Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects

Final Statement of Common Ground with Natural England (Offshore Ornithology) (Revision B)

Revision B
Deadline 8
July 2023
Document Reference: 14.8

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Title**:**		
Sheringham Shoal and Dudgeon Offshore Wind Farm Extension Projects Examination submission **Final Statement of Common Ground: Natural England (Offshore Ornithology) (Revision B)**		
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Approved by: **Sarah Chandler, Equinor**	Date: **July 2023**	

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Glossary of Acronyms

BDMPS	Biologically Defined Minimum Population Size
CIA	Cumulative Impact Assessment
CRM	Collision Risk Modelling
DAS	Discretionary Advice Service
DCO	Development Consent Order
DECC	Department for Energy and Climate Change
DEL	Dudgeon Extension Limited
DEP	Dudgeon Offshore Wind Farm Extension Project
DOW	Dudgeon Offshore Wind Farm
EA2/1N	East Anglia TWO/East Anglia ONE North
EIA	Environmental Impact Assessment
EPP	Evidence Plan Process
ES	Environmental Statement
ETG	Expert Topic Group
GBBG	Greater Black-Backed Gull
GW	Greater Wash
HAT	Highest Astronomical Tide
HDD	Horizontal Directional Drilling
HPAI	Highly Pathogenic Avian Influenza
HRA	Habitats Regulations Assessment
LBBG	Lesser Black-Backed Gull
OSP	Offshore Substation Platform
PEIR	Preliminary Environmental Information Report
PVA	Population Viability Analysis
RIAA	Report to Inform Appropriate Assessment
RSPB	Royal Society for the Protection of Birds
RTD	Red-Throated Diver
SEL	Scira Extension Limited
SEP	Sheringham Offshore Wind Farm Extension Project
SNCB	Statutory Nature Conservation Body
SoCG	Statement of Common Ground

SoS	Secretary of State
SOW	Sheringham Shoal Offshore Wind Farm
SPA	Special Protection Area

Glossary of Terms

Dudgeon Offshore Wind Farm Extension Project (DEP)	The Dudgeon Offshore Wind Farm Extension onshore and offshore sites including all onshore and offshore infrastructure.
Evidence Plan Process (EPP)	A voluntary consultation process with specialist stakeholders to agree the approach, and information to support, the EIA and HRA for certain topics.
Expert Topic Group (ETG)	A forum for targeted engagement with regulators and interested stakeholders through the EPP.
Sheringham Shoal Offshore Wind Farm Extension Project (SEP)	The Sheringham Shoal Offshore Wind Farm Extension onshore and offshore sites including all onshore and offshore infrastructure.
The Applicant	Equinor New Energy Limited. As the owners of SEP and DEP, Scira Extension Limited and Dudgeon Extension Limited are the named undertakers that have the benefit of the DCO. References in this document to obligations on, or commitments by, 'the Applicant' are given on behalf of SEL and DEL as the undertakers of SEP and DEP.

1 Introduction

1.1 Background

1. This Statement of Common Ground (SoCG) has been prepared by Equinor New Energy Limited (the Applicant) and Natural England. It identifies areas of the Sheringham Shoal Offshore Wind Farm Extension Project (SEP) and Dudgeon Offshore Wind Farm Extension Project (DEP) Development Consent Order (DCO) application (the Application) where matters are agreed or not agreed between the parties in relation to offshore ornithology. Separate final SoCGs with Natural England have been submitted at Deadline 8 as follows:
   - **Final Statement of Common Ground: Natural England (Offshore) (Revision B)** [document reference 14.7];
   - **Final Statement of Common Ground: Natural England (Onshore) (Revision B)** [document reference 12.13]; and
   - **Final Statement of Common Ground: Natural England (HRA Derogation) (Revision B)** [document reference 12.13].
2. The Applicant has had regard to the Planning Act 2008: Guidance for the examination of applications for development consent (Department for Communities and Local Government, 2015) when compiling this SoCG.
3. The applicable matters considered within this SoCG apply to Natural England's statutory remit which is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.
4. Topic specific matters agreed, not agreed and matters that remain under discussion between the Applicant and Natural England are included within this SoCG.
5. Throughout the SoCG the phrase "Agreed" identifies any point of agreement between the Applicant and Natural England. The phrase "Not Agreed" identifies any point that is not agreed between the Applicant and Natural England.
6. As the respective owners of SEP and DEP, Scira Extension Limited (SEL) and Dudgeon Extension Limited (DEL) are the named undertakers that have the benefit of the Development Consent Order (DCO). References in this document to obligations on, or commitments by, 'the Applicant' are given on behalf of SEL and DEL as the undertakers of SEP and DEP.

1.2 Offshore Ornithology Examination Workstreams

7. The following documents have been submitted throughout the Examination in order to address offshore ornithology matters with Natural England:
   - **Collision Risk Modelling (CRM) Updates (Environmental Impact Assessment (EIA) Context) Technical Note (Revision B)** [REP3-089].
   - **Apportioning and HRA Updates Technical Note (Revision E)** [document reference 13.3] submitted at Deadline 8;
   - **Auk Construction Phase Displacement Assessment (EIA Context) Technical Note** [REP2-049].

- **Gannet and Auk Cumulative Displacement Updates Technical Note** [REP5-063]; and
- **Review of 2022 Highly Pathogenic Avian Influenza (HPAI) outbreak on relevant UK seabird colonies** [REP4-042].

1.3 Consultation with Natural England

8. The Applicant has engaged with Natural England on the project during the pre-Application process, both in terms of informal non-statutory engagement and formal consultation carried out pursuant to Section 42 of the Planning Act 2008.

9. During Section 42 statutory consultation, Natural England provided comments on the Preliminary Environmental Information Report (PEIR) by way of a letter dated 10th of June 2021.

10. Further to the Section 42 consultation, several meetings were held with Natural England through the Evidence Plan Process (EPP). This consultation has continued following submission of the DCO application and through the Examination.

1.4 Summary of 'Agreed', 'Not Agreed' and 'In Discussion' Matters

11. In order to easily identify whether a matter is 'agreed', 'not agreed' or 'in discussion', the colour coding system set out in **Table 1-1** has been used.

12. Details on specific matters that are 'agreed', 'not agreed' or 'in discussion' between the Applicant and Natural England are provided within the tables in **Section 2**.

Table 1-1: Position status key

Position Status	Position Colour Coding
Agreed The matter is considered to be agreed between the parties.	Agreed
Not Agreed – no material impact The matter is not agreed between the parties. However, while Natural England does not agree with the approach taken by the Applicant, Natural England does not consider this will result in material impact to the assessment conclusions. The matter is considered to be closed for the purposes of this SoCG.	Not Agreed – no material impact
Not Agreed – material impact The matter is not agreed between the parties. The outcome of the approach taken by the Applicant is considered to result in a materially different impact to the assessment conclusions. Discussions on these matters have concluded.	Not Agreed – material impact
In discussion The matter is neither 'agreed' nor 'not agreed' and is a matter where further discussion is required between the parties (e.g. where documents are yet to be shared with Natural England).	In discussion

2 Joint Natural England and Applicant Position on HRA Conclusions and Derogation Requirements

13. Second written question Q2.14.1.1 [PD-012] requested a joint response from the Applicant and Natural England in relation to HRA conclusions and derogation requirements which was provided within Appendix B.2 of **Appendix B - Supporting documents to the Applicant's Responses to the Examining Authority's Second Written Questions** [REP3-103] submitted at Deadline 3 and which was subsequently updated at Deadline 7 (see **Supporting Documents for the Applicant's Responses to the Examining Authority's Fourth Written Questions** [document reference 21.5.1]). Throughout its Deadline 7 submissions, the Applicant noted that this document would be updated and resubmitted at Deadline 8; however, it has instead been combined with the relevant Natural England SoCGs. **Section 2.1** is relevant to this offshore ornithology SoCG and has been included below.

2.1 Offshore Special Protection Areas (including Ramsar Sites with Migratory Waterbird Features at Potential Risk of Collision on Passage)

14. **Table 2-1** provides the Applicant's and Natural England's joint position in relation to conclusions of AEoI and the requirement for HRA derogation and compensation for offshore SPAs (including Ramsar Sites with migratory waterbird features at potential risk of collision on passage). The assessments on which these conclusions are based are provided within the **Report to Inform Appropriate Assessment (RIAA)** [APP-059] with updates to the assessments for some sites and species presented in the **Apportioning and Habitats Regulations Assessment (HRA) Updates Technical Note (Revision D)** [document reference 13.3].

15. As per the final row of **Table 2-1**, the Applicant and Natural England are agreed that all other SPAs not described within **Table 2-1**, and potential pathways of effect, have been screened out of assessment.

Table 2-1 Joint Applicant and Natural England position in relation to conclusions of AEoI for offshore SPAs (including Ramsar Sites with migratory waterbird features at potential risk of collision on passage)

European Sites and Qualifying Feature(s)	Likely Significant Effect (LSE) Identified from…	AEoI Alone Excluded	AEoI In-combination Excluded	HRA Derogations Engaged	Compensation Required
Greater Wash SPA					
Breeding Sandwich tern	Collision risk	Yes	No	Yes	Yes
Breeding common tern	Collision risk	Yes	Yes	No	No
Nonbreeding little gull	Collision risk	Yes	Yes	No	No
Nonbreeding red-throated diver	Construction phase displacement / barrier effects	Yes	Yes	No	No

European Sites and Qualifying Feature(s)	Likely Significant Effect (LSE) Identified from…	AEoI Alone Excluded	AEoI In-combination Excluded	HRA Derogations Engaged	Compensation Required
	Operational phase displacement / barrier effects	Yes	Yes	No	No
	Operational phase displacement / barrier effects due to operation and maintenance vessel activity	Yes	Yes	No	No
North Norfolk Coast SPA					
Breeding Sandwich tern	Collision risk	Yes	No	Yes	Yes
Breeding common tern	Collision risk	Yes	Yes	No	No
All qualifying migratory waterfowl (nonbreeding): dark-bellied Brent goose, pink-footed goose, knot, wigeon and wildfowl assemblage.	Collision risk	Yes	Yes	No	No
Alde-Ore Estuary SPA					
Breeding lesser black-backed gull	Collision risk	Yes	Yes	No	No
Flamborough and Filey Coast SPA					
Breeding gannet	Collision risk	Yes	Anticipated yes	No	No
Breeding kittiwake	Collision risk	Yes	No	Yes	Yes
Nonbreeding guillemot	Operational phase displacement / barrier effects	Yes	Applicant: Yes	Yes, on a without prejudice basis	Applicant: No
			Natural England: No		Natural England: Yes
Nonbreeding razorbill	Operational phase displacement / barrier effects	Yes	Applicant: Yes	Yes, on a without prejudice basis	Applicant: No
			Natural England: No		Natural England: Yes

European Sites and Qualifying Feature(s)	Likely Significant Effect (LSE) Identified from…	AEoI Alone Excluded	AEoI In-combination Excluded	HRA Derogations Engaged	Compensation Required
Seabird assemblage	Effects on abundance, diversity and supporting habitats due to collision risk (operation and maintenance) and disturbance / displacement (construction and operation and maintenance)	Yes	Applicant: Yes Natural England: No	N/A – where individual species compensatory measures are agreed to be appropriate, further compensation will not be needed for assemblage.	
Puffin (as a component of the seabird assemblage)	Operational phase displacement / barrier effects	Yes	Yes	No	No
Outer Thames Estuary SPA					
Nonbreeding red-throated diver	Operational phase displacement / barrier effects due to operation and maintenance vessel activity	Yes	Yes	No	No
All other Offshore SPAs (including Ramsar Sites with Migratory Waterbird Features at Potential Risk of Collision on Passage) screened into the RIAA [APP-059]					
N/A	N/A	Yes	Yes	No	No

3 Statement of Common Ground

16. A summary of the consultation undertaken with Natural England (up until the close of the Examination) and the matters agreed or not agreed between the Applicant and Natural England with regard to offshore ornithology (based on discussions and information exchanged between the Applicant and Natural England during the pre-application, pre-examination and examination phases of the Application) are set out below.

3.1 Offshore Ornithology

17. SEP and DEP each have the potential to impact upon Offshore Ornithology. **Chapter 11 Offshore Ornithology** of the Environmental Statement (ES) [APP-097] provides an assessment of the significance of these impacts. The **RIAA** [APP-059] provides an assessment of the potential effects of SEP and DEP on the Special

Protection Areas (SPA) and their qualifying features which have been screened into the assessment.

18. **Table 3-1** provides an overview of consultation undertaken with Natural England regarding offshore ornithology. Further details on the Natural England engagement process for offshore ornithology can be found in ES **Chapter 11 Offshore Ornithology** [APP-097]. **Annex 1 Offshore Ornithology Agreement Log** is provided as an annex to this SoCG.

Table 3-1: Summary of consultation with Natural England regarding offshore ornithology

Date	Contact Type	Topic
Pre-Application		
24th April 2019	Meeting	Preliminary meeting where an aerial survey programme update was provided. Sandwich tern tagging programme, HiDef flight height calculation and assessment methodologies were also discussed.
7th October 2019	Report	Submission of the SEP and DEP Scoping Report. The Scoping Report outlined the existing environment, the impacts to be assessed in the ES, data gathering and key aspects of the assessment. A Scoping Opinion was received on the 6th of November 2019.
9th January 2020	Meeting	Expert Topic Group (ETG) Meeting 1: agreement sought on baseline status, assessment methodology (including cumulative), mitigation measures and monitoring.
19th May 2020	Method Statement	Assessment methodology method statement with the aim of guiding discussion and obtaining agreement on key areas of the assessment approach with the offshore ornithology ETG. In addition, it aimed to address specific queries raised at ETG meeting 1 and within the Natural England scoping response, and provide preliminary outputs for several key areas of the assessment to inform ETG meeting 2.
4th June 2020	Meeting	ETG Meeting 2: Agreement sought on assessment methodology, appropriateness of survey coverage (4km buffer), reporting regions, density estimates, CRM parameters, use of data from additional two survey cameras, Population Viability Analysis (PVA), approach to HRA screening.
7th August 2020	Written communication	Discretionary advice provided on the Applicant's draft HRA screening, topics discussed included: Assessment methodology, HRA, CRM input parameters and PVA.
9th December 2020	Meeting	ETG Meeting 3: Density estimates, CRM, migrant CRM, Sandwich tern PVA, displacement assessment methodology and HRA screening outcomes.
10th July 2021	Section 42 Consultation	Natural England response to section 42 consultation on PEIR. See **Consultation Report - Applicant's Response in Regard to S42 Comments** [APP-033].
10th August 2021	Meeting	ETG Meeting 4: PEIR stakeholder comments, baseline data, CRM input parameters, PVA methodology and HRA.
16th August 2021	Technical queries note	Note provided to Natural England and the Royal Society for the Protection of Birds (RSPB) requesting consultation on comments

Date	Contact Type	Topic
		provided on the PEIR in relation to: Baseline data, survey design / coverage, CRM, PVA and FFC SPA input parameters.
10th November 2021	Workshop	PVA workshop with Natural England to run through and agree the approach to PVA.
9th February 2022	Meeting	ETG Meeting 5: agreement sought on CRM, design and model-based density estimation for Sandwich tern, Sandwich tern displacement rates, RTD assessment methodology, PVA, as-built versus consented designs and HRA.
16th September 2022	Document	Natural England provided comments on draft versions of the Applicant's Offshore Ornithology ES chapter (including Technical Appendices and Annexes) and RIAA. These documents were provided to Natural England for comment under their Discretionary Advice Service (DAS) in June 2022. The Applicant provided a written response to Natural England's comments on the 28th of October 2022.
Post-Application		
15th November 2022	Meeting	Meeting held to discuss Natural England's comments on draft submissions (see above row) and the Applicant's responses to these. The Applicant and Natural England sought to agree the necessary workstreams required to address outstanding matters (see **Section 1.2**).
Regular monthly meeting	Meeting	Continuation of the pre-application monthly meeting between the Applicant and Natural England where offshore ornithology matters are discussed.
23rd February 2023	Meeting	Meeting to discuss potential options for a Sandwich tern prey availability study.
26th June 2023	Meeting	Meeting to discuss red-throated diver and potential mitigation options with respect to the Greater Wash SPA.
14th July 2023	Meeting	Further meeting to discuss the SEP wind farm site turbine restriction zone red-throated diver mitigation option.

19. **Table 3-2** provides the SoCG between the Applicant and Natural England. .

Table 3-2 Topics agreed, in discussion or not agreed in relation to offshore ornithology

ID	The Applicant Position	Natural England Position	Position Summary
Environmental Impact Assessment (EIA) (Policy and Planning)			
1	All relevant plans and policies have been identified in Section 11.4 of ES **Chapter 11 Offshore Ornithology** [APP-097] and these have been appropriately considered in the assessment.	As far as Natural England is aware, all relevant plans and policies have been identified and appropriately considered in the assessment.	Agreed
EIA (Existing Environment and Assessment Methodology)			
Existing Environment			
2	The survey data collected is sufficient to inform the assessment.	Natural England notes the Evidence Plan Process as described in **Table 3-1** agreed the approach to survey data collection.	Agreed
3	The methods and techniques used to analyse offshore ornithological data are appropriate for characterising bird distributions and estimating populations. Data from the second pair of cameras onboard the survey aircraft have been analysed for surveys carried out between March and September each year to reduce the variability about the mean design-based density estimates.	Discussed during the Evidence Plan Process as described in **Table 3-1** which agreed the approach to data analysis techniques.	Agreed
4	The methods used to define the relevant months for seabird breeding seasons in the assessment, presenting the full breeding season (as defined by Furness et al. (2015)) for all species for which this biologically defined season is relevant, is appropriate.	Discussed during the Evidence Plan Process as described in **Table 3-1** which agreed the approach to the definition of seabird breeding seasons.	Agreed
Assessment Methodology (General)			
5	The list of offshore ornithology receptors and the potential impacts assessed are appropriate for all phases of development.	Discussed during the Evidence Plan Process as described in **Table 3-1** which agreed the list of offshore ornithology receptors and impacts to be assessed.	Agreed
6	The methods for determining impact significance on all ornithological receptors is appropriate.	Discussed during the Evidence Plan Process as described in **Table 3-1** which agreed the methods for determining impact significance.	Agreed

ID	The Applicant Position	Natural England Position	Position Summary
7	The worst-case scenario used in the assessment for offshore ornithology is appropriate.	Discussed during the Evidence Plan Process as described in **Table 3-1** which agreed the approach to determining the worst-case scenario. The worst-case scenario presented in **Table 11-2** of **Chapter 11 Offshore Ornithology** of the ES is in the format suggested by Natural England.	Agreed
8	The characterisation of receptor sensitivity is appropriate.	Discussed during the Evidence Plan Process as described in **Table 3-1** which agreed the approach to characterisation of receptor sensitivity.	Agreed
9	In terms of EIA, presentation of impact at the largest population size, as opposed to individual seasonal impacts is appropriate. The Applicant has submitted a **CRM Updates (EIA Context) Technical Note (Revision B)** [REP3-089] to address this point raised in the Natural England Relevant Representation [RR-063].	As noted in **Section 1.2**, the Applicant has submitted a **CRM Updates (EIA Context) Technical Note (Revision B)** [REP3-089]. As per REP4-049 we have reviewed the note and can confirm this adequately addresses our previous comments.	Agreed
Assessment Methodology (Construction Impacts)			
10	The methods used to assess impacts during construction, including cable laying operations, based on mean density estimates and presenting a range of displacement and mortality rates including Natural England's recommended rates are appropriate.	Discussed during the Evidence Plan Process as described in **Table 3-1** which agreed the methods to assess impacts during construction. Comments on the RTD, guillemot and razorbill construction phase assessment have been provided in Natural England's Relevant Representation [RR-063]. The Applicant has addressed guillemot and razorbill construction phase assessment methodological concerns within the **Auk Construction Phase Displacement Assessment (EIA Context) Technical Note** [REP2-049]. We note that there is a minor error in the mean abundance for DEP which is presented as 5,246 birds, whereas the correct number is 5,829, however the predicted mortality range presented for DEP in Table 3-2 of [REP2-049] (i.e. 9-20 birds) is based on the correct abundance value (5,829) and the conclusions	Agreed

ID	The Applicant Position	Natural England Position	Position Summary
		of the assessment presented in Section 3.2 of [REP2-049] are therefore correct. Regarding RTD, updates to the construction phase assessment are provided within the **Apportioning and HRA Updates Technical Note (Revision E)** [document reference 13.3]. Natural England will provide an updated position in relation to RTD construction phase assessment at Deadline 8.	
Assessment Methodology (Operation Impacts)			
11	The methods used to assess operational disturbance, displacement and barrier effects, based on mean density estimates and presenting a range of displacement and mortality rates including Natural England's recommended rates are appropriate for **auks**.	Discussed during the Evidence Plan Process as described in **Table 3-1** which agreed the methods to assess impacts during operation. As noted in **Section 1.2**, the Applicant has submitted an **Apportioning and HRA Updates Technical Note (Revision E)** [document reference 13.3] which addresses outstanding matters relating to assessment methodologies. Therefore, this matter is agreed.	Agreed
12	The methods used to assess operational disturbance, displacement and barrier effects, based on mean density estimates and presenting a range of displacement and mortality rates including Natural England's recommended rates are appropriate for **gannet**. The **Apportioning and HRA Updates Technical Note (Revision E)** [document reference 13.3] provides a revised approach to gannet apportioning and an updated displacement assessment using updated parameters for gannet.	The Applicant has submitted an **Apportioning and HRA Updates Technical Note (Revision E)** [document reference 13.3] which addresses the outstanding matters relating to **gannet** assessment methodologies. Therefore, this matter is agreed.	Agreed
13	The methods used to assess operational disturbance, displacement and barrier effects, based on mean density estimates and presenting a range of displacement and mortality rates including Natural England's recommended rates are appropriate for **RTD**.	The Applicant has submitted an **Apportioning and HRA Updates Technical Note (Revision E)** [document reference 13.3] which aimed to address outstanding matters relating to assessment methodologies. We note that the Applicant has not presented displacement outputs for 10% mortality for O&M vessels. However,	Not agreed – no material impact

ID	The Applicant Position	Natural England Position	Position Summary
	An updated Greater Wash SPA operational RTD displacement assessment has been presented in the **Apportioning and HRA Updates Technical Note (Revision E)** [document reference 13.3].	given the projected increase in O&M traffic above baseline conditions is low, this has not hindered us from providing an updated position.	
14	Sandwich tern macro-avoidance The CRM outputs which informed ES **Chapter 11 Offshore Ornithology** [APP-097] and the **RIAA** [APP-059] use various macro-avoidance parameters for Sandwich tern. Applying some form of macro-avoidance factor (0.25-0.50) to CRM outputs is considered to be appropriate, however these assessments are presented for information purposes only and do not form the basis of the assessment conclusions or the scale of compensation required.	Natural England does not consider it appropriate to apply a macro-avoidance rate to CRM outputs in combination with the revised avoidance rates (ARs) that Natural England has provided. We consider that the evidence base for Sandwich tern macro-avoidance (MA) would require careful collation and analysis, which is not possible in the timeframes of the SEP and DEP projects. In addition to the lack of a suitably analysed and peer-reviewed evidence base, Natural England notes that the revised ARs for Sandwich tern are actually an 'all gulls and terns' AR, as opposed to the 'all tern' rate (which is approximately 97%). As can be seen, the 'all gulls and terns' rate is not precautionary when compared to the tern alone rate, and it is not therefore appropriate to reduce this rate further by applying an additional MA rate.	Not Agreed – no material impact
15	Sandwich tern displacement assessment A Sandwich tern displacement assessment is not required. The Sandwich tern displacement and combined displacement and collision risk assessment presented within ES **Chapter 11 Offshore Ornithology** [APP-097] and the **RIAA** [APP-059] are for information purposes only.	Natural England does not require a separate displacement assessment for Sandwich tern.	Agreed
16	CRM: Use of deterministic CRM (i.e. as calculated via the Band spreadsheets) is appropriate. Extended or stochastic CRMs are not to be used.	Discussed during the Evidence Plan Process as described in **Table 3-1** which agreed the use of deterministic CRM.	Agreed
17	CRM: Use of the following species-specific avoidance rates, which are assessed in the **CRM Updates (EIA Context) Technical Note (Revision B)** [REP3-089] and based on Appendix B1 Draft Updated Collision Risk	The Natural England position is set out in Relevant Representation Appendix B1 Draft Updated Collision Risk Modelling Parameters of the Natural England Relevant Representations [RR-063].	Agreed

ID	The Applicant Position	Natural England Position	Position Summary
	Modelling Parameters of the Natural England Relevant Representations [RR-063] is agreed. • Sandwich tern (0.990) • Gannet (0.992) • Kittiwake (0.992) • Great black-backed gull (GBBG) (0.994) • Lesser black-backed gull (LBBG) (0.994) • Little gull (0.990)	As per REP4-049, we have reviewed the **CRM Updates (EIA context) Technical Note (Revision B)** [REP3-089] and can confirm this adequately addresses our previous comments.	
18	CRM: Flight height distributions from "Corrigendum," 2014 and Johnston et al., 2014 that have been used in other offshore wind farm assessments are appropriate for CRM. For Sandwich tern, flight height distributions from an additional data source (Harwood, 2021), collected during the Sheringham Shoal post-construction monitoring programme should also be presented.	Discussed during the Evidence Plan Process as described in **Table 3-1** which agreed the selection of appropriate flight height distributions.	Agreed
19	CRM: Sandwich Tern Flight Speeds The Sandwich tern flight speeds from Fijn and Collier (2020) are the most appropriate flight speed parameters on which to base the conclusions of the assessment. CRM for flight speeds from Fijn and Collier (2018) are presented alongside this for information.	Natural England welcome presentation of CRM outputs using both sets of flight speeds and will use both studies to inform their position however the Fijn and Collier (2020) has not been the subject of a detailed peer review process, and in the absence of peer review, Natural England is not in a position to recommend the use of this dataset in isolation.	Not Agreed – no material impact
20	PVA: Use of data up to 2019 for Sandwich tern PVA calculations is agreed. Reference is provided to 2021 counts. Revised PVA results have been presented for gannet, guillemot, kittiwake and razorbill in respect of FFC SPA within the **Apportioning and HRA Updates Technical Note (Revision E)** [document reference 13.3]. For auks, three different scenarios for the level of in-combination	Discussed during the Evidence Plan Process as described in **Table 3-1** which agreed the data range to be included in Sandwich tern PVA. The Applicant has provided [REP5-043] updated PVA results for the estimates of displacement effects at HP4 based on NE's standard and bespoke approach and therefore this matter is agreed.	Agreed

ID	The Applicant Position	Natural England Position	Position Summary
	mortality (according to assumptions for the estimation of displacement effects at HP4) have been presented.		
21	The methods for assessing indirect effects are appropriate.	Discussed during the Evidence Plan Process as described in **Table 3-1** which agreed the methods for assessing indirect effects.	Agreed
22	Evidence-based rates of 50% mortality 1% displacement are an appropriate basis upon which to form the assessment conclusions for guillemot and razorbill	Natural England do not consider it appropriate (or suitably evidence based) to rely on one combination of displacement and mortality (50% and 1%) for the impact assessment. However we recognise that the Applicant has provided the range of mortality and displacement percentages required for Natural England to formulate our advice.	Not agreed – no material impact
EIA Project-Alone Conclusions			
23	Assessment conclusions (construction disturbance, displacement and barrier effects) The magnitude of effects and conclusions on significance resulting from project-alone impacts on **guillemot, razorbill and RTD** during construction are correctly identified and predicted. No impacts of greater than minor adverse significance are predicted.	Natural England agrees that in the case of **guillemot, razorbill, RTD,** no impacts of greater than **minor adverse significance** are predicted.	Agreed
24	Assessment conclusions (operational disturbance, displacement and barrier effects) The magnitude of effects and conclusions on significance resulting from disturbance, displacement and barrier effects on **gannet, guillemot, razorbill, RTD** during operation are correctly identified and predicted. No impacts of greater than **minor adverse significance** are predicted.	Natural England agrees that in the case of **gannet, guillemot, razorbill, RTD,** no impacts of greater than **minor adverse significance** are predicted.	Agreed
25	Assessment conclusions (operational disturbance, displacement and barrier effects)	As noted in ID 14, Natural England does not accept the application of a macro-avoidance rate to collision calculations. We also have not sought a displacement assessment for impacts on Sandwich tern. We	Agreed

ID	The Applicant Position	Natural England Position	Position Summary
	The magnitude of effects and conclusions on significance resulting from disturbance, displacement and barrier effects on **Sandwich tern** during operation are correctly identified and predicted. An impact of **minor adverse significance** is predicted.	do however agree that disturbance, displacement and barrier effects will have a minor adverse impact on this species, so this specific conclusion can be agreed.	
26	Assessment conclusions (operational collision risk) Using Natural England's preferred input parameters and model methods, the magnitude of effects and conclusions on significance resulting from collision impacts for the following species during operation are correctly identified and predicted. No impacts of greater than **minor adverse significance** are predicted for all species: • Sandwich tern • Gannet • Kittiwake • GBBG • LBBG • Little gull	As noted in **Section 1.2**, the Applicant submitted a **CRM Updates (EIA Context) Technical Note (Revision B)** [REP3-089] to address outstanding matters relating to assessment methodologies. As per REP4-049, we have reviewed the note and can confirm this adequately addresses our previous comments. Therefore, this matter is agreed.	Agreed
27	Assessment conclusions (operational collision risk) The magnitude of effects and conclusions on significance resulting from collision impacts for the following species during operation are correctly identified and predicted. No impacts of greater than **minor adverse significance** are predicted for the following species: • Black-headed gull • Common gull • Common tern • Herring gull • Non-breeding waterbirds	Natural England agrees that in the case of the listed species no impacts of greater than **minor adverse significance** are predicted.	Agreed

ID	The Applicant Position	Natural England Position	Position Summary
28	Assessment conclusions (combined operational displacement and collision risk) Using Natural England's preferred input parameters and model methods, the magnitude of effects and conclusions on significance resulting from combined operational displacement and collision impacts for **gannet** during operation are correctly identified and predicted. No impacts of greater than **minor adverse significance** are predicted.	As noted in **Section 1.2**, the Applicant submitted a **CRM Updates (EIA Context) Technical Note (Revision B)** [REP3-089] to address outstanding matters relating to assessment methodologies. As per REP4-049, we have reviewed the note and can confirm this adequately addresses our previous comments. Therefore, this matter is agreed.	Agreed
29	Assessment conclusions (indirect effects during construction, operation and decommissioning) The magnitude of effects and conclusions on significance resulting from indirect effects during construction, operation and decommissioning are correctly identified and predicted. No impacts of greater than **minor adverse significance** are predicted.	We agree with the assessment conclusions. Please note we have requested monitoring as per ID44 below.	Agreed
30	Assessment conclusions (decommissioning disturbance, displacement and barrier effects) The magnitude of effects and conclusions on significance resulting from impacts during decommissioning are correctly identified and predicted. No impacts of greater than **minor adverse significance** are predicted.	Agreed noting that decommissioning is expected to be subject to new regulatory approval /marine licence near the time of decommissioning.	Agreed
EIA (CIA)			
31	The plans and projects assessed within the CIA are appropriate.	As noted in **Section 1.2**, the Applicant has submitted a **CRM Updates (EIA Context) Technical Note (Revision B)** [REP3-089] which aims to address outstanding matters relating to the CIA with other plans and projects. As per REP4-049, we have reviewed the note and can confirm this adequately addresses our previous comments. It should be noted that in our Deadline 5 and Deadline 7 offshore ornithology position paper that we advised that impacts from the recently-submitted Berwick Bank OWF in Scotland should also be	Agreed

ID	The Applicant Position	Natural England Position	Position Summary
		concluded, but that we do not consider this would alter our conclusions on the CIA. Therefore, for the purposes of the SADEP Examination this matter can be considered agreed.	
32	Assessment conclusions (operational disturbance, displacement and barrier effects) The magnitude of effects and conclusions on significance resulting from cumulative disturbance, displacement and barrier effects on **guillemot, razorbill and RTD** during operation are correctly identified and predicted and no impacts of greater than **minor adverse significance** are predicted.	As per Table 8 of Natural England's Appendix B2 submitted at Deadline 7, Natural England is unable to rule out cumulative significant adverse impact on guillemot, razorbill and RTD due to operational displacement. Given that impacts from SEP and DEP will further contribute to this impact, a significant adverse impact cannot be ruled out and therefore this matter is not agreed.	Not agreed – material impact
33	Assessment conclusions (**gannet** – all impact pathways i.e. operational disturbance, displacement and barrier effects, collision risk and combined operational displacement and collision risk) The magnitude of effects and conclusions on significance resulting from the above impact pathways predict no impacts of greater than **minor adverse significance**.	As per Table 8 of Natural England's Appendix B2 submitted at Deadline 7, Natural England is unable to rule out cumulative significant adverse impact on gannet (for all impact pathways). It should be noted that during the Examination Natural England suggested the CRM is updated to reflect new parameters (Section 2 RR-063) and as noted in **Section 1.2**, the Applicant submitted a **CRM Updates (EIA Context) Technical Note (Revision B) [**REP3-089]. In addition, it should be noted that **the** cumulative totals for gannet presented in the ES (e.g. table 11-33) included Hornsea 4 PEIR figures. However, Natural England notes that, as requested, these have been updated for displacement in the **Gannet and Auk Cumulative Displacement Updates Technical Note** [REP5-063]. Now that SEP and DEP are included in the in-combination assessment, Natural England continues to conclude significant adverse impacts at the EIA scale. The	Not agreed – material impact
34	Assessment conclusions (operational collision risk) Using Natural England's preferred input parameters and model methods, combined with like for like figures for other projects (as far as possible given the information available), the magnitude of effects and conclusions on significance resulting from cumulative collision impacts on	As per Table 8 of Natural England's Appendix B2 submitted at Deadline 7, Natural England is unable to rule out cumulative significant adverse impact on kittiwake (collision risk)	Not agreed – material impact

ID	The Applicant Position	Natural England Position	Position Summary
	kittiwake during operation are correctly identified and predicted i.e. **minor adverse significance**.		
35	Assessment conclusions (operational collision risk) Using Natural England's preferred input parameters and model methods, combined with like for like figures for other projects (as far as possible given the information available), the magnitude of effects and conclusions on significance resulting from cumulative collision risk impacts on **GBBG** during operation are correctly identified and predicted i.e. **moderate adverse significance**.	As per Table 8 of Natural England's Appendix B2 submitted at Deadline 7.	Agreed
36	Assessment conclusions (operational collision risk) Using Natural England's preferred input parameters and model methods, combined with like for like figures for other projects (as far as possible given the information available), the magnitude of effects and conclusions on significance resulting from cumulative collision risk impacts on **LBBG and little gull** during operation are correctly identified and predicted i.e. **minor adverse significance**.	As per As per Table 8 of Natural England's Appendix B2 submitted at Deadline 7, Natural England concludes no significant adverse impact on LBBG. Natural England also confirms no significant adverse impact on. As noted in **Section 1.2**, the Applicant has submitted a **CRM Updates (EIA Context) Technical Note (Revision B)** [REP3-089] which includes updated CIA. As per REP4-049, we have reviewed the note and can confirm this adequately addresses our previous comments. Therefore, this matter is agreed.	Agreed
37	Assessment conclusions (operational collision risk) Using Natural England's preferred input parameters and model methods, combined with like for like figures for other projects (as far as possible given the information available), the magnitude of effects and conclusions on significance resulting from cumulative collision risk impacts on **herring gull** during operation are correctly identified and predicted i.e. **minor adverse significance**.	Natural England agree that the cumulative collision risk impacts on **herring gull** during operation are correctly identified and predicted i.e. **minor adverse significance**.	Agreed
38	Cumulative Scenarios	As per REP5-093, in the case of DOW, Equinor have legally secured the as-built turbine parameters. This means NE can also refer to Scenario F which is as per Scenario A apart from the collision	Agreed

ID	The Applicant Position	Natural England Position	Position Summary
	For the Sandwich tern CIA, basing assessment conclusions on cumulative Scenario F[1] (Section 3.3 of the **CRM Updates (EIA Context) Technical Note (Revision B)** [REP3-089] represents an appropriate compromise position in the absence of legally secured as-built designs. The approach to securing the as-built DOW parameters is legally robust.	estimates for DOW, which are calculated using 'as built' turbine parameters.	
39	Cumulative Scenarios The Applicant considers that use of Scenario F in the Sandwich tern CIA overestimates the cumulative collisions and that Scenario B (i.e. operational collision predictions based on as-built turbine parameters) is most representative of the actual effect since any build out of additional capacity by projects would have to be reconsented or be subject to a material change, subsequent to which, updated collision risk predictions would become available for input into future CIAs.	Natural England requires that an 'as-built' scenario is 'legally secure' (e.g. DOW), and therefore until such time as this is secured for relevant projects, considers Scenario F is an appropriate one to consider impacts on Sandwich tern at the CIA scale.	Not agreed – no material impact
Mitigation and Monitoring			
40	Air gap mitigation An increase in air-draft from 22m to 30m (first raised from 22m as originally presented at scoping then from 26m to 30m at PEIR stage) over highest astronomical tide (HAT) committed to by the Applicant is appropriate mitigation to reduce potential collision risk upon ornithological receptors (including those for which a significant cumulative or in-combination effect is predicted).	Natural England recognise that an air gap increase since PEIR from 26m to 30m HAT substantially decreases collision risk for most species. It is acknowledged that further air gap increases could potentially be achieved and would further reduce the project's contribution to cumulative/in-combination impacts, but Natural England acknowledges the Applicant's view that this has the potential to affect project viability and result in potential increased seascape impacts.	Agreed

[1] Based on consented values but with DOW as-built and secured via the **Draft DCO (Revision J)** [document reference 3.1]

ID	The Applicant Position	Natural England Position	Position Summary
	The Applicant has provided the rationale for the extent of air gap mitigation within the **HRA Derogation: Provision of Evidence** [APP-063].		
41	RTD best practice protocol The measures within the best practice protocol for avoiding disturbance to RTD are appropriate. Provided and secured within the **Outline Project Environmental Management Plan (PEMP) (Revision C)** [REP3-060].	Natural England has reviewed the measures within the best practice protocol as provided and secured within the **Outline Project Environmental Management Plan (PEMP) (Revision D)** [document reference 9.10] and agree that these are appropriate. Subject to that being included, this matter is now agreed.	Agreed
42	RTD potential mitigation options The **RIAA** [APP-059] and **Apportioning and HRA Updates Technical Note (Revision E)** [document reference 13.3] conclude that an adverse effect on integrity of the RTD feature of the Greater Wash SPA can be ruled out for vessel effects during construction and operation and maintenance, and for operational array related displacement. Therefore, the Applicant considers there to be no further requirement for mitigation beyond that committed to within the **Outline PEMP (Revision C)** [REP3-060] submitted at Deadline 3. Nevertheless, in order to reach an agreed position with Natural England, the Applicant has committed to the following mitigation measures. The Applicant has committed to a seasonal restriction on export cable laying activity within the SPA as secured by Condition 24 of Schedules 12 and 13 of the **Draft DCO (Revision K)** [document reference 3.1] and therefore potential impacts on RTD from export cable installation would be avoided. In addition, the Applicant updated the best practice protocol for minimising disturbance to red-throated divers	As noted at ID 49 and 50, the Applicant is updating the GW SPA red-throated diver assessments. Natural England anticipates being able to provide an updated position following review of this. Natural England agrees that the mitigation committed to within the **Outline PEMP** (Revision D) [document reference 9.5] submitted at Deadline 7 is sufficient to conclude that an adverse effect on integrity of the RTD feature of the Greater Wash SPA and Outer Thames Estuary SPA can be ruled out for vessel effects during construction and operation and maintenance. We also agree that the additional mitigation in the form of turbine exclusion areas as per Approach 2 within the **Apportioning and HRA Updates Technical Note (Revision E)** [document reference 13.3] submitted at Deadline 8 which has been agreed via email and during a meeting on the 14th July 2023, and which we anticipate will be reflected in the updated **Works Plan (Offshore) (Revision D)** [document reference 2.7] to be submitted at Deadline 8, is sufficient to conclude that an adverse effect on integrity of the RTD feature of the Greater Wash SPA can be ruled out for operational array related displacement.	Agreed

ID	The Applicant Position	Natural England Position	Position Summary
	within the **Outline PEMP (Revision D)** [document reference 9.9] submitted at Deadline 7 to include further mitigation commitments regarding construction and O&M vessel movements. Finally, the Applicant has committed to turbine restriction zones in the southeast and southwest corners of SEP. This is documented in the **Apportioning and Habitats Regulations Assessment Updates Technical Note (Rev E)** [document reference 13.3] and the **Works Plans (Offshore) (Revision D)** [document reference 2.7], to be submitted at Deadline 8. The above commitments are sufficient for Natural England to rule out AEoI on the red-throated diver feature of the Greater Wash and Outer Thames Estuary SPAs.		
43	<u>Monitoring</u> The offshore ornithology monitoring proposals within the **Offshore In-Principle Monitoring Plan (Revision C)** [document reference 9.5] submitted at Deadline 7 are appropriate.	Natural England provided comments to the Applicants Offshore IPMP Rev B [REP5-090]. Natural England has reviewed the **Offshore In Principle Monitoring Plan (Revision C)** [document reference 9.5] submitted at Deadline 7. The latest revision has done little to address our over-arching comments. While the IPMP presents a number of useful, additional potential or possible monitoring suggestions NE still have fundamental concerns relating to the detail and objective setting presented within the IPMP necessary to secure confidence in the actual monitoring that will be undertaken. The applicant has deferred this detail to post-consent.	Not agreed – material impact
44	<u>Monitoring – prey availability</u> The Applicant's in-principle proposals for Sandwich tern prey availability monitoring in **Offshore In-Principle Monitoring Plan (Revision C)** [document reference 9.5] submitted at Deadline 7 are appropriate.	In REP1-136 NE advised that the undertaking of fish surveys could support the overall package of compensatory measures for North Norfolk Sandwich terns by filling evidence gaps in relation to prey (namely sandeel, herring) availability which are potentially limiting colony size. This data could then inform appropriate site management measures and would be considered to be beneficial for nature conservation.	Not agreed – no material impact

ID	The Applicant Position	Natural England Position	Position Summary
		Natural England has reviewed the **Offshore In Principle Monitoring Plan (Revision C)** [document reference 9.5] submitted at Deadline 7 .and can confirm that, as far as our expertise extends, the proposed monitoring appears useful, however we note that CEFAS and MMO will need to provide technical input on this particular aspect of monitoring before NE can advise this matter is agreed	
Report to Inform Appropriate Assessment (RIAA)			
45	Screening of Likely Significant Effect (LSE) The approach to HRA screening is appropriate.	Discussed during the Evidence Plan Process as described in **Table 3-1** which agreed the methods to be used to screen LSE.	Agreed
46	The SPA sites, offshore ornithology species screened in, and effects assessed are appropriate.	Described within the **HRA Screening Matrices** [APP-061] and discussed during the Evidence Plan Process as described in **Table 3-1** which agreed the HRA screening. Natural England advised within their Relevant Representation [RR-063] that impacts on puffin, as a component species of the seabird assemblage, are required to be screened in and assessed within the HRA's consideration of impacts upon the seabird assemblage. The Applicant has submitted an assessment of the puffin and seabird assemblage features of the FFC SPA both of which are covered within the **Apportioning and HRA Updates Technical Note (Revision E)** [document reference 13.3] and therefore, this matter is agreed.	Agreed
47	Apportioning The assumptions used with regard to apportioning and overall approach to apportioning is appropriate. The Applicant has submitted an **Apportioning and HRA Updates Technical Note (Revision E)** [document reference 13.3] which provides an updated approach to apportioning for LBBG, guillemot, razorbill, gannet and kittiwake.	Discussed during the Evidence Plan Process as described in **Table 3-1** which agreed the approaches to apportioning. As noted in **Section 1.2**, the Applicant has submitted an **Apportioning and HRA Updates Technical Note (Revision E)** [document reference 13.3] which addresses outstanding matters relating to apportioning and therefore this matter is agreed.	Agreed
Project-Alone Assessment Conclusions			

ID	The Applicant Position	Natural England Position	Position Summary
48	Sandwich tern – Greater Wash and North Norfolk Coast SPAs Predicted project-alone Sandwich tern collision risk mortality **would not adversely affect** the integrity of the Greater Wash SPA and North Norfolk Coast SPA.	As per Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], this matter is agreed.	Agreed
49	RTD – Greater Wash SPA (construction phase displacement) Predicted project-alone construction phase RTD displacement / barrier effects within the export cable corridor **would not adversely affect** the integrity of the Greater Wash SPA.	As per Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], this matter is agreed.	Agreed
50	RTD – Greater Wash SPA (operational phase displacement / barrier effects) Predicted project-alone operational phase RTD displacement / barrier effects **would not adversely affect** the integrity of the Greater Wash SPA.	As per Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], this matter is agreed.	Agreed
51	RTD – Greater Wash SPA (operational phase displacement due to vessel activity) Predicted project-alone operational phase RTD displacement within the operation and maintenance vessel transit corridor **would not adversely affect** the integrity of the Greater Wash SPA.	As per Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], this matter is agreed.	Agreed
52	RTD – Outer Thames Estuary SPA (operational phase displacement due to vessel activity) Predicted project-alone operational phase RTD displacement within the operation and maintenance vessel transit corridor **would not adversely affect** the integrity of the Outer Thames Estuary SPA.	As per Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], this matter is agreed.	Agreed
53	Kittiwake – FFC SPA	As per Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], this matter is agreed.	Agreed

ID	The Applicant Position	Natural England Position	Position Summary
	Predicted project-alone kittiwake mortality from collision risk **would not adversely affect** the integrity of the FFC SPA.		
54	Gannet – FFC SPA Predicted project-alone gannet mortality from operational phase displacement, collision risk and combined displacement and collision risk **would not adversely affect** the integrity of the FFC SPA.	As per Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], this matter is agreed.	Agreed
55	Guillemot – FFC SPA Predicted project-alone guillemot mortality from operational phase displacement **would not adversely affect** the integrity of the FFC SPA.	As per Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], this matter is agreed.	Agreed
56	Razorbill – FFC SPA Predicted project-alone razorbill mortality from operational phase displacement **would not adversely affect** the integrity of the FFC SPA.	As per Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], this matter is agreed.	Agreed
57	LBBG – Alde-Ore Estuary SPA Predicted project-alone LBBG mortality from collision risk **would not adversely affect** the integrity of the Alde-Ore Estuary SPA.	As per Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], this matter is agreed.	Agreed
58	Little Gull – Greater Wash SPA Predicted project-alone little gull mortality from collision risk **would not adversely affect** the integrity of the Greater Wash SPA.	As per Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], this matter is agreed.	Agreed
59	Breeding Seabird Assemblage – FFC SPA Predicted project-alone mortalities to the FFC SPA seabird assemblage with other projects, **would not adversely affect** the integrity of the FFC SPA.	As per Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], this matter is agreed.	Agreed

ID	The Applicant Position	Natural England Position	Position Summary
60	All other sites and species assessed within the **RIAA** [APP-059] There would be no project-alone adverse effect on integrity of any of the sites and qualifying features not listed above and assessed within the **RIAA** [APP-059].	Natural England agrees there will be no project alone adverse effect on integrity of any other sites and qualifying features not listed above.	Agreed
In-combination Assessment Conclusions			
61	Sandwich tern – Greater Wash and North Norfolk Coast SPAs An adverse effect on the integrity of the North Norfolk Coast SPA and Greater Wash SPA **cannot be ruled out** as a result of predicted Sandwich tern mortality due to collision risk in-combination with other projects.	As per Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], this matter is agreed for SEP and DEP in-combination with other consented OWF projects (and Hornsea 4 and Rampion 2).	Agreed
62	RTD – Greater Wash SPA (construction phase displacement) Predicted construction phase RTD displacement within the export cable corridor, in-combination with other projects, **would not adversely affect** the integrity of the Greater Wash SPA.	Natural England agrees that the mitigation committed to within the **Outline PEMP (Revision D)** [document reference 9.9] submitted at Deadline 7, specifically the seasonal restriction on export cable laying activity within the SPA as secured by Condition 24 of Schedules 12 and 13 of the **Draft DCO** (Revision K) [document reference 3.1] is sufficient to conclude that predicted construction phase RTD displacement within the export cable corridor, in-combination with other projects, would not adversely affect the integrity of the Greater Wash SPA.	Agreed
63	RTD – Greater Wash SPA (operational phase displacement / barrier effects) Predicted operational phase RTD displacement / barrier effects, in-combination with other projects, **would not adversely affect** the integrity of the Greater Wash SPA.	Natural England agree that the additional mitigation in the form of turbine exclusion areas as per Approach 2 within the **Apportioning and HRA Updates Technical Note (Revision E)** [document reference 13.3] submitted at Deadline 8 which has been committed to via email and during a meeting on the 14th July 2023, and of which we anticipate will be reflected in the updated **Works Plan (Offshore) (Revision D)** [document reference 2.7] to be submitted at Deadline 8, is sufficient to conclude that predicted operational phase RTD displacement/barrier effects, in-combination with other projects, would not adversely affect the integrity of the Greater Wash SPA.	Agreed

ID	The Applicant Position	Natural England Position	Position Summary
64	RTD – Greater Wash SPA (operational phase displacement due to vessel activity) Predicted operational phase RTD displacement within the operation and maintenance vessel transit corridor, in-combination with other projects, **would not adversely affect** the integrity of the Greater Wash SPA.	Natural England agrees that the mitigation committed to within the **Outline PEMP (Revision D)** [document reference 9.9] submitted at Deadline 7with regards to O&M vessel activity is sufficient to conclude that predicted operational phase RTD displacement within the operation and maintenance vessel transit corridor, in-combination with other projects, would not adversely affect the integrity of the Greater Wash SPA.	Agreed
65	RTD – Outer Thames Estuary SPA (operational phase displacement due to vessel activity) Predicted operational phase RTD displacement within the operation and maintenance vessel transit corridor, in-combination with similar activities associated with other offshore wind farms, **would not adversely affect** the integrity of the Outer Thames Estuary SPA.	Natural England agrees that the mitigation committed to within the **Outline PEMP (Revision D)** [document reference 9.9] submitted at Deadline 7 with regards to O&M vessel activity is sufficient to conclude that predicted operational phase RTD displacement within the operation and maintenance vessel transit corridor, in-combination with other projects, would not adversely affect the integrity of the Outer Thames Estuary SPA.	Agreed
66	Kittiwake – FFC SPA An adverse effect on the integrity of the FFC SPA **cannot be ruled out** as a result of predicted kittiwake mortality due to collision risk.	As per Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], this matter is agreed for SEP and DEP in-combination with other consented OWF projects (and Hornsea 4 and Rampion 2).	Agreed
67	Gannet – FFC SPA Predicted gannet mortality from operational phase displacement, collision risk and combined displacement and collision risk, in-combination with other projects, **would not adversely affect** the integrity of the FFC SPA.	As per Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], this matter is agreed for SEP and DEP in-combination with other consented OWF projects (and Hornsea 4 and Rampion 2)..	Agreed
68	Guillemot – FFC SPA Predicted guillemot mortality from operational phase displacement, in-combination with other projects, **would not adversely affect** the integrity of the FFC SPA.	As per Table 2 of Appendix B of Natural England's Relevant Representation [RR-063], Natural England is unable to rule out AEoI on the guillemot feature of the FFC SPA due to displacement in-combination for projects up to and including HP4 but excluding SEP and DEP. SEP and DEP will make a contribution to the in-combination impacts.	Not agreed – material impact

ID	The Applicant Position	Natural England Position	Position Summary
69	Razorbill – FFC SPA Predicted razorbill mortality from operational phase displacement, in-combination with other projects, **would not adversely affect** the integrity of the FFC SPA.	As per Table 2 of Appendix B of Natural England's Relevant Representation [RR-063], Natural England is unable to rule out AEoI on the razorbill feature of the FFC SPA due to displacement in-combination for projects up to and including HP4 but excluding SEP and DEP. SEP and DEP will make a contribution to the in-combination impacts.	Not agreed – material impact
70	LBBG – Alde-Ore Estuary SPA Predicted LBBG mortality from collision risk, in-combination with other projects, **would not adversely affect** the integrity of the Alde-Ore Estuary SPA.	Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], Natural England agrees with the conclusion presented by the Applicant in the HRA update note [REP2-036] that mortality due to collision at SEP, DEP, and SEP and DEP would not adversely affect the integrity of the Alde-Ore Estuary SPA. There would be no measurable contribution from SEP and DEP to in-combination effects.	Agreed
71	Little Gull – Greater Wash SPA Predicted little gull mortality from collision risk, in-combination with other projects, **would not adversely affect** the integrity of the Greater Wash SPA.	As per Appendix B1 - Natural England's Offshore Ornithology Position at Deadline 5 [REP5-091], this matter is agreed for SEP and DEP in-combination with other consented OWF projects (and Hornsea 4 and Rampion 2).	Agreed
72	Breeding Seabird Assemblage – FFC SPA Predicted mortalities to the FFC SPA seabird assemblage in-combination with other projects, **would not adversely affect** the integrity of the FFC SPA.	As set out in our final offshore ornithology position, Natural England is unable to rule out adverse effects in-combination on the FFC SPA seabird assemblage. However 'not material' given the compensation requirements for specific assemblage components of concern (kittiwake, guillemot, razorbill).	Not agreed – no material impact
73	All other sites and species assessed within the **RIAA** [APP-059] There would be no in-combination adverse effect on integrity of any of the sites and qualifying features not listed above and assessed within the **RIAA** [APP-059].	Natural England agrees there will be no in-combination adverse effect on integrity of any other sites and qualifying features not listed above, where we are 'in-discussion'.	Agreed
Development Consent Order (DCO)			
74	Wording of conditions	Natural England has raised concerns around the wording of several conditions in our relevant representation Appendix A.	Not agreed – no material impact

ID	The Applicant Position	Natural England Position	Position Summary
	The wording of the following conditions pertaining to ornithology are appropriate and adequate: Condition 13(1)(j) of Schedule 10, Condition 13(1)(j) of Schedule 11, Condition 12(1)(k) of Schedule 12 and Condition 12(1)(k) of Schedule 13 with reference to the development of a monitoring plan Condition 13(1)(d)(vi) of Schedule 10, Condition 13(1)(d)(vi) of Schedule 11, Condition 12(1)(d)(vi) of Schedule 12 and Condition 12(1)(d)(vi) of Schedule 13 with reference to the project environmental management plan and procedures to minimise disturbance to RTD through implementation of a best practice protocol for minimising disturbance. Condition 18(4)(c) of Schedule 10, Condition 18(4)(c) of Schedule 11, Condition 17(4)(d) of Schedule 12 and Condition 17(4)(d) of Schedule 13 with reference to pre-construction ornithological monitoring. Condition 20(3)(c) of Schedule 10, Condition 20(3)(c) of Schedule 11, Condition 19(3)(c) of Schedule 12 and Condition 19(3)(c) of Schedule 13 with reference to post-construction ornithological monitoring.	In addition, there are further ongoing conditions around the mitigation, monitoring requirements and in-principle monitoring plan, which will likely lead to further discussion around the appropriateness of the conditions.	
Other Matters As Required			
75	The Applicant has submitted a **Review of 2022 Highly Pathogenic Avian Influenza (HPAI) outbreak on relevant UK seabird colonies** [REP4-042] which is adequate and notes that this does not necessitate any updates to the assessments already presented.	Natural England confirm that the Applicant is not required (ref response to Q2.12.1.2 in REP3-147]), to revise any quantification of impact due to HPAI. As per the Natural England Risk and Issues Log [REP5-093], NE acknowledge the HPAI report. NE highlight long-term impacts of the ongoing avian influenza epidemic on the seabird SPA populations are presently unknown. This means there is considerable uncertainty regarding the likely population sizes and growth rates in the future.	Agreed

4 Signatures

20. The above SoCG is agreed between Equinor New Energy Limited and Natural England on the day specified below.

Signed: _____*Alan Gibson*_____

Print Name: _____Alan Gibson_____

Job Title: ___Marine Senior Adviser_____

Date: 17th July 2023_____

Duly authorised for and on behalf of the **Natural England**

Signed: [redacted]

Print Name: Kari Hege Mørk

Job Title: Project Director

Date: 17/07/2023

Duly authorised for and on behalf of **Equinor New Energy Limited**

References

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Annex 1 Offshore Ornithology Agreement Log

ID	Agreement	Natural England	RSPB	MMO	Notes
1 Agreement of baseline status					
1.1	Agreement on the survey scope and methods for the site specific aerial surveys.	-	-	-	Broadly agreed subject to understanding: • timing of survey flights to understand whether diurnal foraging peaks are likely to have been recorded • variability of the data and assessing the need to analyse the data from the two additional cameras • The occurrence of red-throated diver beyond the 4km buffer, particularly between the Greater Wash SPA and the survey area, needs to be understood.
1.2	Agreement on the key ornithology species for assessment.	Agreed (09/01/20)	Agreed (09/01/20)	-	Key species identified as Sandwich tern, kittiwake, gannet, guillemot, little gull, red-throated diver, lesser black-backed gull and great black backed gull, but noting that other species will be considered.
1.3	Agreement on approach to ornithology density estimates (derived from aerial surveys, design-based, split in to appropriate reporting regions for biologically relevant seasons)	-	-	-	Investigate merit of a model-based approach. Define and agree 'biologically relevant seasons. A more defined method for estimating density (including Bootstrapping and Poisson error regression approach) will be provided in a Method Statement.
1.4	Agreement on baseline data sources	-	-	-	Broad agreement of sources identified by Equinor/RHDHV in ETG slides. Equinor/RHDHV will also source recent/imminent sources identified by the ETG. A final list of sources will be included in the Method Statement.
2 Agreement of assessment methodology					

ID	Agreement	Natural England	RSPB	MMO	Notes
2.1	Agreement of potential impacts to be assessed.	Agreed (09/01/20)	Agreed (09/01/20)	-	As described in the Scoping Report and Scoping Opinion, and summarised in the ETG meeting slides.
2.2	Agreement of the proposed impact assessment methodology approach.	Agreed (09/01/20)	Agreed (09/01/20)	-	As described in the Scoping Report and summarised in the ETG meeting slides.
2.3	Agreement of the proposed approach to cumulative impact assessment.	Agreed (09/01/20)	Agreed (09/01/20)	-	As described in the Scoping Report and summarised in the ETG meeting slides.
2.4	Agreement of the proposed approach to Habitats Regulations Assessment.	Agreed (09/01/20)	Agreed (09/01/20)	-	As described in the Scoping Report and summarised in the ETG meeting slides.
2.5	Agreement of the proposed approach to consultation.	-	-	-	As described in the Scoping Report and summarised in the ETG meeting slides. Equinor/RHDHV to produce a detailed timeline and share with the ETG.
2.6	Agreement on the Method Statement.	-	-	-	Equinor/RHDHV to issue for consultation and discussion with the ETG.
2.6.1	Agreement on the Collision Risk Model (CRM) to use.	-	-	-	Stochastic or deterministic Folkerts CRM.
2.6.2	Agreement on the scope of collision risk assessment (CRM for which wind farms).	-	-	-	ETG agreed that CRM will need to be rerun for wind farms using updated data. List of wind farms to be confirmed.
2.6.3	Agreement on the CRM inputs – Flight heights.	-	-	-	As described in the ETG meeting slides. Current position is to use Johnston *et al*. (2014) flight height distribution data and Option 2 CRM. However, further assessment of Sheringham Shoal OMP data, and investigation of aerial survey data to inform potential changes in flights height values is proposed.
2.6.4	Agreement on the CRM inputs – Avoidance rates.	-	-	-	Review of latest evidence. Equinor/RHDHV proposing to use Sheringham Shoal post construction monitoring (Harwood *et al*. 2018) for Sandwich tern

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					which estimates 0.994. Official position of Natural England and RSBP is 0.98 but this is under review.
2.6.5	Agreement on the CRM inputs – Flight speed.	-	-	-	Equinor/RHDHV proposing to use a recent study by Fijn and Gyimesi (2018) informing sandwich tern flight speeds for different behaviours. ETG to review this source.
2.6.6	Agreement on the CRM inputs – As-built versus consented	-	-	-	There are 124 more consented turbines across Dudgeon OWF, Race Bank OWF and Triton Knoll OWF than have been installed. Equinor/RHDHV propose that CRM assessment based on as built information rather than consented would be more realistic. Natural England and RSPB have stated that for this to be acceptable they would require legally secured documentary proof that with no further change (from as built) possible, and that the worst-case scenario design envelope is considered for projects that are not yet built. As built scenarios should also be accompanied with equivalent information for the 'as consented' and as 'as proposed' scenarios. Equinor will investigate options to deliver "legally secured documentary proof" for existing wind farms.
2.6.6	Agreement on the Population Viability Analysis (PVA) - Tool to use.	Agreed (09/01/20)	Agreed (09/01/20)	-	ETG agreed use of the Natural England PVA tool.
2.6.7	Agreement on the PVA – Input parameters to be updated.	Agreed (09/01/20)	Agreed (09/01/20)	-	As described in the ETG meeting slides. The ETG broadly agreed that the parameters used in the DECC (2012) Appropriate Assessment should be reviewed and updated where necessary.
2.6.8	Agreement on the PVA – Revised Sandwich tern starting population to be used.	Agreed (09/01/20)	Agreed (09/01/20)	-	Sandwich tern starting population from JNCC, 2019 (Mean 4,401 pairs (419 S.D.) 2013-2018. 2019 counts will be used when available.

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2.6.9	Agreement on the PVA – Revised Sandwich tern breeding productivity to be used.	-	-	-	Sandwich tern breeding productivity from JNCC, 2019 (Mean 0.755 (0.195 S.D.) 2013-2018.
2.6.10	Agreement on the PVA – Revised Sandwich tern adult survival to be used.	-	-	-	Sandwich tern adult survival in Natural England PVA Tool = 0.898 (0.116 S.D.) (Horswill and Robinson, 2015) – though S.D. different?
2.6.11	Agreement on the PVA – Revised Sandwich tern juvenile survival to be used.	-	-	-	Sandwich tern juvenile survival in Natural England PVA Tool (Horswill and Robinson, 2015) = 0.358 S.D. 0.876 (age classes 0-1 and 1-2), 0.741 S.D. 0.824 (age class 2-3)
2.6.12	Agreement on the PVA output interpretation.	-	-	-	Counterfactual of the probability of population decline and counterfactual of the population growth rate.
3 Agreement of mitigation measures and monitoring					
3.1	Agreement of mitigation measures	-	-	-	
3.1.1	Agreement that the air gap has been considered in the design envelope in respect of minimising bird collision risk.	-	-	-	Increasing the air gap would be expected to reduce collision risk for most species. RHDHV will investigate the impact of different air gaps on collision risk.
3.2	Agreement of monitoring requirements	-	-	-	
4 ETG4 10 August 2021					
4.1	Natural England advice is that compensation for offshore ornithology mortalities should be based on upper CIs.	Agreed	-	n/a	
4.2	Natural England consider that sandwich tern collision risk assessment conclusions should be based on an avoidance rate of 98.6%.	Advice Retracted	-	n/a	Advice Retracted by Natural England on 21/10/2021 reverting to the use of SNCB 2014 advised rates
4.3	RHDHV will include sandwich tern collision risk results based on 99.3% avoidance	Agreed (with	-	n/a	

ID	Agreement	Natural England	RSPB	MMO	Notes
	rate as determined through the ECON meso avoidance behaviour demonstrated at SOW and DOW however the results of this will not form the basis of Natural England's conclusions (see 4.2 above).	recognition of above retracted advice)			
4.4	RHDHV will run the deterministic CRM (i.e. as calculated via the Band spreadsheets). The extended or stochastic CRMs will not be used.	Agreed	-	n/a	
4.5	RHDHV to use data up to 2019 for sandwich tern PVA calculations and refer to 2021 counts for context if they can be obtained.	Agreed	-	n/a	
4.6	Natural England consider that in terms of Harwood (2021), the "ESAS style" flight height distributions are the most appropriate for use in CRM, and are the most similar to Johnston et al. (2014) measurements	Agreed	-	n/a	
4.7	Cumulative and in-combination figures from Deadline 13 of East Anglia TWO and East Anglia ONE North Examination to be used for ES.	Agreed	-		Hornsea 4 figures will be updated to match the ES figures for that project since the PEIR figures were presented at Deadline 13 of the EA2/1N Examination.
4.8	Little gull to be included within the Information to Support Appropriate Assessment for Greater Wash SPA	Agreed	-	n/a	