delivery of artificial nests at Lowestoft port [REP11-123].

6.0.47 **Guillemot and razorbill** - In response to [REP6-045] NE and the RSPB requested more detail regarding the location and demonstrable benefit of rat eradication for auk populations as a compensation measure [REP7-071, REP8-171]. The updated Offshore Ornithology Without Prejudice Compensation Measures document [REP8-089] included further detail of the effect of rat eradication on guillemot and razorbill. NE further advised that consideration of proximity of candidate sites to FFC SPA should be given and that evidence was needed around whether rat predation is a limiting factor for these species at FFC SPA [REP9-065]. The Applicant responded to NE stating its intention to carry out further analysis should the need for compensation be established, stating confidence that a suitable site option exists [REP10-017].

6.0.48 The RSPB stated that the information did not establish whether rat eradication would be of benefit to guillemot or razorbill [REP9-071]. The Applicant responded that the detail was adequate and that discussions would continue on the most appropriate location of these measures should they be deemed necessary [REP10-018]. The RSPB did not add to its Deadline 9 comments at Deadline 10 [REP10-054].

Alde-Ore Estuary SPA and Ramsar – lesser black-backed gull

6.0.49 In [REP7-071] in response to the Applicant's proposed compensation measures, NE agreed that fencing to exclude predators was an acceptable measure in relation to lesser black-backed gull. RSPB agreed that this may be possible but is unlikely to be sufficient in isolation [REP8-171].



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RSPB also referred back to its response in [REP4-097] in terms of alternative measures not explored by the Applicant. The Applicant responded to this point in [REP9-020]. NE requested more detail in [REP9-065]. The Applicant maintained [REP10-017] that the compensation measures were adequately described and secured given the low numbers of birds affected and the need to retain flexibility for future refinements.

6.0.50 The RSPB has welcomed the strategic compensation option put forward in [REP8-090], but commented that this cannot be relied upon for the purpose of this Examination as no legal mechanism to secure it has been presented [REP9-071]. The Applicant states in [REP10-018] that it considers Schedule 18 to be flexible enough to allow for strategic working.

Additionality

6.0.51 NE [REP8-089] provided a response to the updated Ornithology Compensation Measures document [REP8-089] in Appendix A15c [REP9-065], stating that its advice on the previous version [REP7-071] remained unchanged. NE highlights the inclusion of measures relating to by-catch in the updated version, but expressed uncertainty over whether this could be considered as 'additional' given known strategic work by Defra and JNCC in this area. The Applicant drew attention to section 11.6 of [REP8-089] which sets out how the proposed measures sit within the context of the UK Seabird Plan of Action for 2020/21 [REP10-017].

6.0.52 As noted above, NE did not agree that the Applicant's proposed vessel management for RTD (OTE SPA) represents a compensation measure for displacement effects, advising that vessel management should be considered a mitigation measure and is captured in the BPP for RTD [REP7-071]. The Applicant responded to NE [REP8-049] and to similar points made by the RSPB [REP9-020] stating that it considers it to be a practical measure in addition to mitigation.

6.0.53 The RSPB expressed the view that predator exclusion in relation to lesser-black backed gull could not be considered additional to necessary site management [REP4-097, REP8-171], a view not supported by NE [REP9-065]. The ExA asked the RSPB in ExQ2 [PD-030, 2.2.10] to provide more detail on the delivery of this measure as part of site management, however the RSPB did not supply a response.

7 SUMMARY

7.0.1 The ExA has first produced this RIES in March 2021 to outline the position up to ISH 9 (19th February 2021). Subsequently, following the grant of an extension of the Examination period of three months on 30 March 2021, the original RIES has been subject to amendments in order to take into account further evidence gathered during the Examination and to allow for consultation on this evidence. It takes into account the Examination up to and including Deadline 11 (7 June 2021) in respect of HRA matters during



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the Examination. The updated RIES also incorporates relevant comments received from Interested Parties on the March publication.

- 7.0.2 The Proposed Development is not connected with or necessary to the management for nature conservation of any European site(s). The Secretary of State for Business Energy and Industrial Strategy (SoSBEIS) is the relevant competent authority for the purposes of the Habitats Regulations and the Offshore Marine Regulations. This RIES is issued to assist the SoSBEIS in discharging its duties under these regulations and to ensure that Interested Parties including the statutory nature conservation bodies are consulted formally on Habitats Regulations matters.
- 7.0.3 The Applicant submitted a Habitats Regulations Assessment (HRA) screening exercise [APP-044] to support its DCO application. The methodology and outcomes of the Applicant's screening for likely significant effects on European sites was subject to some discussion and scrutiny, however, were not disputed by any Interested Party. The Applicant's screening assessment concluded the potential for likely significant effects on a number of European sites.
- 7.0.4 The Applicant submitted an assessment of the potential for the Proposed Development, either alone or in-combination with other plans or projects, to impact any of these sites' qualifying features and result in an adverse effect on site integrity, in light of their conservation objectives (Information to Support an Appropriate Assessment Report [APP-043]).
- 7.0.5 The Applicant's assessment concluded that adverse effects on integrity could be excluded for all of the sites and their qualifying features included in the assessment.
- 7.0.6 The conclusion of no AEOI was disputed for a number of these sites, as summarised below:
- **Alde-Ore Estuary SPA and Ramsar** - AEOI cannot be excluded from in-combination collision mortality during operation to breeding lesser black-backed gull;
 - **Flamborough and Filey Coast SPA** - AEOI cannot be excluded from in-combination collision mortality during operation to breeding gannet and kittiwake; and due to in-combination displacement effects during operation on breeding razorbill, guillemot; and due to the in-combination displacement and collision mortality effects for the seabird assemblage;
 - **~~Outer Thames Estuary~~OTE SPA** - AEOI cannot be excluded from in-combination displacement effects during construction and operation on non-breeding red-throated diver;



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- **Sandlings SPA** - AEOI cannot be excluded from project alone and in-combination disturbance effects during construction on breeding nightjar and woodlark; and
 - ~~Southern North Sea~~ **SNS SAC** - AEOI cannot be excluded from project alone and in-combination effects of underwater noise during construction on harbour porpoise.
- 7.0.7 Matters in relation to collision mortality and resulting effects on seabird qualifying features have a bearing on the conclusions regarding AEOI 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 site. Matters of disagreement ~~are~~were around the approach and interpretation of collision risk modelling and the data for inclusion within the in-combination assessment.
- 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.
- 7.0.9 In addition to these matters, discussion is ongoing with regards to the means of avoiding and or reducing collision risk and displacement effects through design amendments to the Proposed Development.
- 7.0.10 The Applicant has provided updates to the work undertaken in response to advice and comments from Interested Parties ~~and further submissions on, following the matters above are to be provided by the Applicant and Interested Parties at Deadline 6.~~original RIES.
- 7.0.11 With respect to the Southern North Sea SAC, disagreement ~~is~~was 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~~remained in discussion with the MMO, as reflected in the Deadline 5 Statement of Common Ground between the Applicant and the MMO [REP5-033]. These matters ~~are being~~have been 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.~~ (see below).
- 7.0.12 No agreement on the exclusion of AEOI to the Sandlings SPA ~~has~~had been reached. Matters remaining to be resolved ~~are~~were 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 been stated as being~~ were subject to further submissions from the Applicant at Deadline 6.

- 7.0.13 In light of the uncertainty regarding the conclusions of adverse effects on integrity, and continued representations from Interested Parties and lines of enquiry from the ExA, the Applicant submitted a 'without prejudice' HRA derogations case [REP3-054] and a document entitled 'HRA Compensatory Measures' [REP3-054] into the Examination at Deadline 3. The Applicant maintains that AEOI can be excluded for all sites and features.
- 7.0.14 Progression of matters relating to avoidance and mitigation has been highlighted by NE as essential to understand the need for and the extent of compensation measures. The discussion around amendments to the Proposed Development is also of relevance to the case for 'no alternative solutions' included in the Applicant's derogations case.
- 7.0.15 Interested Parties, including NE and the RSPB, have provided comments on the Applicant's derogation case and compensation plans, which the Applicant has ~~committed to updating at Deadline 6 to be available for further comment at Deadline 7~~ of progressed further during the Examination.

RIES Amendments and Consultation

- 7.0.16 At the time of publication (June 2021) the final positions on AEOI are reflected in the following Statements of Common Ground (SoCG), however submissions on mitigation measures and other points caveating these positions have progressed since Deadline 8. The SoCG of relevance are:
- SoCG between the Applicant and the RSPB (onshore) [REP8-104]
 - SoCG between the Applicant and the RSPB (offshore) [REP8-105]
 - SoCG between the Applicant and NE (onshore) [REP8-108]
 - SoCG between the Applicant and NE (offshore) [REP8-109]
 - SoCG between the Applicant and NE (offshore ornithology) [REP8-110]
 - SoCG between the Applicant and TWT [REP8-123]
- 7.0.17 The Applicant and NE agree that no AEOI will result on the SNS SAC from the Proposed Development alone. The majority of issues around the delivery and securing mechanisms of the proposed mitigation measures set out in the latest iterations of the MMMP and IPSIP have been resolved. As reflected in the relevant SoCG, TWT do not agree with the conclusion of no AEOI in-combination due to lack of confidence in the proposed regulatory mechanism for control of underwater noise.
- 7.0.18 Agreement has been reached between the Applicant and NE on the exclusion of AEOI to the Sandlings SPA. In reaching this position, matters pertaining to the Outline SPA Crossing Method Statement and of pre-



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construction mitigation measures have been resolved, as have issues around the assessment of air quality effects within the OWCMS.

7.0.19 With respect to offshore ornithology, and the qualifying features of Alde-Ore Estuary SPA and Ramsar, FFC SPA, and the OTE SPA, the positions on AEOI remain unchanged for the majority of qualifying features. The Applicant’s conclusion of no AEOI on the seabird assemblage feature of the FFC SPA has however been agreed, with the exception of gannet, kittiwake, razorbill and guillemot.

7.0.20 Discussion remains ongoing with regards to the means of avoiding and or reducing collision risk and displacement effects through design amendments to the Proposed Development. However, the Applicant has provided its evidence to demonstrate that further changes to the array area boundary and draught height would affect the project’s commercial viability.

7.0.167.0.21 Interested Parties, including NE and the RSPB, have continued to provide comments on the Applicant's derogation case and compensation plans, to which the Applicant has responded and updated its relevant documents. The design and delivery of the proposed compensation measures has been progressed since the original RIES, however remain in discussion. The Applicant’s position is that remaining matters can and should be addressed post-consent, to which NE and the RSPB have expressed a number of specific concerns.

Table 7.1 AEOI Summary Table

<u>European Site</u>	<u>Position at original RIES (March 2021)</u>	<u>Position at updated RIES (June 2021)</u>
<u>Alde-Ore Estuary SPA and Ramsar</u>	<u>AEOI cannot be excluded from in-combination collision mortality during operation to breeding lesser black-backed gull</u>	<u>Unchanged. Form and delivery of compensation measures remains under discussion.</u>
<u>Flamborough and Filey Coast SPA</u>	<u>AEOI cannot be excluded from in-combination collision mortality during operation to breeding gannet and kittiwake; and due to in-combination displacement effects during operation on breeding razorbill, guillemot; and due to the in-combination displacement and collision</u>	<u>AEOI can be excluded in relation to other bird species which make up the seabird assemblage. AEOI from in-combination effects on gannet (collision and displacement), kittiwake (collision), razorbill and guillemot (displacement) cannot be excluded. Form and delivery of</u>



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<u>European Site</u>	<u>Position at original RIES (March 2021)</u>	<u>Position at updated RIES (June 2021)</u>
	<u>mortality effects for the seabird assemblage</u>	<u>compensation measures remains under discussion.</u>
<u>Outer Thames Estuary SPA</u>	<u>AEOI cannot be excluded from in-combination displacement effects during construction and operation on non-breeding red-throated diver</u>	<u>Unchanged. Fundamental disagreement remains around the case for Alternatives (with respect to location of array in relation to OTE SPA boundary) and compensation measures.</u>
<u>Sandlings SPA</u>	<u>AEOI cannot be excluded from project alone or in-combination disturbance effects during construction on breeding nightjar and woodlark</u>	<u>AEOI can be excluded, subject to delivery of proposed mitigation and agreement of final SPA Crossing Method Statement.</u>
<u>Southern North Sea SAC</u>	<u>AEOI cannot be excluded from project alone or in-combination effects of underwater noise during construction on harbour porpoise.</u>	<u>AEOI can be excluded from the Proposed Development alone subject to the delivery of proposed mitigation. AEOI in-combination cannot be excluded due to the absence of a strategic mechanism to control underwater noise.</u>

ANNEX 1: MAIN DOCUMENTS REFERRED TO WITHIN THE RIES

This annex provides a guide to the main documents used to inform the RIES. The table is included to assist the reader and is not intended as an exhaustive list.

Exam Library Reference	Document
Application Documents	
APP-023	3.1 Draft Development Consent Order, October 2019 Version 1
APP-043	5.3 Habitat Regulations Assessment - Information to Support Appropriate Assessment Report, September 2019 Version 1
APP-044	5.3.1 Habitat Regulations Assessment - Appendix 1 - Information to Support AA Report - HRA Screening Report, October 2019 Version 1
APP-045	5.3.2 Habitat Regulations Assessment - Appendix 2 - Information to Support AA Report - Screening Matrices, October 2019 Version 1
APP-046	5.3.3 Habitat Regulations Report - Appendix 3 - Information to Support AA Report - Integrity Matrices, October 2019 Version 1
APP-047	5.3.4 Habitat Regulations Assessment - Appendix 4 - Information to Support AA Report - Consultation Responses, October 2019 Version 1
APP-054	6.1.6 Environmental Statement (ES) Chapter 6 - Project Description, October 2019 Version 1
APP-060	6.1.4 Environmental Statement - Chapter 12 - Offshore Ornithology, October 2019 Version 1
APP-070	6.1.22 Environmental Statement - Chapter 22 - Onshore Ecology, October 2019 Version 1
<u>APP-470</u>	<u>6.3.12.2 Environmental Statement - Appendix 12.2 - Ornithology Technical Appendix</u>
APP-471	6.3.12.3 Environmental Statement - Appendix 12.3 - Information for the Cumulative Assessment, October 2019 Version 1
APP-584	8.7 Outline Landscape and Ecological Management Strategy, October 2019 Version 1
APP-590	8.13 Offshore In-Principle Monitoring Plan



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Exam Library Reference	Document
APP-591	8.14 Draft Marine Mammal Mitigation Protocol, October 2019 Version 1
APP-594	8.17 In-Principle Site Integrity Plan for the Southern North Sea Special Area of Conservation, October 2019 Version 1
Post-submission updates	
AS-036	Additional Submission - Applicant's Comments on Relevant Representations - Volume 3: Technical Stakeholders - Submitted in response to the Examining Authority's request in the Rule 9 Letter of 21 May 2020
AS-059	Marine Management Organisation Additional Submission - Comments on Relevant Representations - Submitted in response to the Examining Authority's request in the Rule 9 Letter of 21 May 2020
<u>AS-054</u>	<u>Additional Submission - Statement of Common Ground with Royal Society for the Protection of Birds - Submitted in response to the Examining Authority's request in the Rule 9 Letter of 21 May 2020</u>
AS-060	Natural England Additional Submission - Submitted in response to the Examining Authority's request in the Rule 9 Letter of 21 May 2020
Relevant Representations	
RR-052	Marine Management Organisation, 24 January 2020
RR-059	Natural England, 27 January 2020
RR-067	Royal Society for the Protection of Birds, 27 January 2020
RR-091	The Wildlife Trusts, 27 January 2020
RR-090	Whale and Dolphin Conservation Society 06 December 2020
Procedural Decisions	
PD-013	Rule 6 Letter, 16 July 2020
PD-001	Notification of Decision to Accept Application
PD-003	Section 55 checklist
PD-018	Examining Authority First Written Questions (ExQ1), 12 October 2020
PD-030	Examining Authority Second Written Questions (ExQ2), 12 February 2021
<u>Procedural Deadline A 13 August 2020</u>	



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Exam Library Reference	Document
<u>PDA-001</u>	<u>Procedural Deadline A - Response to the Rule 6 letter of 16 July 2020 and submissions on Preliminary Meeting Procedural Matters</u>
<u>PDA-003</u>	<u>Procedural Deadline A - Response to the Rule 6 letter of 16 July 2020 and submissions on Preliminary Meeting Procedural Matters</u>
Deadline 1 (02 November 2020)	
REP1-004	Applicant - Deadline 1 Submission - 2.2 Land Plans Onshore - Rev 03, 23 October 2020
REP1-018	Applicant's updated 5.3.2 Habitat Regulations Assessment - Appendix 2 - Information Support AA Report Screening Matrices - Clean - Rev 02, 02 November 2020
REP1-023	Applicant's Deadline 1 Submission: Clarification Note Onshore Ecology, Revision 001, 02 November 2020
REP1-038	Applicant's updated Information to Support Appropriate Assessment - Addendum for Marine Mammals - Rev-001, 02 November 2020
REP1-043	Applicant's Outline SPA Crossing Method Statement - Rev-001, 02 November 2020
REP1-047	Deadline 1 Submission - Offshore Ornithology Cumulative and In Combination Collision Risk Update - Rev-01, 02 November 2020
REP1-056	Applicant's Draft Statement of Common Ground Natural England (Offshore) - Rev -001, 02 November 2020
REP1-057	Applicant's Draft Statement of Common Ground Natural England (Onshore) - Rev -001, 02 November 2020
REP1-058	Applicant's Draft Statement of Common Ground Natural England (Offshore Ornithology) - Rev -001
REP1-107	Deadline 1 Submission - Applicants' Responses to Examining Authority's Written Questions Volume 4 - 1.2 Biodiversity Ecology and Natural Environment - Rev - 001
REP1-144	Marine Management Organisation (MMO), Deadline 1 Submission - Written Representation
REP1-159	Natural England Deadline 1 Submission - Appendix K1- Response to Examining Authority's First Round of Written Questions
REP1-166	Natural England Deadline 1 Submission - Appendix B1b - Comments to the Applicant Comments on Natural England's



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Exam Library Reference	Document
	Relevant and Written Representations [AS-036] Marine Mammals
REP1-170	Natural England Deadline 1 Submission - Appendix A2 - Further Advice of Lesser Black-Backed Gull (LBBG) Apportioning at Alde-Ore Estuary Special Protection Area (SPA)
REP1-172	Natural England's recommended approach to mitigating and assessing displacement effects on red throated diver from Outer Thames Estuary Special Protection Area, 02 November 2020
REP1-180	Royal Society of the Protection of Birds Deadline 1 Submission - Written Representation
REP1-395	Deadline 1 Submission - Draft Statement of Common Ground Royal Society for the Protection of Birds (Onshore) - Rev - 002 - Late submission accepted at the discretion of the Examining Authority
Deadline 2 (17 November 2020)	
REP2-006	Deadline 2 Submission - ExA.AS-3.D2.V1 EA1N&EA2 Cumulative Auk Displacement and Seabird Assemblage Assessment of FFC SPA and Gannet PVA - Version 001
REP2-007	Deadline 2 Submission - ExA.AS-4.D2.V1 EA1N&EA2 Project Update Note - Version 001
REP2-052	Deadline 2 Submission - Appendix A9 - NE Comments on Cumulative and In-Combination Collision Risk Update [REP1-047]
REP2-053	Natural England, Deadline 2 Submission - Appendix C2b – NE Comments on SPA Crossing Method Statement [REP1-043]
REP2-055	Deadline 2 Submission - Appendix C5 - NE Comments on Onshore Ecology Clarification Note [REP1-023]
REP2-057	Natural England, Deadline 2 Submission - Appendix F6 - NE comments on Habitat Regulations Assessment Appendix 2 [REP1-017]
Deadline 3 (15 December 2020)	
<u>REP3-007</u>	<u>East Anglia ONE North Limited – Deadline 3 Submission 2.3.1 Works Plans (Offshore)</u>
REP3-011	Applicant's Deadline 3 Submission - 3.1 <u>EA2EA1N</u> Draft Development Consent Order (Clean) - Version 03



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Exam Library Reference	Document
REP3-013	Deadline 3 Submission - 3.1.1 Schedule of Changes to the Draft Development Consent Order - Version 02
REP3-016	Applicant's Deadline 3 Submission - 5.3.2 EA2EA1N Habitats Regulations Assessment - Appendix 2 - Information to Support Appropriate Assessment Report - Screening Matrices (Clean) - Version 03
REP3-023	Applicant's Deadline 3 Submission - 8.1 Outline Code of Construction Practice - Version 02
REP3-030	Applicant's Deadline 3 Submission - 8.7 Outline Landscape and Ecological Management Strategy (Clean) - Version 02
REP3-040	Applicant's Deadline 3 Submission - 8.13 Offshore In-principle Monitoring Plan (Clean) - Version 2
REP3-041	Applicant's Deadline 3 Submission - 8.13 Offshore In-principle Monitoring Plan (Tracked) - Version 2
REP3-042	Applicant's Deadline 3 Submission - 8.14 Draft Marine Mammal Mitigation Protocol (Clean) - Version 2
REP3-044	Applicant's Deadline 3 Submission - 8.17 In-principle Southern North Sea Special Area of Conservation Site Integrity (Clean) - Version 2
REP3-048	Applicant's Deadline 3 Submission - ExA.AS-3.D3.V1 EA2EA1N Outline Watercourse Crossing Method Statement - Version 01
REP3-049	Applicant's Deadline 3 Submission - ExA.AS-4.D3.V1 EA1N&EA2 Displacement of red-throated divers in the Outer Thames Estuary SPA - Version 01
REP3-053	Applicant's Deadline 3 Submission ExA.AS-7 D3 V1 EA1N/EA2 HRA Derogation Case - Version 1
REP3-054	Applicant's ExA.AS-8.D3.V1 HRA Compensatory Measures
REP3-060	Applicant's Deadline 3 Submission - ExA.AS-14.D3.V1 EA1N&EA2 Deadline 3 Onshore Ecology Clarification Note - Version 01
REP3-061	Applicant's Deadline 3 Submission - ExA.AS-15.D3.V1 EA1N&EA2 Deadline 3 Air Quality Clarification Note - Version 01
REP3-070	Applicant's Deadline 3 Submission - ExA.AS18-D3.V1 EA1N&EA2 Applicants' Comments on Natural England's Deadline 2 Submissions - Version 1



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Exam Library Reference	Document
REP3-074	Applicant's Deadline 3 Submission - ExA.AS-22.D3.V1 EA2EA1N Best Practice Protocol for Minimising Disturbance to Red-Throated Diver - Version 01
REP3-084	Applicant's Deadline 3 Submission - ExA.SN1.D3.V1 EA1N&EA2 Written Summary of Oral Case (ISH1) -Version 01
REP3-090	Applicant's Deadline 3 Submission - ExQ1.3.4 EA2EA1N PA2008 s127 Statutory Undertakers' Land or Rights (Tracked) - Version 03
REP3-116	Natural England, Deadline 3 Submission - Appendix A10 - Comments on Assessment of Flamborough and Filey Coast SPA and Gannet PVA [REP2-006]
REP3-118	Natural England, Deadline 3 Submission - Appendix B2 - Comments on Information to Support Appropriate Assessment - Addendum for Marine Mammals [REP1-038]
REP3-122	Save Our Sandlings, Deadline 3 Submission - Post hearing Submission
Deadline 4 (13 January 2021)	
REP4-016	Applicant's Deadline 4 Submission - EA1N&EA2 Applicants' Comments on Natural England's Deadline 3 Submissions
REP4-042	Applicant's Deadline 4 Submission - Deadline 4 Offshore Ornithology Cumulative and In-Combination Collision Risk Update
REP4-059	East Suffolk Council, Deadline 4 Submission - Comments on the Applicants Deadline 3 submission
REP4-081	Marine Management Organisation, Deadline 4 Submission
REP4-087	Natural England, Appendix A12 – Advice on RTD in the OTE SPA
REP4-088	Natural England - Appendix A13 Interim Comments on Ornithology Compensation
REP4-089	Natural England - Appendix A14 – Legal Submission on RTD Displacement within OTE SPA REP3-049
REP4-090	Natural England, Deadline 4 Submission - Appendix B3 - Comments on MMMP [REP3-042] and SIP [REP3-044]
REP4-092	Natural England, Deadline 4 Submission - Appendix C6 - Comments to Onshore Ecology Documents REP3-048, REP3-060, REP3-061, REP3-070
REP4-095	Natural England, Deadline 4 Submission - Appendix I1d - Risk and Issues Log



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Exam Library Reference	Document
REP4-097	RSPB Deadline 4 Submission
REP4-125	The Wildlife Trusts, Deadline 4 Submission - Comments on the Applicants Deadline 3 submission
<u>Issue Specific Hearing 1 and 2 (01 December 2020 and 02 December 2020)</u>	
<u>EV-034g to EV-034k</u>	<u>Recording of Issue Specific Hearing 2 (ISH2) – Sessions 1 to 5 – 02 December 2020</u>
Issue Specific Hearing 3 (19 January 2021)	
EV-047	Recording of Issue Specific Hearing 3 (ISH3) – Session 2 – 19 January 2021
EV-050	Action Points from Issue Specific Hearing 3 (ISH3) 19 th January 2021
Deadline 5 (03 February 2021)	
REP5-010	Applicant's Deadline 5 Submission - EA1N&EA2 Applicants' Comments on East Suffolk Council's Deadline 4 Submissions
REP5-013	Applicant's Deadline 5 Submission - EA1N&EA2 Applicants' Comments on Marine Management Organisations Deadline 4 Submissions
REP5-015	Applicant's Deadline 5 Submission - EA1N&EA2 Applicants' Comments on Natural England's Deadline 4 Submissions
REP5-016	Applicant's Deadline 5 Submission - EA1N&EA2 Applicants' Comments on Royal Society of the Protection of Birds (RSPB) Deadline 4 Submissions
REP5-025	Applicant's Deadline 5 Submission - EA1N&EA2 Displacement of Redthroated Divers in the Outer Thames Estuary SPA
REP5-026	Applicant's Deadline 5 Submission - EA1N&EA2 Applicants' Responses to Hearing Action Points (ISH3, ISH4, ISH5, OFH6 and ISH6)
REP5-027	Applicant's Deadline 5 Submission - EA1N&EA2 Written Summary of Oral Case (ISH3)
REP5-033	Applicant's Deadline 5 Submission - EA1N&EA2 Draft Statement of Common Ground with Marine Management Organisation - Version 4
REP5-075	Marine Management Organisation, Deadline 5 Submission - Cover Letter and Deadline Response



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Exam Library Reference	Document
REP5-082	Natural England Deadline 5 Submission - Appendix A15 - Comments on HRA Derogation Case [REP3-053] and HRA Compensatory Measures [REP3-054]
REP5-083	Natural England Deadline 5 Submission - Appendix A16 - Comments on Cumulative and In-Combination Risk Update [REP4-042]
REP5-084	Natural England Deadline 5 Submission - Appendix C7 - NE Terrestrial Ecology Update and Comments to [REP3-031, REP4-004, 005, 015, 043]
REP5-086	Natural England Deadline 5 Submission - Appendix F8 - NE Comments on Offshore IPMP [REP3-040, REP3-041]
REP5-087	Natural England Deadline 5 Submission - Appendix G3 - Advice on Non-Material Changes and Headroom
REP5-089	Natural England Deadline 5 Submission - Appendix K2 - Written Summary of Oral Representations made at Issue Specific Hearing 3: Biodiversity and Habitats Regulations Assessment
<u>Deadline 6 (24 February 2021)</u>	
<u>REP6-007</u>	<u>Applicant's Deadline 6 Submission - 8.7 Outline Landscape and Ecological Management Strategy (Clean) - Version 03</u>
<u>REP6-015</u>	<u>Applicant's Deadline 6 Submission - 8.13 Offshore In-Principle Monitoring Plan (Clean) - Version 03</u>
<u>REP6-016</u>	<u>TRACKED delete ref and check in text</u>
<u>REP6-019</u>	<u>Applicant's Deadline 6 Submission - ExA.AS-10.D6.V3 EA1N&EA Displacement of red-throated divers in the Outer Thames Estuary SPA - Version 03</u>
<u>REP6-020</u>	<u>Applicant's Deadline 6 Submission - ExA.AS-11.D6.V1 EA1N&EA2 Applicants' Response to Natural England's Legal Submissions Concerning Displacement of Red-Throated Divers - Version 01</u>
<u>REP6-025</u>	<u>Applicant's Deadline 6 Submission - ExA.AS-14.D6.V1 EA1N&EA2 Deadline 6 Onshore Ecology Clarification Note - Version 01</u>
<u>REP6-029</u>	<u>Applicant's Deadline 6 Submission - ExA.AS-23.D6.V1.EA1N&EA2 Applicants' Comments on Marine Management Organisation Deadline 5 Submissions- Version 01</u>



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<u>REP6-030</u>	<u>Applicant's Deadline 6 Submission - ExA.AS-16.D6.V1 EA1N&EA2 Applicants' Comments on Natural England's Deadline 5 Submissions - Version 01</u>
<u>REP6-036</u>	<u>Applicant's Deadline 6 Submission - ExA.AS-3.D6.V2 Outline SPA Crossing Method Statement (Clean) - Version 02</u>
<u>REP6-041</u>	<u>Applicant's Deadline 6 Submission - ExA.AS-5.D6.V2 Outline Watercourse Crossing Method Statement (Clean) - Version 02</u>
<u>REP6-044</u>	<u>Applicant's Deadline 6 Submission - ExA.AS-7.D6.V2 Habitat Regulations Assessment Derogation Case - Version 02</u>
<u>REP6-045</u>	<u>Applicant's Deadline 6 Submission - ExA.AS-8.D6.V1 Offshore Ornithology Without Prejudice Compensatory Measures - Version 1.0</u>
<u>REP6-061</u>	<u>Applicant's Deadline 6 Submission - ExA.WQ-2.D6.V1 04 EA1N&EA2 Applicants' Responses to Written Question 2 Volume 4 2.2 Biodiversity Ecology and Natural Environment - Version 01</u>
<u>REP6-104</u>	<u>Marine Management Organisation Deadline 6 Submission - Written Response</u>
<u>REP6-115</u>	<u>Natural England Deadline 6 Submission - Appendix G4 - Comments on Updated Development Consent Order</u>
<u>REP6-113</u>	<u>Natural England Deadline 6 Submission - Appendix A17 - Comments on Displacement of RTD in OTE Special Protection Areas update [REP5-025]</u>
<u>REP6-116</u>	<u>Natural England Deadline 6 Submission - Appendix K3 - Response to ExA's Further Written Questions (ExQ2)</u>
<u>Deadline 7 (04 March 2021)</u>	
<u>REP7-006</u>	<u>Applicant's Deadline 7 submission - East Anglia ONE North Limited - EA1N Draft Development Consent Order (Clean) - Version 05</u>
<u>REP7-030</u>	<u>Applicant's Deadline 7 Submission - EA1N Draft Marine Mammal Mitigation Protocol (Clean) - Version 3</u>
<u>REP7-031</u>	<u>Applicant's Deadline 7 Submission - EA1N In-Principle Southern North Sea Special Area of Conservation Site Integrity Plan (Clean) - Version 03</u>
<u>REP7-046</u>	<u>Applicant's Deadline 7 Submission - EA1N Best Practice Protocol for Minimising Disturbance to Red Throated Diver (Clean) - Version 02</u>
<u>REP7-063</u>	<u>East Suffolk Council Deadline 7 submission</u>



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Exam Library Reference	Document
<u>REP7-070</u>	<u>Natural England Deadline 7 Submission - Appendix A14b - Comments on Legal Submissions Concerning Displacement of Red-Throated Diver [REP6-020]</u>
<u>REP7-071</u>	<u>Natural England Deadline 7 Submission - Appendix A15b - Response to Offshore Ornithology Compensation and Derogation Documents [REP6-044, REP6-045 and REP6-046]</u>
<u>REP7-072</u>	<u>Natural England Deadline 7 Submission - Appendix A18 - Tracked Version of The Applicant's Displacement of Red-throated Divers in the Outer Thames Estuary SPA [REP6-019]</u>
<u>REP7-073</u>	<u>Natural England Deadline 7 Submission- Appendix C8 - Comments to the Ecology Survey Results [REP6-035]</u>
<u>REP7-074</u>	<u>Natural England Deadline 7 Submission - Appendix F9 - All Other Matters Update</u>
<u>Deadline 8 (25 March 2021)</u>	
<u>REP8-003</u>	<u>Applicant's Deadline 8 Submission - 3.1 EA1N Draft Development Consent Order (Clean) - Version 05</u>
<u>REP8-019</u>	<u>Applicant's Deadline 8 Submission - 8.7 EA1N Outline Landscape and Ecological Management Strategy (Clean) - Version 04</u>
<u>REP8-028</u>	<u>Applicant's Deadline 8 Submission - 8.13 EA1N Offshore In-principle Monitoring Plan (Clean) - Version 4</u>
<u>REP8-031</u>	<u>Applicant's Deadline 8 Submission - 8.17 EA1N In Principle Southern North Sea Special Area of Conservation Site Integrity Plan (Clean) - Version 04</u>
<u>REP8-033</u>	<u>Applicant's Deadline 8 Submission - EA1N&EA2 Displacement of Redthroated Divers in the Outer Thames Estuary (Clean) - Version 04</u>
<u>REP8-035</u>	<u>Applicant's Deadline 8 Submission - EA2&EA1N Deadline 8 Offshore Ornithology Cumulative and In-Combination Collision Update - Version 001</u>
<u>REP8-036</u>	<u>Applicant's Deadline 8 Submission - EA1N Best Practice Protocol for Minimising Disturbance to RTD (Clean) - Version 03</u>
<u>REP8-048</u>	<u>Applicant's Deadline 8 Submission - EA1N&EA2 Applicants Comments on East Suffolk Councils Deadline 7 Submissions</u>
<u>REP8-049</u>	<u>Applicant's Deadline 8 Submission - EA1N&EA2 Applicants' Comments on Natural England's Deadline 7 Submissions - Version 01</u>



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Exam Library Reference	Document
<u>REP8-076</u>	<u>Applicant's Deadline 8 Submission - EA1N Layout Principles Statement - Version 001</u>
<u>REP8-084</u>	<u>Applicant's Deadline 8 Submission - EA1N Outline Watercourse Crossing Method Statement (Clean) - Version 03</u>
<u>REP8-088</u>	<u>Applicant's Deadline 8 Submission - EA1N Habitats Regulations Assessment Derogation Case - Version 3</u>
<u>REP8-089</u>	<u>Applicant's Deadline 8 Submission - EA1N Offshore Ornithology Without Prejudice Compensation Measures (Clean) - Version 2</u>
<u>REP8-093</u>	<u>Applicant's Deadline 8 Submission - EA1N&EA2 Applicants' Responses to Hearings Action Points</u>
<u>REP8-094</u>	<u>Applicant's Deadline 8 Submission - EA1N Applicants' Comments on the Report on the Implications for European Sites</u>
<u>REP8-099</u>	<u>Applicant's Deadline 8 Submission - EA1N&EA2 Written Summary of Oral Case Issue Specific Hearing 14</u>
<u>REP8-104</u>	<u>Applicant's Deadline 8 Submission - EA1N&EA2 Statement of Common Ground with Royal Society for the Protection of Birds (RSPB) (onshore) - Version 02</u>
<u>REP8-105</u>	<u>Applicant's Deadline 8 Submission - EA1N&EA2 Statement of Common Ground with Royal Society for the Protection of Birds (RSPB) (offshore) - Version 03</u>
<u>REP8-108</u>	<u>Applicant's Deadline 8 Submission - EA1N&EA2 Statement of Common Ground with Natural England (onshore) - Version 02</u>
<u>REP8-109</u>	<u>Applicant's Deadline 8 Submission - EA1N&EA2 Statement of Common Ground with Natural England (offshore) - Version 02</u>
<u>REP8-110</u>	<u>Applicant's Deadline 8 Submission - EA1N&EA2 Statement of Common Ground with Natural England (offshore ornithology) - Version 02</u>
<u>REP8-123</u>	<u>Applicant's Deadline 8 Submission - EA1N&EA2 Statement of Common Ground with The Wildlife Trust - Version 02</u>
<u>REP8-156</u>	<u>Marine Management Organisation Deadline 8 Submission</u>
<u>REP8-160</u>	<u>Natural England Deadline 8 Submission - Appendix A20 to the Natural England Deadline 8 Submission Natural England's Red-Throated Diver Displacement Clarification Note</u>
<u>REP8-161</u>	<u>Natural England Deadline 8 Submission - Appendix B3b to the Natural England Deadline 4 Submission Natural England's Further Comments on the Draft Marine Mammal Mitigation Protocol [REP7-029, REP7-030] and In Principle Southern</u>



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Exam Library Reference	Document
	<u>North Sea Special Area of Conservation (SAC) Site Integrity Plan [REP7-031, REP7-032]</u>
<u>REP8-162</u>	<u>Natural England Deadline 8 Submission - Appendix C9 to the Natural England Deadline 8 Submission Natural England's Update and Comments to Terrestrial Ecology Documents Submitted at Deadline 6 and Deadline 7</u>
<u>REP8-163</u>	<u>Natural England Deadline 8 Submission - Appendix G5 to the Natural England Deadline 8 Submission Natural England's Comments on EA1N/EA2 DCO Application Version 5</u>
<u>REP8-165</u>	<u>Natural England Deadline 8 Submission - Appendix K6 to the Natural England Deadline 8 Submission Natural England's Responses to Outstanding Issue Specific Hearing Action Points 7, 8, 14, 15 and Outstanding Responses to DCO Commentaries</u>
<u>REP8-166</u>	<u>Natural England Deadline 8 Submission - Appendix K7 to the Natural England Deadline 8 Submission Natural England's Responses to Rule 17 Letter</u>
<u>REP8-167</u>	<u>Natural England - Deadline 8 Submission - Appendix K8 to the Natural England Deadline 8 Submission Natural England's Comments on Report on the Implication for European Sites (RIES) [PD-033]</u>
<u>REP8-168</u>	<u>Natural England - Deadline 8 Submission - Natural England's Risk and Issues Log - Deadline 8</u>
<u>REP8-183</u>	<u>The Wildlife Trusts - Deadline 8 Submission</u>
<u>Deadline 9 (15 April 2021)</u>	
<u>REP9-016</u>	<u>Applicant's Deadline 9 Submission - EA1N&EA2 Applicants' Comments on Natural England's Deadline 8 Submissions - Version 01</u>
<u>REP9-017</u>	<u>Applicant's Deadline 9 Submission - EA1N Applicants' Comments on Natural England's Deadline 8 Risk and Issues Log - Version 01 - submission after deadline 8</u>
<u>REP9-021</u>	<u>Applicant's Deadline 9 Submission - EA1N&EA2 Applicants' Comments on Marine Management Organisation's Deadline 8 Submissions - Version 01</u>
<u>REP9-031</u>	<u>Applicant's Deadline 9 Submission - EA1N Layout Principles Statement (Clean) - Version 002</u>
<u>REP9-040</u>	<u>East Suffolk Council Deadline 9 Submission - Response to Additional Information Submitted by the Applicants at Deadline 8</u>



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Exam Library Reference	Document
<u>REP9-060</u>	<u>Marine Management Organisation Deadline 9 Submission</u>
<u>REP9-063</u>	<u>Natural England Deadline 9 Submission - Cover Letter</u>
<u>REP9-064</u>	<u>Natural England Deadline 9 Submission - Appendix A14c - Response to Legal Submission at Issue Specific Hearing 14 [REP8-099]</u>
<u>REP9-065</u>	<u>Natural England Deadline 9 Submission - Appendix A15c - Comments on Ornithology Compensation Measures [REP8-089]</u>
<u>REP9-066</u>	<u>Natural England Deadline 9 Submission - Appendix A16b - Comments on Cumulative and In-combination Collision Risk [REP8-035]</u>
<u>REP9-067</u>	<u>Natural England Deadline 9 Submission - Appendix A17b - Comments on Updated Displacement of RTD in OTE SPA [REP8-034]</u>
<u>REP9-068</u>	<u>Natural England Deadline 9 Submission - Appendix G6 - Comments on Updated DCO Version 6 [REP8-004]</u>
<u>REP9-069</u>	<u>Natural England - Deadline 9 Submission - Appendix I1g - Risk and Issues Log</u>
<u>Deadline 10 (06 May 2021)</u>	
<u>REP10-003</u>	<u>Applicant's Deadline 10 Submission - 8.1 EA1N Outline Code of Construction Practice (Clean) - Version 06</u>
<u>REP10-005</u>	<u>Applicant's Deadline 10 Submission - 8.7 EA1N Outline Landscape and Ecological Management Strategy (Clean) - Version 05</u>
<u>REP10-017</u>	<u>Applicant's Deadline 10 Submission - EA1N&EA2 Applicants' Comments on Natural England's Deadline 9 Submissions</u>
<u>REP10-049</u>	<u>Marine Management Organisation - Deadline 10 Submission</u>
<u>REP10-051</u>	<u>Natural England - Deadline 10 Submission - Appendix A21 - Comments on Without Prejudice Compensation Mechanisms - Annex 1 – Prey Availability Compensation Mechanisms [REP6-046]</u>
<u>REP10-053</u>	<u>Natural England - Deadline 10 Submission - Appendix I1h - Risk and Issues Log</u>
<u>Deadline 11 (7 June 2021)</u>	
<u>REP11-026</u>	<u>Applicant's Deadline 11 Submission - ExA.AS-2.D11.V5 EA1N&EA2 Displacement of red-throated divers in the Outer Thames Estuary - Version 05</u>



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Exam Library Reference	Document
<u>REP11-027</u>	<u>Applicant's Deadline 11 Submission - ExA.AS-3.D11.V1 EA1N&EA2 D11 Offshore Ornithology Cumulative and In Combination Collision Risk and Displacement Update - Version 01</u>
<u>REP11-049</u>	<u>Applicant's Deadline 11 Submission - ExA.AS-8.D11.V1 EA1N&EA2 Applicants' Comments on Natural England's Deadline 10 Submissions - Version 01</u>
<u>REP11-055</u>	<u>Applicant's Deadline 11 Submission - ExA.AS-13.D11.V1 EA1N&EA2 Applicants' Comments on the Royal Society for the Protection of Birds' Deadline 10 Submissions - Version 1</u>
<u>REP11-069</u>	<u>Applicant's Deadline 11 Submission - ExA.AS-27.D11.V4 EA1N HRA Derogation Case - Version 4</u>
<u>REP11-071</u>	<u>Applicant's Deadline 11 Submission - ExA.AS-28.D11.V3 EA1N Offshore Ornithology Without Prejudice Compensation Measures - Version 3</u>
<u>REP11-088</u>	<u>Applicant's Deadline 11 Submission - ExA.WQ-3.D11.V1 04 EA1N&EA2 Applicants' Responses to WQ3 Volume 4 - 3.2 Biodiversity Ecology and Natural Environment - Version 01</u>
<u>REP11-114</u>	<u>Marine Management Organisation - Deadline 11 Submission - Marine Management Organisation (MMO) Written Response</u>
<u>REP11-116</u>	<u>Marine Management Organisation -Deadline 11 Submission - Additional Document 2: SNS Regulators Working Group Terms of Reference Agreed</u>
<u>REP11-121</u>	<u>Deadline 11 Submission - Appendix A22 to the Natural England Deadline 11 Submission - Natural England's Representation to East Anglia ONE (EA1) Non-Material Change to DCO Application</u>
<u>REP11-122</u>	<u>Natural England Deadline 11 Submission - Appendix A23 to the Natural England Deadline 11 Submission - Natural England's Response to London Array Offshore Wind Farm</u>
<u>REP11-123</u>	<u>Natural England Deadline 11 Submission - Appendix K9 to the Natural England Deadline 11 Submission - Natural England's Response to ExA Questions (ExQ3)</u>
<u>REP11-126</u>	<u>RSPB Deadline 11 Submission - Written Representations for the Royal Society for the Protection of Birds</u>
<u>REP11-127</u>	<u>RSPB Deadline 11 Submission - The Royal Society for the Protection of Birds RSPB's responses to the Examining Authority's Third Round of Written Questions</u>



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Exam Library Reference	Document
Issue Specific Hearing 7 (17 February 2021) and ISH 9 (19 February 2021)	
EV-101	Recording of Issue Specific Hearing 7 (ISH7) Session 1 - 17 February 2021
EV-102	Recording of Issue Specific Hearing 7 (ISH7) Session 2 - 17 February 2021
EV-103	Recording of Issue Specific Hearing 7 (ISH7) Session 3 - 17 February 2021
EV-107	Action Points from Issue Specific Hearing 7 (ISH7) - 17 February 2021
EV-121	Action Points from Issue Specific Hearing 9 (ISH9) - 19 February 2021

ANNEX 2: HRA INTEGRITY MATRICES

HRA Screening Matrices

Revised HRA Screening Matrices were provided by the Applicant for Deadline 3 [REP3-016] and are available at the following link:

[Revised HRA matrices](#)

HRA Integrity Matrices

Revised HRA Integrity Matrices were not provided by the Applicant.

The Applicant's Integrity Matrices have been amended by the ExA for the following sites:

- Alde-Ore Estuary SPA;
- Alde-Ore Estuary Ramsar (combined with corresponding SPA);
- Flamborough and Filey Coast SPA;
- Outer Thames Estuary SPA;
- Sandlings SPA; and
- Southern North Sea SAC.

This annex of the RIES identifies the European sites and features for which the Applicant's conclusions with regards to adverse effects on integrity were disputed by Interested Parties. Therefore, revised integrity matrices have been produced by the Planning Inspectorate.

Key to Matrices:

- ✓ Adverse effect on integrity (AEOI) cannot be excluded
- × No AEOI
- ? Applicant and Interested Parties do not agree that an AEOI can be excluded
- n/a impact not considered relevant for the feature or brought into Stage 2
- C construction
- O operation
- D decommissioning

Information supporting the conclusions is outlined in footnotes for each table with reference to relevant sections of the RIES.



Stage 2 Matrix 1: Alde-Ore Estuary SPA and Ramsar (Project-alone or In-combination)

European site feature(s)	Adverse Effect on Integrity due to East Anglia TWO Offshore Windfarm:					
	Collision mortality (project alone)			Collision mortality (in-combination)		
	C	O	D	C	O	D
Breeding lesser black-backed gull <i>Larus fuscus</i>	N/A	X (a)	N/A	N/A	? (b)	N/A
<p>(a) The Applicant has concluded no adverse effects on LBBG due to collision during operation from the Proposed Development alone, and this is detailed in APP-043 and APP-046. Concerns have been raised by NE in relation to aspects of the collision risk modelling carried out by the Applicant, however, this conclusion is not disputed (Table 4.2 of the RIES, [REP1-058, REP5-088, REP8-110]).</p> <p><u>(b)</u> The Applicant has concluded no adverse effects on LBBG due to in-combination collision during operation, on the basis of modelled reduction in population growth being less than 1% for all estimates. NE has raised concerns [REP3-117, REP5-083] about the Applicant’s Collision Risk Modelling assumptions and approach, and the data included within the in-combination assessment, stating that they cannot agree that AEOI can be excluded. The matters discussed during the Examination in relation to collision risk modelling are signposted in this RIES Paragraphs section 4.2.44 to 4.2.67; and in relation to this qualifying feature in Paragraphs 4.2.77 to 4.2.80-section 4. The Applicant has undertaken updated assessments to address the concerns raised, however, NE retains the position that it cannot agree to exclude AEOI (RIES parasection 4.2.54 to 4.2.57) [REP3-117, REP5-083].</p> <p>The Applicant and NE still disagree at the time of writing on the basis of uncertainties surrounding the quantification of effects from other plans and projects. Matters discussed during the Examination are signposted in RIES section 4.2.</p>						



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Stage 2 Matrices Matrix 2: Flamborough and Filey Coast SPA (Project-alone)

European site feature(s)	Adverse Effect on Integrity due to East Anglia TWO Offshore Windfarm:					
	Displacement			Collision mortality		
	C	O	D	C	O	D
Breeding Gannet <i>Morus bassanus</i>	N/A	x (a)	N/A	N/A	x (b)	N/A
Breeding Kittiwake <i>Rissa tridactyla</i>	N/A	N/A	N/A	N/A	x (b)	N/A
Breeding Razorbill <i>Alca torda</i>	N/A	x (a)	N/A	N/A	N/A	N/A
Breeding Guillemot <i>Uria aalge</i>	N/A	x (a)	N/A	N/A	N/A	N/A
Seabird assemblage	x (c)	x(c)	x(c)	x(c)	x(c)	x(c)
<p>(a) The Applicant’s assessment concluded that AEOI could be excluded in relation to operational displacement effects on all these qualifying features from the project alone [APP-043 and APP-046]. NE agree with these conclusions [REP1-058].</p> <p>(b) The Applicant’s assessment concluded that AEOI could be excluded in relation to operational collision effects on both these qualifying features from the project alone. NE agree with these conclusions [REP1-058]. It is noted that the RSPB do not support this view in relation to effects on gannet [REP4-097] (RIES Table 4.0).</p> <p><u>(c) While the Applicant’s screening exercise [APP-44] did not screen LSE out for this feature, the Applicant did not include it within its assessment of effects on integrity [APP-043]. This matter was raised by the RSPB [RR-067] and responded to by the Applicant [REP2-006] where it provided justification for ruling out impact-effect pathways for all the assemblage species not already considered as individual qualifying features. The matters addressed during Examination are signposted in this RIES Paragraphs 4.2.34 to 4.2.35, section 4 of this RIES. The Applicant and NE agree that project-alone effects can be excluded [REP8-165, REP8-110]. Matters discussed during the Examination are signposted in RIES section 4.2.</u></p>						



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European site feature(s)	Adverse Effect on Integrity due to East Anglia TWO Offshore Windfarm:					
	Displacement			Collision mortality		
	C	O	D	C	O	D
Breeding Gannet <i>Morus bassanus</i>	N/A	x (a)	N/A	N/A	x (b)	N/A
Breeding Kittiwake <i>Rissa tridactyla</i>	N/A	N/A	N/A	N/A	x (b)	N/A
Breeding Razorbill <i>Alca torda</i>	N/A	x (a)	N/A	N/A	N/A	N/A
Breeding Guillemot <i>Uria aalge</i>	N/A	x (a)	N/A	N/A	N/A	N/A
Seabird assemblage	x (c)	x(c)	x(c)	x(c)	x(c)	x(c)



Stage 2 Matrices Matrix 3: Flamborough and Filey Coast SPA (In-combination)

European site feature(s)	Adverse Effect on Integrity due to East Anglia TWO Offshore Windfarm:								
	Displacement (In-combination)			Collision mortality (In-combination)			Displacement (In-combination) and Collision mortality (In-combination)		
	C	O	D	C	O	D	C	O	D
Breeding gannet <i>Morus bassanus</i>	N/A	×? (a)	N/A	N/A	? (b)	N/A	N/A	×? (c)	N/A
Breeding kittiwake <i>Rissa tridactyla</i>	N/A	N/A	N/A	N/A	? (b)	N/A	N/A	N/A	N/A
Breeding razorbill <i>Alca torda</i>	N/A	? (d)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Breeding guillemot <i>Uria aalge</i>	N/A	? (d)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Seabird assemblage	x(e)	x(e)	x(e)	x(e)	x(e)	x(e)	x(e)	x(e)	x(e)

(a) The Applicant’s assessment concluded that AEOI could be excluded in relation to operational displacement effects in-combination with other plans and projects on gannet [APP-043 and APP-046]. NE agree with the methodology of the assessment, however, did not agree with these conclusions ~~with regards to the EIA and is recorded as in discussion in relation to AEOI in the SoCG between NE and the Applicant [REP1-058]. However, in combination displacement effects on gannet have~~ The Deadline 8 SoCG records this matter as not been commented on by NE with regards to the conclusions against AEOI since REP3-0117 where it raised a concern [it is not addressed in REP5-083 or REP5-088]. agreed [REP8-110].

(b) The Applicant’s assessment concluded that AEOI could be excluded in relation to operational collision effects on gannet and kittiwake in-combination with other plans and projects [APP-043 and APP-046]. NE disagree with these conclusions, and continue to hold this position following updated assessment work undertaken by the Applicant [REP1-058, REP5-083, and REP8-110]. The matters discussed during the Examination in relation to collision risk modelling

European site feature(s)	Adverse Effect on Integrity due to East Anglia TWO Offshore Windfarm:								
	Displacement (In-combination)			Collision mortality (In-combination)			Displacement (In-combination) and Collision mortality (In-combination)		
	C	O	D	C	O	D	C	O	D
Breeding gannet <i>Morus bassanus</i>	N/A	×? (a)	N/A	N/A	? (b)	N/A	N/A	×? (c)	N/A
Breeding kittiwake <i>Rissa tridactyla</i>	N/A	N/A	N/A	N/A	? (b)	N/A	N/A	N/A	N/A
Breeding razorbill <i>Alca torda</i>	N/A	? (d)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Breeding guillemot <i>Uria aalge</i>	N/A	? (d)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Seabird assemblage	x(e)	x(e)	x(e)	x(e)	x(e)	x(e)	x(e)	x(e)	x(e)
<p>are signposted in RIES Paragraphssection 4.2.44 to 4.2.67; and in relation to these qualifying features in parasection 4.2.68 to 4.2.76.</p> <p>(c) No explicit disagreement on this matter has been expressed, however as outlined above uncertainty remains regarding the in-combination assessments of collision risk. The Applicant and NE still disagree at the time of writing on the basis of uncertainties surrounding the quantification of effects from other plans and projects. Matters discussed during the Examination are signposted in RIES section 4.2</p> <p>(d) The Applicant’s assessment concluded that AEOI could be excluded in relation to operational displacement effects in-combination with other plans and projects on razorbill and guillemot [APP-043 and APP-046]. NE did not agree with these conclusions [REP1-058], citing the use of incomplete project data sets. NE’s position following updated assessment work undertaken by the Applicant is that AEOI can be excluded, but that it is unable to rule out AEOI in relation to displacement of razorbill and guillemot if figures from these projects are included in the in-combination assessment [REP3-117, REP5-083, REP8-110]. Matters discussed during the Examination are signposted in RIES parasection 4.2.35 to 4.2.42.</p>									



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European site feature(s)	Adverse Effect on Integrity due to East Anglia TWO Offshore Windfarm:								
	Displacement (In-combination)			Collision mortality (In-combination)			Displacement (In-combination) and Collision mortality (In-combination)		
	C	O	D	C	O	D	C	O	D
Breeding gannet <i>Morus bassanus</i>	N/A	×? (a)	N/A	N/A	? (b)	N/A	N/A	×? (c)	N/A
Breeding kittiwake <i>Rissa tridactyla</i>	N/A	N/A	N/A	N/A	? (b)	N/A	N/A	N/A	N/A
Breeding razorbill <i>Alca torda</i>	N/A	? (d)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Breeding guillemot <i>Uria aalge</i>	N/A	? (d)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Seabird assemblage	x(e)	x(e)	x(e)	x(e)	x(e)	x(e)	x(e)	x(e)	x(e)
<p>(e) While the Applicant's screening exercise [APP-44] did not screen LSE out for this feature, the Applicant did not include it within its assessment of effects on integrity [APP-043]. This matter was raised by the RSPB [RR-067] and responded to by the Applicant [REP2-006] where it provided justification for ruling out impact-effect pathways for all the assemblage species not already considered as individual qualifying features. <u>NE and the Applicant have reached agreement on the conclusions of no AEOI on the other species comprising the seabird assemblage [REP8-165].</u> The matters addressed during Examination are signposted in this RIES <u>Paragraphs section 4.2.32 to 4.2.33.</u></p>									



Stage 2 Matrices Matrix 4: Outer Thames Estuary SPA (Project-alone and In-combination)



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European site feature(s)	Adverse Effect on Integrity due to East Anglia TWO Offshore Windfarm:								
	Barrier Effects and collision <u>(alone)</u>			Displacement / disturbance <u>(alone)</u>			In-combination		
	C	O	D	C	O	D	C	O	D
Migrating Red-throated Diver <i>Gavia stellata</i>	N/A	x (a)	N/A	x (b)	x (c)	N/A	? <u>(b)</u> (d)	? <u>(c)</u> (d)	N/A

- (a) The Applicant's assessment concluded that AEOI could be excluded~~AEOI~~ in relation to barrier effects and collision risk to RTD from the Proposed Development alone [APP-043 and APP-046]. NE have not expressed disagreement with these conclusions and this has not been a matter of discussion during the Examination.
- (b) The Applicant ~~exclude~~concluded that an AEOI can be excluded in relation to displacement/disturbance to RTD during construction from cable laying and associated vessel activity from the Proposed Development alone. NE ~~accepts this conclusion but remains concerned~~has agreed that there will an AEOI alone for EA2 can be an adverse effect from cable laying ruled out due to the distance between EA2 and the OTE SPA [REP5-089, REP8-166, REP11-123] but it does not agree to conclude no AEOI in-combination with ~~operational displacement from existing wind farms [RR-059], other plans and projects [REP11-123]~~. Matters discussed during the Examination are signposted in this RIES at Paragraphssection 4. 2.8 and 4.2.26.
- (c) The Applicant did not assess operational displacement/disturbance effects on RTD [APP-043 and APP-046], however LSE had been identified from operational and maintenance vessels in its HRA screening [APP-044 and APP-045]. ~~NE did not agree to exclude AEOI on displacement [REP1-058] on the basis of a number of concerns around the assessment of construction displacement effects and the interpretation of the implications for the OTE conservation objectives. The matters discussed in the Examination are signposted in this RIES in Paragraph 4.2.8.~~
- ~~(a) The Applicant concluded that AEOI could be excluded in relation to barrier effects/collision risk and in relation to displacement/disturbance to RTD in combination with other plans and projects. NE does not agree with the conclusions on disturbance/displacement [REP1-058, REP3-117, REP5-083]. Matters discussed during the Examination are signposted in this RIES in Paragraphs 4.2.8 to 4.2.30.~~

~~The Applicant has submitted updated assessments and mitigation proposals into the Examination. The conclusions of AEOI in relation to in-combination displacement effects still remain in dispute at the time of writing. Matters discussed during the Examination are signposted in the RIES in Paragraph 4.2.31.~~



NE has agreed that an AEOI alone for EA2 can be ruled out due to the distance between EA2 and the OTE SPA [REP5-089, REP8-166, REP11-123] but it does not agree to conclude no AEOI in-combination with other plans and projects [REP11-123]. NE did not agree with the conclusions on displacement at [REP1-058, REP3-117, REP5-083]. NE continues to have concerns around the interpretation of the implications for the OTE conservation objectives [REP6-113, REP7-070, REP8-160, REP9-064, REP11-123]. The matters discussed in the Examination are signposted in this RIES in section 4.

(d) The Applicant concluded that AEOI could be excluded in relation to barrier effects/collision risk and in relation to displacement/disturbance to RTD in-combination with other plans and projects. NE does not agree with the conclusions on disturbance/displacement [REP1-058, REP3-117, REP5-083]. NE's position remains unchanged at Deadline 11 [REP11-123]. Matters discussed during the Examination are signposted in the RIES in section 4.



Stage 2 Matrix 5: Sandlings SPA (Project alone)

European site feature(s)	Adverse Effect on Integrity due to East Anglia TWO Offshore Windfarm:								
	Habitat loss			Pollution effects			Displacement / disturbance		
	C	O	D	C	O	D	C	O	D
Breeding nightjar <i>Caprimulgus europaeus</i>	x (a)	?x (b)	x (a)	?x (c)	N/A	?x (c)	?x (d)	x (e)	x (d)
Breeding woodlark <i>Lullula arborea</i>	x (a)	?x (b)	x (a)	?x (c)	N/A	?x (c)	?x (d)	x (e)	x (d)
<p>(a) The Applicant’s assessment concluded that AEOI could be excluded in relation to direct habitat loss during construction or decommissioning from the SPA due to the absence of suitable habitat and absence of records of both the qualifying features within the working area [APP-043 and APP-046]. The working methods to cross the SPA during construction have been subject to discussion during the Examination (RIES parasection 4.4.3 to 4.4.7). Following this, NE [REP5-084, <u>REP8-108</u>] has agreed AEOI can be excluded subject to conditions applicable to the crossing methods. Decommissioning effects have not been the subject of discussion during the Examination.</p> <p>(b) The Applicant excluded AEOI during operation in relation to both qualifying features, relying on proposed habitat reinstatement measures [APP-043 and APP-046]. NE was not able to agree to exclude AEOI due to uncertainties around habitat mitigation [REP1-057]. Following discussion and submission by the Applicant of updated plans [REP3-031], NE’s position on AEOI has not changed due to remaining outstanding matters around the mitigation measures [REP4-092, REP5-084] (RIES Paragraphs 4.4.8 to 4.4.12The Applicant submitted an updated Outline SPA Crossing Method Statement and OLEMS [REP6-036 and REP6-007 respectively]. The OLEMS was further updated [REP8-019 and REP10-005]. NE responded [REP8-162], agreeing that an AEOI of the Sandlings SPA is unlikely (RIES section 4).</p> <p>(c) Indirect effects as a result of the crossing of the Hundred River, which is hydrologically linked to the SPA, were raised by the ExA in its ExQ1 [PD-018]. The Applicant’s assessment had not considered this matter, and this was addressed within the Examination (RIES parasection 4.4.16 to 4.4.22). The Applicant has produced an Outline Watercourse Crossing Method Statement [REP3-048]. However, updated at [REP6-41 and REP8-084] NE noted [REP4-092] agrees</p>									



European site feature(s)	Adverse Effect on Integrity due to East Anglia TWO Offshore Windfarm:								
	Habitat loss			Pollution effects			Displacement / disturbance		
	C	O	D	C	O	D	C	O	D
	<p>that this does not contain any assessment of hydrological effects on the SPA AEOI are unlikely to arise from the crossing of downstream impacts from the Hundred River and cannot exclude AEOI until this is provided. Crossing, subject to the measures controlled by the final OWCMS [REP8-108]. Effects on the SPA from emissions to air during construction and decommissioning was raised by NE [RR-059] and the Local Planning Authorities. The Applicant responded [REP1-023] however conclusions on AEOI remain outstanding in In response to NE's comments at Deadline 4 [REP4-092] the absence of Applicant provided an assessment update to its Onshore Ecology Clarification Note [REP6-025]. The Applicant responded to comments from ESC and appropriate mitigation for adverse updated its Outline CoCP [REP9-040, REP10-003]. Agreement has been reached that air quality effects {NE-REP4-092, Applicant-REP5-015} are not expected to result in an AEOI [REP8-108]. Matters discussed during the Examination are signposted in this RIES in Paragraphs section 4.23 and 4.4.24.</p> <p>(d) The Applicant excluded AEOI from disturbance during construction and decommissioning and has committed to a seasonal restriction to the works in order to avoid impacts on both qualifying features [APP-043 and APP-046]. NE supported this approach, however sought the appropriate controls to be included in the dDCO and outstanding matters remain in the content of the submitted draft SPA Crossing Method Statement [REP1-043]. These matters are signposted have been resolved [REP8-108] and further detail is provided in this RIES in Paragraphs section 4.4.13 to 4.4.15. Decommissioning effects have not been the subject of discussion during the Examination.</p> <p>(e) The Applicant concluded no AEOI would result from operational disturbance impacts on either of the qualifying features [APP-043 and APP-046]. This conclusion has not been disputed and has not been discussed in the Examination.</p>								



Stage 2 Matrix 6: Sandlings SPA (In-combination)

European site feature(s)	Adverse Effect on Integrity due to East Anglia TWO Offshore Windfarm:								
	Habitat loss (in-combination)			Pollution effects (in-combination)			Displacement / disturbance (in-combination)		
	C	O	D	C	O	D	C	O	D
Breeding nightjar <i>Caprimulgus europaeus</i>	x (a)	x (a)	N/A	x (b)	N/A	N/A	x (a)	x (a)	N/A
Breeding woodlark <i>Lullula arborea</i>	x (a)	x (a)	N/A	x (b)	N/A	N/A	x (a)	x (a)	N/A
<p>(a) The Applicant’s assessment excluded AEOI from in-combination effects for both qualifying features from habitat loss and displacement/disturbance during construction and decommissioning [APP-043 and APP-046]. In-combination effects were considered for the Proposed Development in-combination with EA1NEA2 along with the assessment of project-alone effects, and are subject to the same matters as set out in Matrix 5. Potential additional disturbance effects from the proposed Sizewell C Nuclear Power Station were also assessed by the Applicant. The SoCG between the Applicant and NE records agreement on the conclusions of the in-combination assessment [REP1-057, REP8-108].</p> <p>(b) Pollution effects were not considered in the Applicant’s assessment and have not been subject to an in-combination assessment, however, the matters raised by Interested Parties have been raised against EA2EA1N and EA1NEA2 and the outstanding actions highlighted in section 4.4 of this RIES apply to both projects in-combination.</p>									



Stage 2 Matrix 7: Southern North Sea SAC (Project alone)

European site feature(s)	Adverse Effect on Integrity due to East Anglia TWO Offshore Windfarm:																	
	Disturbance from underwater noise			Disturbance from vessels			Collision risk			Changes to prey resource			Changes to water quality			Barrier effects		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour Porpoise <i>Phocoena phocoena</i>	2 x (a)	x (b)	2 x (b)	x (b)	x (b)	x (b)	x (b)	x (b)	x (b)	x (b)	x (b)	x (b)	x (b)	N/A	x (b)	x (b)	N/A	N/A
<p>(a) The Applicant has concluded AEOI can be excluded in relation to underwater noise effects on harbour porpoise during construction, on the basis of embedded mitigation measures described in APP-043 and submitted within a draft MMMP [APP-591]. Additional mitigation through an IPSIP is also relied upon in the assessment. NE [RR-059] raised concerns regarding the control of UXO and piling events and on that basis did not agree to rule out AEOI [REP3-118]. Concerns were also raised by NE [REP3-118], the MMO [REP4-081] and TWT [REP4-125] regarding the use of SIP to manage project-alone effects (see SNS SAC in-combination matrix). The MMMP has been updated by the Applicant and further information submitted during the Examination [REP1-038] in response to comments from Interested Parties, and it is understood that agreement can be reached that AEOI can be excluded once control measures and the mechanism for securing these within the dDCO and DMLs is agreed. The matters discussed during the Examination are signposted in this RIES, in Paragraphs section 4.3.2 to 4.3.20. Until these matters are resolved, In REP8-167 NE has stated confirmed satisfaction that it cannot agree to exclude AEOI could be excluded for the Proposed Development alone.</p> <p>(b) The Applicant' assessment [APP-043 and APP-046] excluded AEOI for all of these impact-effect pathways. These conclusions have not been subject to dispute and have not been discussed in the Examination. In REP8-167 NE confirmed satisfaction that AEOI could be excluded for the Proposed Development alone.</p>																		



Stage 2 Matrix 8: Southern North Sea SAC (In-combination)

European site feature(s)	Adverse Effect on Integrity due to East Anglia TWO Offshore Windfarm:																	
	Disturbance from underwater noise			Disturbance from vessels			Collision risk			Changes to prey resource			Changes to water quality			Barrier effects		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Harbour Porpoise <i>Phocoena phocoena</i>	? (a)	x (b)	? (b)	x (a)	x (b)	x (b)	x (a)	x (b)	x (b)	x (a)	x (b)	x (b)	x (a)	N/A	x (b)	x (a)	N/A	N/A
<p>(a) The Applicant has concluded AEOI can be excluded in relation to in-combination construction effects, considering that the implementation of the final SIP can provide adequate mitigation for any in-combination construction effects across projects in the region. Matters were raised by NE [RR059], the MMO and TWT in relation to the IPSIP which were the subject of discussion during the Examination and are signposted in this RIES in Paragraphs para 4.3.2 to 4.3.20. Until these <u>These matters are have been resolved, NE has stated to the point that it cannot agree to NE agrees that AEOI are unlikely but not possible to entirely exclude AEOI in the absence of a strategic mechanism for the control of underwater noise [REP8-167].</u></p> <p>(b) The Applicant's assessment [APP-043 and APP-046] excluded AEOI for all of these impact-effect pathways. These conclusions have not been subject to <u>dispute comment from NE or the MMO</u> and have not been discussed in the Examination.</p>																		