NORTH FALLS

Offshore Wind Farm

Applicant's Response to Natural England's Deadline 5 submissions

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1. INTRODUCTION

1.1 Introduction

1.1.1 This document has been prepared by North Falls Offshore Wind Farm Limited ('the Applicant') in relation to the North Falls Offshore Wind Farm (hereinafter referred to as 'North Falls' or the 'Project').

1.1.2 The Examining Authority's Rule 8 letter **[PD-008]** confirmed that Deadline 5 for the Examination was Friday 30 May 2025.

1.1.3 This document has been prepared by the Applicant for submission at Deadline 6 on Tuesday 24 June 2025, and responds to submissions received at Deadline 5 from Natural England.

1.2 Purpose of the document

1.2.1 This document presents the Applicant's response to the following Natural England's Deadline 5 submissions:

- Appendix B5 **[REP5-104]** – Natural England's Marine Processes Advice on the Applicant's Deadline 4 Documents
- Appendix C5 **[REP5-105]** – Natural England's Benthic Ecology Advice on the Applicant's Deadline 4 Documents
- Appendix E5 **[REP5-106]** – Natural England's Marine Mammal Advice on the Applicant's Deadline 3 Documents
- Appendix F5 **[REP5-107]** – Natural England's Offshore Ornithology Advice on the Applicant's Deadline 3 Documents
- Appendix H5 **[REP5-108]** – NE comments on 7.2.2.2 HRA Annex 2B LBBG Compensation Effects on Designated Sites (Rev 0) [REP4-010]
- Appendix K5 **[REP5-109]** – Natural England's Risk and Issues Log
- Appendix M5 **[REP5-110]** – Natural England's Response to ExQ2

2. APPLICANT'S RESPONSE TO NATURAL ENGLAND'S DEADLINE 4 SUBMISSIONS

2.1 Applicants Response to Natural England's Cover Letter [REP5-103]

Table 2.1 Applicant's Response to Natural England's Cover Letter [REP5-103]

REF	SECTION	NATURAL ENGLAND'S COMMENTS	APPLICANT'S RESPONSE
REP5-103_a	9.48 Applicant's Written Summary of Oral Submissions made at the Issue Specific Hearing 2 (ISH2) (Rev 0) [REP4-034]	Natural England has reviewed the Applicant's Written Summary of Oral Submissions made at ISH2 [REP4-034]. With regards to Agenda Item 3.5.3, Natural England wishes to offer the following clarification on the summary that "*the differences between Natural England's conclusions in Appendix I2 and the conclusions in the Seascape, Landscape and Visual Impact Assessment only relate to the level of the effect on visual receptors not in relation to whether an effect is significant from an EIA perspective*". Natural England confirms that our advice on impacts (as detailed in Appendix I2 [REP1-071]), as well as in the advice we make in [REP4-066] in relation to the further relevant information in [REP2-024 and REP3-044]) are made in terms of significance from an EIA perspective, and we continue to consider that impacts to the Suffolk and Essex Coast and Heaths National Landscape (SECHNL) and Suffolk Heritage Coast (SHC) are underestimated (in EIA terms) in the Applicant's assessment.	The Applicant has provided a response to the points raised by Natural England in Appendix M5 - Natural England's Response to ExQ2 **[REP5-110]** in REP5-110_y in Table 2.7 below.

2.2 Applicant's Response to Natural England's comments regarding Appendix B5 [REP5-104] (Marine Processes)

Table 2.2 Applicant's Response to Natural England's comments regarding Appendix B5 [REP5-104]

REF	NE REF	SECTION	KEY CONCERN AND/OR UPDATE	NATURAL ENGLAND'S ADVICE AT D4 TO RESOLVE ISSUE	APPLICANT'S RESPONSE
REP5-104_a	N/A	Summary	Natural England welcomes the hydrodynamic and sediment dispersion modelling carried out by the Applicant which provides further information on predicted changes to suspended sediment concentrations and associated sediment deposition due to construction-related activities, and changes to tidal currents and bed shear stresses due to the presence of the wind turbines and offshore platforms and export cable protection. However, we advise that further information is needed and/or clarification is needed on the following: • Fine-scale model resolution and ability to predict near-field effects at the SAC and MCZ • Relating predicted changes in bed shear stress and tidal current speeds to absolute baseline bed shear stress and threshold for sediment entrainment for different sediment fractions • Bed shear stress change results considered in relation to impacts on erosional and depositional processes near and on the seabed, seabed morphology, and seabed sediment composition at the key areas of interest/receptors (e.g. MLS SAC, KKE MCZ, nearshore, offshore sandbanks • WCS impacts on the KKE MCZ due to clay disposal • WCS cable protection adjacent to MLS SAC and nearshore and consideration of confirmed WCS in terms of changes to sediment transport processes/potential	N/A	These are summaries of the more detailed concerns highlighted below. Responses are therefore provided below.

REF	NE REF	SECTION	KEY CONCERN AND/OR UPDATE	NATURAL ENGLAND'S ADVICE AT D4 TO RESOLVE ISSUE	APPLICANT'S RESPONSE
			• WCS sediment disposal impacts (including clay) near KKE MCZ and MLS SAC • Model results considered in the context of cumulative effects with other nearby projects. Natural England considers that if this additional information, interpretation of model results, and/or clarification can be provided, then this will most likely address many of the concerns discussed in our detailed advice below.		
Table 1 – [REP4-014] Site Characterisation Report					
REP5-104_b	1	4.2.1	Natural England notes and welcomes reductions in sediment volumes for seabed preparation/sandwave levelling (e.g. array cables, turbine, and OSP/OCP foundations). However, we also note that the export cable seabed preparation sediment volume has increased considerably from 1,544,891m^3 to 4,634,673m^3.	We advise that the Applicant should provide the rationale for the significant increase in the worst-case scenario sandwave levelling for the export cable corridor.	The sediment volumes are explained in the Supporting Information on Offshore Additional Mitigation [REP4-041]. The increase relates to addition dredging requested by relevant ports as mitigation for shipping and navigation.
Table 2 – [REP4-038] Outline Sediment Disposal Management Plan					
REP5-104_c	1	3.3	Natural England notes that clay material produced from dredging the Deep Water Routes would need to be disposed within a different section of the disposal site including within the array area. This is estimated to have a volume of 304,917m^3 and a seabed footprint of 200,000m^2 when deposited. It is stated that there will be no direct disturbance in the KKE MCZ. This has not been assessed for impacts to marine physical processes receptors.	As above, we advise that a constraint should be considered to avoid clay disposal near KKE MCZ. The WCS parameters for the disposed clay mound/s and persistence should also be provided. With preference given to disposal of sediment within similar sediment type, and avoidance of the formation of berms which could disrupt sediment transport.	The creation of the mound/s of aggregated clay clasts would be a unique sediment type on the seabed. There is unlikely to be areas of seabed of this type, so the mound will have to be placed on a seabed with a different substrate type. Because of the potentially large particle size within the clay mound/s (i.e. formed of aggregated clasts of clay), future transport of the mound material would be limited, and most would remain static within the mound. However, over time the flow of tidal currents over the mound would gradually winnow (there would be a gradual disaggregation of the clasts into their constituent particle sizes) the topmost clasts and over time the mound would lower through erosion. It is therefore likely that an upstanding mound up to 1.5m would persist into the future, however, this would not significantly change sediment transport patterns at a regional scale. The disposal of dredged clay would be a sufficient distance away from the KKE MCZ (greater than 1km to allow tidal flows that are modified to return to baseline before entering the MCZ) to allow natural sedimentary processes to continue unaffected in the designated area. This is included in the Outline Sediment Disposal Management Plan [9.52, Rev 2] submitted at Deadline 6. Also, the hydrodynamic and dispersion modelling shows that changes to tidal currents and bed shear stresses due to the presence of the foundations are less than 2% in the KKE MCZ. This means that the significance of effect on this receptor is negligible (no significant effect). The obstruction to flows caused by the foundations through the water column presents the worst-case scenario compared to the presence of the low-lying clay mounds. Hence, the significance of effect of the clay mounds on the KKE MCZ would be less than the significance of effect of the foundations.
Table 3 – [REP4-039] Outline Cable Specification and Installation Plan					

REF	NE REF	SECTION	KEY CONCERN AND/OR UPDATE	NATURAL ENGLAND'S ADVICE AT D4 TO RESOLVE ISSUE	APPLICANT'S RESPONSE
REP5-104_d1	1	1/para 3	The Outline Cable Specification and Installation Plan (OCSIP) covers only the export cables within the Export Cable Corridor (ECC). It does not include the inter-array cables within the array area and, therefore, there are no details on their installation and cable route preparation.	Can the Applicant clarify where this information will be provided?	A separate array CSIP will be provided post consent for approval by the MMO in consultation with Natural England, prior to the commencement of any licensed activities (DML condition 21(1)(h) in Schedule 9 of the draft DCO). This is the standard approach which has been accepted for other consented offshore wind farms. An outline CSIP has only been provided for the export cable due to the complexity of the export cable installation due to the numbers of stakeholders present.
REP5-104_d2	2	4.3/para 40	It is stated that in the intertidal any cable remedial protection methods will be buried. Natural England welcomes this commitment. However, we note that there is the potential for cable remedial protection to be placed in the nearshore (out to 1600m seaward of MHWS) (although this will not comprise loose rock or gravel). Therefore, we remain concerned that the presence of 1.4m-high cable protection beyond the intertidal, but still within shallow water, could present a significant protrusion from the seabed, and could act as a barrier to sediment transport processes and, in turn, lead to coastal/nearshore morphological change.	We advise that the WCS parameters for cable protection in shallow water need to be provided and considered in the context of the latest modelling assessment of impacts to currents and sediment transport patterns due to the presence of nearshore cable protection. However, in line with our Rel Reps [RR-243], we advise that cable protection measures should be avoided in shallow water, wherever possible. We also refer the Applicant to the joint NE & JNCC best practice for subsea cables (Nature Conservation Considerations and Environmental Best Practice for Subsea Cables for English Inshore and UK Offshore Waters, 2022).	The Applicant now commits to there being no cable protection within -5mCD which is the closure depth in this area and therefore ensuring there will be negligible impact on wave regime and nearshore sediment transport. This is secured in the Outline Cable Specification and Installation Plan [9.53, Rev 2], submitted at Deadline 6.
REP5-104_d3	3	4.3	Natural England understands that, as stated, where burial cannot be undertaken, or minimum cable burial depth cannot be achieved, it will be necessary to use alternative methods of cable protection. However, we note that the mitigation hierarchy is not discussed here.	We advise that the mitigation hierarchy needs to be applied as best practice, and external cable protection should only be used, if/where necessary, according to the mitigation hierarchy. Furthermore, we advise that the removability of cable protection measures should be considered.	The mitigation hierarchy has been followed, and cables will be buried where practicable, as stated in the Schedule of Mitigation [REP5-006/7]. This mitigation is secured through the need to agree the cable specification and installation plan in accordance with the draft DCO (Schedule 9, Part 2, Condition 22 and Schedule 10, Part 2, Condition 22). The final CSIP will be produced at a time when detailed design has been undertaken, and will be able to discuss these items. At this stage of design, the red line boundary is sufficiently wide to allow the routing study to try to avoid where possible the majority of the challenging seabed geology. This minimizes the impact of cable protection.
REP5-104_d4	4	3.4/para 27	Natural England notes that the CSIP does not yet include details of the approach to sandwave levelling,	We advise that in areas of mobile bedforms, the survey corridor should be sufficiently wide to allow identification of areas with deeper sandwave troughs that have the potential to affect the buried cable over the lifetime of the Project.	The surveyed corridor (and associated red line boundary) is 1km wide, and so for two cables, there should be sufficient space to allow micrositing around potential obstacles including sandwaves. In the event that sandwaves cannot be avoided by routing, the outline sandwave levelling approach is covered in section 3.5 of the Outline Cable Specification and Installation Plan as submitted at Deadline 6.
REP5-104_d5	5	General comment	Natural England notes that currently the Cable Specification and Installation Plan (CSIP) only includes the predicted impact footprint for one activity (pre-lay grapnel run). This is important as it informs the assessment of the actual impact against those identified in the ES and any other relevant HRA or MCZ assessments.	We advise that the CSIP will need to provide the footprint of impact of chosen methodologies and show how that complies with the ES and other assessments. Information should also be provided on whether the proposed impacts are as predicted. Furthermore, any relevant mitigations proposed in the ES should be clearly laid out, along with details on how they will be implemented in the installation methodology.	The value provided for the pre lay grapnel run (PLGR) is the worst case scenario and other works following the PLGR i.e. sandwave levelling and cable installation would be within this same footprint. This aligns with the worst case scenario footprint for temporary disturbance for seabed preparation (which includes the PLGR and sandwave levelling) of 3,009,600m^2 which is assessed in the ES (e.g. ES Chapter 10 **[APP-024]**, Table 10.2).
REP5-104_d6	6	General comment	Natural England highlights that currently the CSIP does not include a cable installation programme.	We advise that a detailed cable installation programme will need to be included in the CSIP.	The document provided is an outline CSIP. The exact cable installation programme will and can only be provided in the CSIP that is submitted for approval by the MMO in consultation with Natural England, once a detailed understanding of the requirements is known post consent i.e. burial tool so that exact durations are known. At the moment, only indicative durations can be provided, but these are subject to change when the final details are known.
Table 4 – [REP4-040] Hydrodynamic and Dispersion Modelling Report					

REF	NE REF	SECTION	KEY CONCERN AND/OR UPDATE	NATURAL ENGLAND'S ADVICE AT D4 TO RESOLVE ISSUE	APPLICANT'S RESPONSE
REP5-104_e1	1	General comment	Natural England welcomes the hydrodynamic and dispersion modelling carried out by the Applicant.	N/A	Noted
REP5-104_e2	2	Table 5 2/5.2.4	Natural England advises that it is not clear whether the model bathymetry resolution is sufficiently detailed to inform understanding of potential impacts to sediment transport patterns, seabed sediment composition and seabed morphology at key features such as Margate and Long Sands Special Area of Conservation (MLS SAC) or Kentish Knock East Marine Conservation Zone (KKE MCZ). For example, near-field effects that may extend from individual turbines to overlap with KKE MCZ, or that may extend from cable protection along the ECC, to overlap with the SAC. We also note that the tidal hydrodynamic model was run for the proposed windfarm scenario with WTGs and OSP/OCPs included but not array cable protection. The contribution of array cable protection measures to predicted changes in tidal current speeds and bed shear stresses are not discussed.	We advise that further information and/or clarification is needed to demonstrate that the model resolution is sufficiently detailed to adequately inform assessment of changes to hydrodynamic and sediment transport near/at the SAC and MCZ. We also advise that near-field effects should be evaluated and discussed, for example, wake effects that may extend from individual turbines into the KKE MCZ and cable protection blockage effects on sediment transport processes at MLS SAC. We also advise that the contribution of array cable protection measures to changes in tidal current speed and bed shear stresses should be considered.	The Hydrodynamic and Dispersion Modelling considers 0.1km grid resolution along the Offshore Cable Corridor and 0.2km in the array area. The purpose of the modelling is to inform an assessment of impacts in the context of study area and therefore this resolution is appropriate. This approach is also consistent with that used for other offshore wind farms. The issue of near-field wake effects was addressed at Deadline 4 in the hydrodynamic and dispersion modelling interpretation report **[REP4-042]**. The results show that changes to tidal currents and bed shear stresses due to the presence of turbine foundations could potentially extend into the far eastern side of the KKE MCZ, adjacent to the array area (Figures 4.1 to Figure 4.4 in the interpretation report **[REP4-042]**). However, the model predicts that the changes to these parameters are less than 2% of the baseline magnitude. Hence, the changes are negligible and will not affect the sediment transport processes in the KKE MCZ. The additional effect of array cable protection on the changes in flows would be indiscernible compared to the magnitude of change in flows induced by the foundations.
REP5-104_e3	3	6.3.2 & Table 6.2	Whilst changes in bed shear stress have been presented, Natural England notes that the baseline absolute bed shear stresses have not been presented. Moreover, the predicted bed shear stress changes have not been assessed against the threshold for sediment movement for the different sediment fractions at the key areas of interest (e.g. SAC, MCZ, offshore sandbanks). Natural England advises this information is needed to inform understanding of potential changes to deposition and erosion rates, seabed morphology, and seabed sediment composition due to the proposed development.	We advise that the modelled changes in bed shear stress need to be presented/considered relative to baseline absolute bed shear stresses and the threshold for sediment movement for different sediment fractions. Furthermore, the predicted changes in bed shear stress need to be evaluated in terms of impacts on erosional and depositional processes near and on the seabed, seabed morphology, and seabed sediment composition at the key areas of interest (e.g. KKE MCZ, MLS SAC, offshore sandbanks etc.).	The predicted absolute changes in bed shear stresses were provided in the Hydrodynamic and Dispersion Modelling Report [see Figures 5.60 to 5.67, **9.54, Rev 1**]. They show that the predicted absolute change in bed shear stresses in the KKE MCZ and MLS SAC are less than 0.05N/m2. The revised report now presents the baseline absolute bed shear stresses as Figure 5.36 to Figure 5.43 **[9.54, Rev 2]**. Baseline magnitudes of greater than 2N/m2 were predicted across both the MCZ and the SAC. A change of less than 0.05N/m2 on top of these baseline values would have no discernible effect on the sediment sizes that can be transported before and after the changes.
REP5-104_e4	4	5.3.5/Figure 5.18	The Applicant considers it likely that cables adjacent to MLS SAC would be buried. But presently Natural England advises that the potential for placement of cable protection adjacent to the northern boundary of the MLS SAC, cannot be ruled out. We also note that the indicative cable protection requirement included in the hydrodynamic model (Figure 5.18) identifies only one 400m-length of cable protection adjacent to the SAC. It would be helpful if the Applicant can confirm whether this represents the WCS external cable protection requirement adjacent to the SAC? If not, then we advise that the WCS cable protection requirement adjacent to the SAC should be considered in the model.	We advise that further clarification is needed on the WCS cable protection requirement along the ECC adjacent to MLS SAC and/or confirmation that no (or limited amounts of surface laid cable protection will be placed within the Zone of Influence for MLS SAC.	The hydrodynamic and dispersion modelling was completed with an indicative 400m length of cable protection adjacent to the MLS SAC (Figure 5.18 and Table 5-4 of the hydrodynamic and dispersion modelling report) informed by analysis of geophysical data. As discussed above, the effect of cable protection in this area would have no discernible effect and therefore in the unlikely event it were to be deployed more extensively in the offshore cable corridor adjacent to the SAC, beyond the 150m buffer from the SAC, there would be no potential AEOI of the SAC.
REP5-104_e5	5	6.15	Natural England notes that the model setup for sediment disposal within the array has used a worst-case location for sediment dispersal at the northern end of the array. This shows that sediment deposition following sediment disposal within the array may extend up to 750m with a thickness of up to 0.5m. Given that there is the potential for sediment disposal to take place anywhere within the array, we advise that model output should be provided for sediment disposal adjacent to the MCZ. We also note that the modelling has not considered sediment dispersion near MLS SAC due to sediment disposal within the ECC disposal site. Therefore, the WCS for plume dispersion and associated sediment deposition due to disposal in the ECC needs to be clarified with respect to impacts on MLS SAC.	We advise that model output should be provided for a sediment disposal location adjacent to KKE MCZ, to inform understanding of the potential impacts to seabed level change at the MCZ due to sediment disposal. We also advise that the WCS for sediment disposal in the ECC with respect to MLS SAC, should be considered in the assessment.	The modelled disposal location is the worst case scenario for sediment dispersion due to the shallower depth at the selected location. As discussed in Section 3.8 of the Sediment Dispersion Modelling – Results Interpretation **[REP4-040]**, the modelling of this worst case disposal location validates that the Mass Flow Excavation (MFE) method for seabed levelling represents the worst case scenario, over dredging and disposal. MFE would not require sediment disposal as sediment is levelled by blasting the seabed with seawater and therefore modelling of MFE across the array area, including up to the 50m buffer from the KKE MCZ fully represents the worst case scenario.
REP5-104_e6	6	Section 7	Natural England welcomes the updated information on sediment plume dispersion and associated sediment deposition due to the	We advise that the Applicant should clarify whether there is the potential for different construction activities to be carried out concurrently and whether some/all the resulting sediment deposition	The potential for concurrent construction activities and the potential for overlapping sediment deposition can be clarified in further

REF	NE REF	SECTION	KEY CONCERN AND/OR UPDATE	NATURAL ENGLAND'S ADVICE AT D4 TO RESOLVE ISSUE	APPLICANT'S RESPONSE
			different construction activities, with a focus on MLS SAC and KKE MCZ receptors. We also note that predicted WCS sediment deposition thicknesses have been provided for different construction-related activities at KKE MCZ, as follows: • seabed preparation for smaller/larger WTG foundations sediment deposition will not exceed 0.05m; • sandwave and megaripple levelling for array cable installation would lead to an initial deposition (over a small area of the MCZ) of 0.05-0.6m; • seabed trenching for array cable installation sediment deposition of approx. 0.05m near the MCZ; • drilling for smaller WTGs sediment deposition of <0.005m/larger WTGs sediment deposition of <0.005m; • sediment deposition due to dredged sediment disposal within the array area would be <0.5m and extend <700m from the release point. However, it is not stated whether there is the potential for these construction activities to be carried out concurrently and/or whether some/all resulting sediment deposition thicknesses can be summed to provide a total or cumulative deposition thickness. Natural England advises that this needs to be clarified to increase understanding of potential seabed level changes within the MCZ.	thicknesses should be summed to provide a total or cumulative deposition thickness that may affect the MCZ.	updates to the hydrodynamic and dispersion modelling report by Deadline 7.
REP5-104_e7	7	General comment	Natural England notes in [REP4-039] that cable protection (not loose rock or gravel) may be placed in the nearshore. However, this has not been included in the indicative layout of cable protection used in the hydrodynamic modelling or assessed in terms of potential impacts to nearshore sediment transport processes and coastal morphology.	We advise that the WCS for cable protection placement in the nearshore should be considered in the context of the hydrodynamic modelling results.	The Applicant now commits to there being no cable protection within -5mCD which is the closure depth in this area and therefore ensuring there will be negligible impact on wave regime and nearshore sediment transport. Beyond this depth, cable protection could be deployed anywhere along the offshore cable corridor, up to the maximum of 10% of the export cable length. Modelling has been undertaken of the more likely areas where cable protection may be required and the effects would be similar, if it were placed elsewhere along the offshore cable corridor.
Table 5 – [REP4-041] Supporting Information on Offshore Additional Mitigation					
REP5-104_f	1	3.3.3.1.1	Natural England notes that it has been concluded that, based on the relevant pressures, receptor sensitivity, and assessment of impacts against the MCZ feature attributes, the conservation objectives will not be hindered (by SSC and) sediment deposition. However, in Table 4 above, the overall/total WCS thickness of sediment deposition within the MCZ, due to construction activities in the array, should be provided to inform the impact assessment against the MCZ feature attributes.	We advise that the Applicant should confirm the WCS sediment deposition thickness for construction-related activities at KKE MCZ, to inform the impact assessment.	An updated MCZA Report will be provided by Deadline 7.
Table 6 – [REP4-042] Hydrodynamic and Dispersion Modelling Results Interpretation					
REP5-104_g1	1	4.3.2	Natural England highlights that the hydrodynamic model results have not been evaluated in terms of impacts to offshore sandwave-sandbank systems present within the array area (e.g. The Galloper). These are important seabed morphological features and may be affected by changes to tidal currents and bed shear stress, for example, the Galloper and North Falls sandbanks. Hence, we advise that the assessment of receptor sensitivity and effect significance should also consider impacts to offshore sandbanks within the array area.	We advise that the hydrodynamic model results should be considered in the context of impacts to offshore sandbanks present within the array area.	The changes to tidal currents and bed shear stresses due to the foundations will occur across the sand banks and sand waves within the array area. Within the array area, the predicted maximum changes in tidal current speeds and bed shear stresses would be 3% and 5%, respectively. This means that given these very small magnitude changes in sediment transport potential arising from the presence of the Project, the effects on the sand bank and sand wave receptors from a sediment transport perspective would be not significant. Hence, the overall significance of the effect of the Project

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					under a worst-case scenario on tidal current speeds and bed shear stresses for the sand banks and sand waves is negligible adverse (no significant effect) and remains as assessed in the ES.
REP5-104_g2	2	General comment	Natural England advises that there is the potential for a cumulative effect with regards to tidal currents, sediment transport and morphological change.	We advise that the hydrodynamic model results should also be assessed in terms of other plans, projects and/or activities which may result in cumulative effects that affect marine processes receptors such as the MCZ, SAC, coastal/nearshore morphology, and offshore sandbanks.	Modelling of cumulative effects with other projects is provided in the updated Hydrodynamic and Dispersion Modelling Report **[9.54, Rev 1]** at by Deadline 6.

2.3 Applicant's Response to Natural England's comments regarding Appendix C5 [REP5-105] (Benthic Ecology)

Table 2.3.1 Applicant's Response to Natural England's minor comments

REF	DOCUMENT REVIEWED	UPDATE MADE	ISSUE RESOLVED?	APPLICANT'S RESPONSE
Table 1				
REP5-105_a	[REP4-014] 7.26 Site Characterisation Report	This document has been updated to signpost to: additional mitigation commitments in the Supporting Information on Offshore Additional Mitigation (doc ref 9.55); and new Hydrodynamic and Sediment Dispersion Modelling Results. The document has also been updated to include descriptions of plumes. Maximum design scenario (MDS) for sediment disposal has been reduced overall, but increased x4 within the Array.	There are no benthic technical comments to make in the context of this document alone, comments on the ecological significance of the results of the hydrodynamic/sediment dispersal modelling will be made against the updated ES/MCZ assessments etc. in light of the full detail where they exist.	Noted.

Table 2.3.2 Applicant's Response to Natural England's detailed comments

REF	NE REF	SECTION	KEY CONCERN AND/OR UPDATE	NATURAL ENGLAND'S ADVICE AT D4 TO RESOLVE ISSUE	APPLICANT'S RESPONSE
Table 2					
REP5-105_b1	1	3.4.1	Natural England highlights that the sediment disposal constraints are lacking consideration of ecological receptors. Whilst we note a loose commitment to a 50m buffer to avoid 'Annex I reef where practicable', we advise these commitments should go further to include that all Section 41 NERC Habitats are avoided particularly where such habitats support rare and/or irreplaceable communities.	Natural England reiterate our advice provided in Appendix C of our RR/WR [RR-243]. If avoidance is not possible then it should be clearly demonstrated how the impacts have been minimised and/or remediated, it the case of irreplaceable habitats.	Section 7.2.1 of the PEMP **[REP3-011]** states: Pre-construction surveys will be undertaken to determine if Annex I and/or Habitats of Conservation Importance (HOCI) are present within the proposed wind turbine locations or offshore cable routes (offshore export cables, array cables and/or platform interconnector cables). HOCI will be identified in accordance with Section 41 (biodiversity lists and action (England) of the Natural Environment and Rural Communities Act 2006. Should sensitive Annex I habitats or HOCI be identified in the proposed wind turbine locations and/or cable routes during the pre-construction surveys, micro-siting would be undertaken where practicable, to reduce the requirements for seabed preparation prior to foundation and cable installation and potential impacts to sensitive benthic species. In the case that Sabellaria spinulosa reef is identified, a *S. spinulosa* reef mitigation plan will be followed (Appendix A in **REP3-011**).
REP5-105_b2	2	3 and 3.4.1	Natural England notes that the "disposal of sediment will be distributed across the entire red line boundary "within minimal ecological mitigation and no consideration of designated sites or features within that mitigation (Section 3.4.1). Natural England is concerned that both the nature and volume of material to be disposed of within the Array area has been significantly altered; in particular the volume requiring disposal has increased by	Natural England reiterate our advice provided in Appendix C of our RR/WR [RR-243] and also advise that all relevant assessment (EIA and MCZ) require updating with an evaluation of the impacts from the increased disposal volumes within the Array area. We advise that the mitigation measures currently proposed may not be sufficient to avoid an AEoI and/ or hindrance of the conservation	Assessment of the revised volumes was provided in Supporting Information on Offshore Additional Mitigation **[REP4-041]** which shows there is no change to the conclusions and there will be no AEOI on MLS SAC and no hinderance of the conservation objectives of the KKE MCZ. Further to this, the Applicant now commits to there being no disposal of dredged sediment within 1km of the KKE MCZ, with the exception

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			approximately 4 times, which may result in impacts of greater significance than those originally assessed, particularly within Kentish Knock East MCZ.	objectives of the MLS SAC and KKE MCZ respectively from relevant construction phase impact pathways.	of sediment arising in proximity to the MCZ, which will be deposited as close as practicable to its origin. This commitment is secured in the Outline Sediment Disposal Management Plan **[9.52, Rev 2]** submitted at Deadline 6.
Table 3					
REP5-105_c1	1	3.2	Natural England notes that no mitigation commitments have been incorporated into the document. Where boulder clearance is required adjacent to designated sites, boulders should be dispersed to prevent linear concentrations to sediment transport along the cable corridor and to ensure that habitats continue to represent the baseline as is reasonably practicable.	Natural England reiterate our advice provided in Appendix C of our RR/WR [RR-243] in relation to boulder relocation close to designated sites and near shore to ensure that sediment transport is not disrupted. We further advise that boulders placed on the seabed surface as a result of boulder plough activities must be deposited in such a manner as to create a mosaic habitat that is similar in structure and function to the surrounding habitat at the time of carrying out the boulder plough activity.	Natural England's advice regarding boulder clearance to be deposited in such a manner as to create a mosaic habitat that is similar in structure and function to the surrounding habitat is now secured in the Outline Cable Specification and Installation Plan **[9.53, Rev 2]**.
REP5-105_c2	2	4.3	Natural England notes that mitigation measures are limited to navigation matters and no mitigation commitments relevant to benthic ecological receptors have been proposed.	Natural England reiterates our advice provided in Appendix C of our RR/WR [RR-243] in relation to reducing/mitigating impacts from cable protection particularly adjacent to designated sites. We further advise that a commitment to remove all seabed infrastructure at the time of decommissioning should be secured in the DCO, and that an Outline Decommissioning Plan should also be provided to detail the approach to decommissioning. We highlight that in the Guidance Notes for Industry for the Decommissioning of Offshore Renewable Energy Installations under the Energy Act, 2004, it is expected that "all installations and structures will be fully removed at the end of their operational life to minimise residual liabilities and that approval of decommissioning programmes will be based on this assumption" in accordance with the assumptions set by the International Maritime Organisation in 1989 and in line with OSPAR requirements. Natural England further advises that returning the seabed to its pre-development status will contribute to achieving Good Environmental Status of the wider marine environment as required by the UK's Marine Strategy and as above is in line with OSPAR requirements.	The Applicant refers to our previous response to **[REP3-064_b_14** in **REP4-028**. The Applicant considers it is not necessary to provide an outline decommissioning plan pre-consent. The decommissioning activities will be appropriately addressed through the development of a Decommissioning Programme post consent, to be submitted prior to commencement of offshore works, as required by DCO Schedule 1, Paragraph 25 and therefore mitigation will be agreed at that time. The Applicant notes this is the approach taken in the recently made Sheringham Shoal and Dudgeon Extension and Rampion 2 DCOs.
REP5-105_c3	3	7	Natural England notes that no monitoring has been proposed which considers impacts on benthic receptors.	Natural England advises that in the event the cable protection is required adjacent to Margate and Long Sands MCZ, an OIPMP should be developed to monitor the impacts (temporal and spatial changes) of cable protection on benthic features within the SAC.	Environmental monitoring of benthic receptors has been secured in the In-Principle Monitoring Plan submitted at Deadline 6 **[7.10, Rev 1]** in Section 5.5.3 and Table 5.2.
Table 4					
REP5-105_d	1	Figure 7.6 Figure 7.36	Natural England notes that the sediment deposition prediction plots have not considered the MarESA pressure benchmark thresholds (of 5cm and 30cm) and only present deposition >50 cm. It is not, therefore, clear how the modelling has been used to assess the significance of impacts from sediment deposition particularly within Margate and Long Sands SAC and Kentish Knock east MCZ.	Natural England advises that presenting predicted pressures from elevated sediment deposition using contours which are relevant to MarESA pressure benchmark thresholds would facilitate robust and transparent assessments of impacts from these pressures particularly within Margate and Long Sands SAC and Kentish Knock east MCZ. In the absence of this information, it is not possible to determine the WCS and therefore robustly assess the impacts from sediment deposition within the designated sites to determine the likelihood of an AEoI and/ or hindrance of the conservation objectives of the MLS SAC and KKE MCZ respectively from relevant construction phase impact pathways.	The modelling outputs represented in the figures have considered the MarESA pressure benchmark for 'light' deposition. In the hydrodynamic and sediment dispersion modelling results interpretation **[REP4-042]**, paragraph 6 states 'Total seabed level changes are shown that are greater than 5cm (0.05m). This value is the benchmark for a 'light' deposition event as defined by Marine Biological Association (MarLIN)'.
Table 5					
REP5-105_e1	1	2.1.1 – 2.1.7	Natural England welcomes the reduction in MDS afforded by the measures outlined. However, we consider that mitigation commitments should go further to avoid impacts to Margate and Long Sands SAC and Kentish Knock East MCZ and Section 41	Natural England reiterates our advice provided in Appendix C of our RR/WR [RR-243] and also point to comments in Table 2 above in relation to REP4-039] 9.53 Outline Cable Specification and Installation Plan (Rev 0)].	The additional commitments included in Supporting Information on Offshore Additional Mitigation **[REP4-041]** are in addition to the extensive mitigation commitments the Applicant has already made during the pre-application process and early in Examination, including reducing the number of export cables from 4 to 2, reducing the maximum number of turbines from 72 to 57, reducing the array

REF	NE REF	SECTION	KEY CONCERN AND/OR UPDATE	NATURAL ENGLAND'S ADVICE AT D4 TO RESOLVE ISSUE	APPLICANT'S RESPONSE
			Priority Habitats particularly where such habitats support rare and/or irreplaceable communities.		area to avoid any overlap with the KKE MCZ and avoiding overlap of the MLS SAC during site selection of the offshore cable corridor in response to feedback from Natural England, and the incorporation of the 150m minimum buffer from MLS SAC. The Applicant has made further commitments at Deadline 6 including no disposal of dredged clay or other sediment within 1km of the KKE MCZ, included in the Outline Sediment Disposal Management Plan **[9.52, Rev 2]** at Deadline 6. The outline Sediment Disposal Management Plan and outline CSIP also already contain a range of measures to mitigate impacts on MLS SAC and KKE MCZ. The Applicant maintains the position that there will be no AEOI on the MLS SAC and no significant risk of hinderance of the conservation objectives of the KKE MCZ and therefore no further mitigation measures are required.
REP5-105_e2	2	2.1.1 Para 4	Natural England welcomes the additional buffer between Margate and Long Sands SAC and the installation of the offshore cables and any associated cable protection.	Natural England advises that further interpretation of the hydrodynamic modelling is required to demonstrate that cable protection near the SAC will not modify sediment transport pathways/processes operating on/near the SAC and in turn lead to morphological changes that could alter the extent, distribution and composition of benthic communities within the SAC. In the absence of this information, it is not possible to determine the likelihood of an AEoI on MLS SAC the operational phase. Unless it can be demonstrated otherwise, the scale of impacts is likely to further hinder the conservation objectives of the site, taking the site further away from achieving its 'restore objective'. (We refer the Exa to Annex I of Appendix C of our RR/WR [RR-243].	The hydrodynamic and dispersion modelling was completed with an indicative 400m length of cable protection adjacent to the MLS SAC (Figure 5.18 and Table 5-4 of the hydrodynamic and dispersion modelling report) informed by analysis of geophysical data. As discussed below, the effect of cable protection in this area would have no discernible effect and therefore, in the unlikely event cable protection were to be deployed more extensively in the offshore cable corridor adjacent to the SAC (beyond the 150m buffer from the SAC), there would be no potential AEOI of the SAC.
Table 6					
REP5-105_f1	1	4	Natural England notes that the changes in current speeds and bed shear stresses due to the presence of turbines and/or cable protection presented in [REP4-042] have not been used to predict the morphological changes (such as scour/sediment accretion, changes in sediment character) that could alter the extent, distribution and composition of benthic communities within the adjacent designated sites during the operational phase. It is not therefore possible to determine the likely nature and/or extent of these secondary pathways of effect or determine whether they may extend into Margate and Long Sands SAC and/or Kentish Knock East MCZ.	Natural England advises that further interpretation of the hydrodynamic modelling is required to provide a robust and transparent understanding of likely WCS impacts on benthic ecological receptors from changes in supporting processes within Margate and Long Sands SAC and Kentish Knock east MCZ. In the absence of this information, it is not possible to determine the likelihood of an AEoI and/ or hindrance of the conservation objectives of the MLS SAC and KKE MCZ respectively during the operational phase.	The predicted absolute changes in bed shear stresses were provided in the Hydrodynamic and Dispersion Modelling Report [see Figures 5.60 to 5.67, **9.54, Rev 1**]. They show that the predicted absolute change in bed shear stresses in the KKE MCZ and MLS SAC are less than 0.05N/m2. The revised report now presents the baseline absolute bed shear stresses as Figure 5.36 to Figure 5.43 [Document Reference 9.54, Rev 2]. Baseline magnitudes of greater than 2N/m2 were predicted across both the MCZ and the SAC. A change of less than 0.05N/m2 on top of these baseline values would have no discernible effect on the sediment sizes that can be transported before and after the changes.
REP5-105_f2	2	4.3.2 – 4.3.4	Natural England considers that the assessment of receptor sensitivity, impact magnitude and effect significance altogether lack consideration of ecological receptors.	Natural England advises that further interpretation of the hydrodynamic modelling is required and should be considered in the context of ecological receptors to provide a robust and transparent understanding of likely WCS impacts from changes in marine processes within Margate and Long Sands SAC and Kentish Knock east MCZ.	The Supporting Information on Offshore Additional Mitigation [REP4-041] includes updates to the RIAA and MCZA, following the Hydrodynamic and Dispersion Modelling Report, Rev 0 **[REP4-040]**. Consideration of the ecological receptors of the Margate and Long Sands SAC and Kentish Knock East MCZ are presented in Section 3.3.2 and Section 3.3.3 of the Supporting Information on Offshore Additional Mitigation [REP4-041].

2.4 Applicant's Response to Natural England's comments regarding Appendix E5 [REP5-106] (Marine Mammals)

Table 2.4 Applicant's Response to Natural England's comments regarding Appendix E5 [REP5-106]

REF	SECTION	NATURAL ENGLAND COMMENTS/ADVICE	APPLICANT'S RESPONSE
REP5-106_a	Draft Marine Mammal Mitigation	Natural England notes that "All suitable, effective and available mitigation measures will be considered during preparation of the final MMMP". However, we consider that the Noise Abatement System (NAS) should not be considered as an 'additional mitigation' measure but an integral part of the mitigation	An update on the Applicant's position to committing to noise reduction measures has been provided at Deadline 5 within the updated version of the Draft MMMP **[REP5-012]** and the Outline SIP **[REP5-014]**, these updates can also be viewed in the latest version of the Draft MMMP **[7.7, Revision 3,** submitted at Deadline 6**]**.

REF	SECTION	NATURAL ENGLAND COMMENTS/ADVICE	APPLICANT'S RESPONSE
	Protocol [REP3-014]	protocol. Despite the changes made by the Applicant to the MMMP, we note that the Applicant has still not committed to using noise abatement to effectively reduce the noise at the source. We note that the established Monitoring Area (MA) is a minimum 700m, but we question if the standard mitigation strategies can effectively monitor this range during night and at times of reduced visibility. At this stage, the draft MMMP relies entirely on Passive Acoustic Monitoring (PAM) which has a detection range of no more than 300m for harbour porpoise. Thus, we do not consider that this strategy is effective enough to provide full coverage of the MA at night or during times of low visibility. Therefore, we maintain our original advice that the Applicant should consider ways to improve detectability of harbour porpoises in order to guarantee their detections within the MA. We advise that one option is for the Applicant to consider using an array of PAM devices to ensure adequate coverage and detectability. Alternatively, if effective monitoring cannot cover the entire MA, sound reduction at source will be required to reduce the Permanent Threshold Shift (PTS) range and, consequently, the radius of the MA. We advise that the Applicant should provide further clarification on the MMMP. Currently, there appears to be an over-reliance on the use of acoustic deterrent devices (ADDs) as the primary mitigation tool, instead of effective monitoring. We do not consider that this a suitable approach given that ADDs do not deter all the animals (Stone, 2023)1. Moreover, Stone (2023) highlighted that where there is vessel disturbance the use of ADDs is not sufficient to deter animals from the impact range. This emphasized the need for effective monitoring of the entire PTS zone. This specifies a soft-start/ramp up minimum duration of 20min, while in the main body of text this duration is specified as 40min. Also, additional text is needed regarding breaks of less than 10min, to indicate that the MMObs/PAM need to check the area to ensure that there are no marine mammals prior to re-commencement of piling. We advise that the plate should be corrected accordingly.	The Applicant notes Natural England's comment, a final description of the PAM method including information on the equipment and sensitivity of the hydrophones will be presented in the Final MMMP, in line with the Joint Nature Conservation Committee (JNCC) PAM guidance (2023). The Applicant will ensure that the PAM equipment will be sufficient at monitoring the full MA and has the capability of detecting all vocalising marine mammals. This will be consulted on post-consent with the Statutory Nature Conservation Bodies (SNCBs) as part of the approval process by the MMO. In addition, the Draft MMMP **[REP5-012]** and Outline SIP **[REP5-014]** has been updated to include clarification of the Project's stance on noise reduction measures. Therefore, if noise reduction methods are applied (if it is deemed necessary) it is likely the impact ranges will reduce. Potential scenarios will be presented and assessed post consent. The plate 1.2 has been amended within the Draft MMMP **[7.7, Rev 3]** submitted at Deadline 6, to ensure the text matches the plate regarding soft-start and ramp up procedures, therefore the plate has been updated to include a minimum of 40 minutes for soft-start and ramp up durations. Plate 1.2 has also been updated in the Draft MMMP **[7.7, Rev 3]** to make clear that piling will only continue after a break if there are no marine mammals present.
REP5-106_b	Cumulative Effects Assessment Summary [REP3-042]	Natural England welcomes that the Applicant has based the cumulative effects assessment (CEA) on the seven-tier system, as per our advice and Best Practice. Natural England notes that no 'additional mitigation' is required to address the cumulative effects. However, it is our view that implementation of NAS is required to fully mitigate the effects of underwater noise. We note that the term 'additional mitigation' is used in the MMMP to refer to a suite of NAS measures/technologies, which the Applicant proposed to include in the final MMMP. However, this conclusion suggests that the implementation of NAS is not required which is not in line with our advice or the Defra Marine Noise Policy paper (2025).	The Applicant welcomes Natural England's comment. The Applicant's position and commitment to noise reduction measures and / or NAS has been updated at Deadline 5 within the Draft MMMP **[REP5-012]** and Outline SIP **[REP5-014]**. This commitment can also be viewed in the latest version of the Draft MMMP **[7.7 Rev 3,** submitted at Deadline 6**]**.
REP5-106_c	Further Information Regarding Marine Mammal Disturbance due to Vessel Presence [REP3-046]	Natural England welcomes the additional assessment conducted in relation to vessel disturbance. We consider this issue resolved. However, we expect the results of this updated assessment to be included in the cumulative and in-combination assessments with other activities during O&M and construction within the ES chapters 12 [APP-026] and RIAA Part 3 [APP-176].	The Applicant welcomes Natural England's comment. However, as this issue has been resolved, the Applicant does not propose to update ES Chapter 12 **[APP-026]** and RIAA Part 3 Marine Mammals **[APP-176]** as all information is presented in the Further Information Regarding Marine Mammals **[REP3-046]** which is secured as an Examination Document Forming Part of the Environmental Statement to be Certified in the draft DCO [6.1, Rev 7, Schedule 12, Part 2. The Further Information Regarding Marine Mammals **[REP3-046]** shows that the assessment reaches the same conclusions as already assessed in the ES chapter 12 **[APP-026]** and RIAA **[APP-176]**.

2.5 Applicant's Response to Natural England's comments regarding Appendix F5 [REP5-107] (Offshore Ornithology)

Table 2.5 Applicant's Response to Natural England's comments regarding Appendix F5 [REP5-107]

REF	NATURAL ENGLAND'S COMMENTS	APPLICANT'S RESPONSE
Summary		
REP5-107_a1	We welcome the Applicant's response [REP3-039] to provide clarity on the differences in the Population Viability Analysis (PVA) results for guillemot and razorbill at the Flamborough Filey Coast Special Protection Area (FFC SPA) presented in their submission [APP-178] in comparison with the Sheringham and Dudgeon Extension Project (SADEP) consent decision, as requested in our Relevant Representation (RR). In our RR, Natural England also requested that the Applicant consider information made available after March 2024 (e.g. impact estimates from the Five Estuaries, Dogger Bank South & Outer Dowsing OWF projects) in their cumulative effects assessment (CEA). We also suggested collaboration between these projects to agree how updated impact values (based on SNCB advice) could be efficiently incorporated into each project's assessments as their Examinations progress.	An updated ornithology in-combination assessment will be provided by Deadline 7.

REF	NATURAL ENGLAND'S COMMENTS	APPLICANT'S RESPONSE
	Whilst we welcome the revised document 'Updated Information for Offshore Ornithology Cumulative Effects Assessment' [REP3-040], received at Deadline 3, the Applicant has not re-submitted updated in-combination assessments nor re-run PVAs for guillemot and razorbill apportioned to FFC SPA using these figures, which are now significantly different in some circumstances from those considered by the original assessment. For example, the Dogger Bank South contribution to the in-combination guillemot abundance in North Sea and English Channel wind farms apportioned to the FFC SPA adult population is stated as 32,563 (RWE Renewables, 2024; Table 9-28) in comparison with that considered in the North Falls RIAA of 15,742 (North Falls, 2024; Table 4.44). Similarly, the Outer Dowing RIAA (Version 4.0) annual abundance of 17,763 adults apportioned to FFC SPA (Outer Dowsing, 2025; Table 9-37) is significantly higher than the total of 5,181 considered in the North Falls RIAA (taken from ODOW's RIAA submitted before the introduction of the Offshore Restricted Build Area). Both project impact values are calculated based on 70% mortality and 2% displacement. We expect differences in impact values for razorbill are also likely. The in-combination totals require updating accordingly to reflect the latest impact values available, though given the limited time available in the Examination, we recognise that updating the PVAs is not necessarily a priority.	
REP5-107_a2	We highlighted previously that the Applicant's PVAs had not used some Natural England recommended input parameters (e.g. years for burn-in, impacts applied separately for immatures, random seeds), acknowledging that we considered these differences would probably make little difference to the conclusions of the PVAs. We note that the Applicant has subsequently used these parameters for the guillemot shadow Appropriate Assessment for the Farne Islands SPA and welcome their commitment to integrate them into any updated PVA (North Falls, 20251; NE-252/F27).	Noted
Applicant's Comments on Other Deadline Submissions [REP3-039]		
REP5-107_b1	Natural England can confirm that the Applicant's interpretation of the PVA outputs from SADEP is correct. As set out in our End of Examination Statement [REP8-102], Natural England did not agree with the updated PVA outputs as presented by SADEP within REP5 044 due to a reduction in the number of simulations from 5000 to 1000 and therefore referred to the original PVA outputs presented within the SADEP RIAA [APP-059] when forming our final conclusions. For guillemot, Natural England selected the PVA outputs from the closest impact value (1,539) as a proxy for the impact value of 1,498 at 70% displacement and 2% mortality for all projects, except for Hornsea Project 4 for which 5% mortality was applied in line with previous cases. A similar approach was taken for razorbill, with the PVA run for the impact value of 215, selected as a proxy for the impact value of 206.	Noted
REP5-107_b2	We acknowledge that the reference population of individuals for the FFC SPA used by the Applicant in their PVA is significantly higher than that used by SADEP, and that this will influence the predicted levels of effect. However, we also highlight that some of the in combination impact values from other projects have also changed, with some significant increases as outlined above. For this reason, Natural England are unable to draw firm conclusions on the in-combination impact total nor the PVA outputs as presented by the Applicant within APP-180. Nevertheless, we continue to advise that an in-combination Adverse Effect on Integrity (AEOI) for the guillemot and razorbill features of the FFC SPA cannot be ruled out.	For guillemot, it is noted that in consenting Rampion 2 (R2), the Secretary of State concluded that an Adverse Effect on Integrity (AEoI) could not be ruled out beyond reasonable scientific doubt for in-combination effects on guillemot at Flamborough and Filey Coast (FFC) Special Protection Area (SPA) (and the Farne Islands SPA). Noting that the effects of R2 are similar to North Falls, the Applicant accepts that the Competent Authority is likely to consider the contribution of North Falls to be material also. Compensatory measures for guillemot from FFC SPA and the Farne Islands SPA are discussed in the Guillemot and Razorbill Compensation Document **[7.2.5, Rev 2]** and the Outline Guillemot and Razorbill Compensation Implementation and Monitoring Plan **[7.2.5.1, Rev 1]** and secured in the draft DCO **[6.1, Rev 7]**. For razorbill from FFC SPA, the Applicant maintains its position as detailed in the RIAA Part 4 (Document Reference: 7.1.4 **[APP-178]**) that there will no AEOI of this receptor. It is also noted that the Secretary of State (SoS) has disagreed with Natural England's position regarding this species during the consenting of R2 and SADEP and has concluded no AEOI on razorbill from FFC SPA. In the event that the SoS concludes an AEoI in the Appropriate Assessment for razorbill, the Applicant has developed a without prejudice compensatory measure that could be applied to provide compensation for razorbill in the Guillemot and Razorbill Compensation Document **[7.2.5, Rev 2]** and the Outline Guillemot and Razorbill Compensation Implementation and Monitoring Plan **[7.2.5.1, Rev 1]**. This could be secured in the DCO in accordance with the Without prejudice HRA DCO Schedules **[9.73, Rev 1]**.
REP5-107_b3	We note that it has already been determined by the Secretary of State (SoS) in the Hornsea Four decision that in-combination impacts on the guillemot feature have reached a level where AEOI cannot be ruled out. More recently, at Rampion 2, the SoS again determined that the in combination impact was over the threshold for AEOI on the guillemot feature of FFC SPA even with the removal of Hornsea 4 impacts (which were subject to derogations).	
REP5-107_b4	Furthermore, SoS concluded that AEOI in-combination could not be ruled out at Rampion 2, despite the project's 'modest' contribution of 3.5 adult mortalities per annum in the non breeding season (Rampion 2 - DESNZ HRA). With respect to the razorbill feature of FFC SPA, we highlight our advice to Hornsea 4, and all subsequent projects predicted to contribute to the in-combination total. In brief, we consider that here is significant uncertainty as to whether the current net growth of the population is sustainable in the face of numerous pressures and, therefore, AEOI cannot be ruled out. We welcome the provision of without prejudice derogations cases for guillemot and razorbill and consider that our input through the remainder of the Examination period would be best spent assisting the Applicant in ensuring that ecologically effective compensatory measures can be delivered, should they be required.	

2.6 Applicant's Response to Natural England's comments regarding Appendix H5 [REP5-108] (7.2.2.2 HRA Annex 2B LBBG Compensation Effects on Designated Sites (Rev 0) [REP4-010]

Table 2.6.1 Applicant's Response to Natural England's advice on LBBG Site(s)

REF	DOCUMENT REVIEWED	UPDATE MADE	ISSUE RESOLVED?	APPLICANT'S RESPONSE
Table 1				
REP5-108_a1	[REP4 010] 7.2.2.2 HRA Annex 2B LBBG Compensation (Rev 0)	Natural England notes that the HRA assesses impacts on Lantern Marshes as the preferred option. Although we note that, whilst they have not been assessed, the Gedgrave Marshes and Outer Trial Bank options remain under consideration. The assessment of potential impacts at Lantern Marshes is based on a site visit and desk-based information/3rd party data. We advise that conclusions of no Likely Significant Effect (LSE) or Adverse Effect on Integrity (AEoI) have been based on assumptions and, therefore, we still do not consider them to be robust or evidence-based. In particular, we highlight that the proposed works will require installation of multiple culverts for ditch crossings within the site, which will require the tracking of heavy machinery through designated habitats (see additional notes in Section 1 below). However, it is also stated in Paragraph 5 that detailed design, and surveys will be undertaken post consent/pre-construction, which we welcome. We consider that these should be secured within the DCO and would suggest they may best sit within the Schedule for the compensatory measures.	Progressed	The need for mitigation and surveys has been added to the Outline LBBG Compensation Implementation and Monitoring Plan **[7.2.2.1, Rev 2]** submitted at Deadline 6 and it is secured through the dDCO **[6.1, Rev 7]** that the compensation must be delivered in accordance with the Outline LBBG CIMP.
REP5-108_a2	[REP4 010] 7.2.2.2 HRA Annex 2B LBBG Compensation (Rev 0)	The Applicant has highlighted in Paragraph 9 that Lantern Marshes previously supported a breeding colony of LBBGs; however, it is thought that the LBBG population there declined due to predation, as well as flooding and resultant changes of habitat and/or reduction in food sources. We are concerned about the potential likelihood and impact of future breaches/flooding events affecting this site. The implications of these have not been considered in the assessment. Therefore, we advise the Applicant will need to consider the risks to compensation delivery of flooding events at this preferred site option.	No	The Applicant is working with the National Trust who are responsible for conservation on Lantern Marshes and maintaining the flood defences. The Applicant has been advised by the National Trust that extensive repairs have been made to the flood defences to avoid a further breach. This was considered during the site selection process.
REP5-108_a3	[REP4-010] 7.2.2.2 HRA Annex 2B LBBG Compensation (Rev 0)	We note in Paragraph 22 that the proposed fence installation and maintenance works would take place for 3 months (10-12 weeks) outside of the LBBG breeding season to avoid impacts on breeding bird receptors. There is limited consideration of impacts on overwintering bird receptors and conclusions are based on the works being temporary and short term (3 months). The value of Lantern Marshes for SPA/Ramsar site non-breeding birds has not been established, and we highlight that it is an undisturbed area of the site and therefore may support significant numbers of waterbirds. The Applicant will need to fully consider impacts to overwintering birds and if/where necessary mitigation to reduce impacts (including seasonal restrictions). Monthly Wetland Bird Survey (WeBS) and other data sources should be sought in order to understand the importance of the site on a month-by-month basis, and also whether parts of the site are more sensitive than others to ensure the mitigation strategy is appropriate for non breeding waterbirds.	No	The need for data analysis and surveys to inform mitigation such as seasonal restrictions has been added to the Outline LBBG Compensation Implementation and Monitoring Plan **[7.2.2.1, Rev 2]** submitted at Deadline 6. The scope and timing of surveys, as well as the final design and mitigation will be discussed with the LBCSG during development of the LBBG CIMP post consent.
REP5-108_a4	[REP4-010] 7.2.2.2 HRA Annex 2B LBBG Compensation (Rev 0)	It is stated in Paragraph 36 that as a worst-case scenario the fence may need to be fully replaced after approximately 20 years. However, the life of the compensation measure would be longer than the life of the predator fencing. This would lead to a repeat of the original installation impacts, and then further impacts upon decommissioning of the compensation measure. Whilst this is considered in the HRA, in line with our advice above we are concerned that the impact conclusions are based on assumptions and and a lack of robust supporting evidence. This evidence will need to be gathered prior to construction and inform a mitigation strategy.	No	As per responses above, updates have been made to the Outline LBBG Compensation Implementation and Monitoring Plan **[7.2.2.1, Rev 2]** submitted at Deadline 6 to clarify the commitment to further surveys and data analysis post consent.
REP5-108_a5	[REP4-010] 7.2.2.2 HRA Annex 2B LBBG Compensation (Rev 0)	In Section 3.2.7, perennial vegetation of stony banks was initially screened into assessment. However, in Table 3.5 it was subsequently screened out of the assessment because the only vegetated shingle potential habitat within the project area is already used as an access track. However, we consider that vehicles using that track are likely to differ (in weight and frequency) from those employed during construction and highlight that no surveys have been undertaken to confirm that the habitat is 'low quality' and not supporting designated flora/fauna.	No	The Applicant is working with the National Trust who are responsible for conservation on Lantern Marshes, including the shingle track, and the Applicant understands that this area is not considered by the National Trust to be prime shingle habitat due to its use as a track. As discussed above, the need for further surveys has been added to the Outline LBBG Compensation Implementation and Monitoring Plan **[7.2.2.1, Rev 2]** and the scope of these surveys will be discussed with the LBCSG.

Table 2.6.2 Applicant's Response to Natural England's additional comments on LBBG Compensation Sites

REF	NE REF	SECTION	KEY CONCERN AND/OR UPDATE	NATURAL ENGLAND'S ADVICE TO RESOLVE ISSUE	APPLICANT'S RESPONSE
Table 2					
REP5-108_b1	1	2.1.2	The fence works will include scraping an area 3,590m long to a maximum 1m wide and 0.1m deep (0.36ha) of habitat that has not been site specifically surveyed.	Site specific habitat surveys will need to be carried out for the proposed fence works area and be used to update fence design and installation plans as required, including mitigation where a need is identified.	The need for mitigation and surveys has been added to the Outline LBBG Compensation Implementation and Monitoring Plan [**7.2.2.1, Rev 2**] submitted at Deadline 6 and it is secured through the dDCO [**6.1, Rev 7**] that the compensation must be delivered in accordance with the Outline LBBG CIMP. In accordance with the Outline LBBG CIMP further impact assessment will be undertaken post consent to inform a Planning Application. This will be informed by further surveys, detailed design of the compensatory measure and consultation with the LBCSG.
REP5-108_b2	2	General comment	No assessment of the value of the site to overwintering birds within the context of the SPA/Ramsar site/SSSI as a whole has been made.	The value of the site to overwintering SPA/Ramsar site/ SSSI birds will need to be assessed, and relevant assessments updated accordingly.	
REP5-108_b3	3	Para 78	It is stated in Paragraph 78 that consideration has been given to the potential for run-off from construction into the coastal lagoons. However, supporting evidence has not been included on the sensitivity of the lagoons that may be affected by the proposed works, despite quoting the Abrehart Ecology Ltd, 2022 report. This concern also applies to the vascular plant and invertebrate assemblages that may be affected by the proposed works	Supporting evidence will need to be provided on the sensitivity of coastal lagoons that may be affected by the proposed works.	
REP5-108_b4	4	Para 89	It is stated in Paragraph 89 that habitat management (e.g. sward) is expected to be undertaken by handheld strimming prior to the LBBG breeding season. However, there is no mention of vehicle access requirements to bring equipment to this area, and this will need to be considered.	Vehicle access requirements will need to be considered, including the implications for habitats, and mitigation measures identified where needed.	Paragraph 87 of the Lesser Black-backed Gull Compensation Effects on Designated Sites [**REP4-010**] includes vehicles. As discussed above, in accordance with the Outline LBBG CIMP [**7.2.2.1, Rev 2**] further impact assessment will be undertaken post consent to inform a Planning Application. This will be informed by further surveys, detailed design of the compensatory measure and consultation with the LBCSG.

2.7 Applicant's Response to Natural England's comments regarding Appendix K5 [REP5-109] Risk and Issues Log

(The Applicant has only commented here by exception to items listed within Natural England's Appendix K5. A lack of response to a particular point does not suggest the Applicant agrees with Natural England's position on that point.)

Table 2.7 Applicant's Response to Natural England's comments regarding Appendix K5 [REP5-109]

APPLICANT REF	RELEVANT PROVISION	POINT	NE REF	NE - RELEVANT AND WRITTEN REPRESENTATION	NE COMMENT CONSULTATION, ACTIONS, PROGRESS AT DEADLINE 4 (COLUMN G OF NE DOCUMENT)	NE RAG AT D4	NE COMMENT CONSULTATION, ACTIONS, PROGRESS AT DEADLINE 5 (COLUMN I OF NE DOCUMENT)	NE RAG AT D5	APPLICANT RESPONSE AT D6
(A) DCO									
REP5-109_a1		30	A31	Natural England has requested the DCO include a condition or requirement to ensure that the project does not exceed the operational lifetime considered within the Environmental Statement.	(Column I:) New issue raised within Natural England Deadline 4 cover letter.		(Column K:) No Change.		The Applicant previously responded to this point, and maintains its position, please see response 'REP4-067_a24' in Applicant's Response to Natural England's Deadline 4 submissions **[REP5-055]**.
REP5-109_a2		31	A32	Natural England requests that all references to Natural England within the DCO is amended to relevant SNCB.			(Column K:) New issue raised in response to ExA 2nd Written Questions question 9.1.3. See also A6 above.		The Applicant has updated the dDCO **[6.1, Rev 7]** throughout to change references from 'Natural England' to 'SNCB' where relevant.
(B) Marine Processes									

APPLICANT REF	RELEVANT PROVISION	POINT	NE REF	NE - RELEVANT AND WRITTEN REPRESENTATION	NE COMMENT CONSULTATION, ACTIONS, PROGRESS AT DEADLINE 4 (COLUMN G OF NE DOCUMENT)	NE RAG AT D4	NE COMMENT CONSULTATION, ACTIONS, PROGRESS AT DEADLINE 5 (COLUMN I OF NE DOCUMENT)	NE RAG AT D5	APPLICANT RESPONSE AT D6
REP5-109_b1		4	B4, B16, B26	"(a) Further detail on bedform mobility, morphology, stability and longevity to support the predictions of sandwave recovery is required. Anticipated location(s) of sandwave levelling should inform this. (b)Pre- and post-construction surveys should be secured in the Development Consent Order (DCO) and/or In-Principle Monitoring Plan (IPMP) to demonstrate sandwave recovery (as predicted) and ensure remedial measures will be undertaken if impacts are found to be greater than predicted."	Progressed. The Applicant has provided further information in [REP3-045] on the locations anticipated sandwave levelling areas, across the offshore export cable corridor and the array. Consideration has been given to bedform movement direction, but this has been inferred from a single dataset. Therefore, if the Applicant can agree to carry out further bedform migration analysis using high-resolution, time-lapse bathymetry collected pre- and post-construction (i.e. captured in the IPMP) then we will consider this issue resolved. Please see Appendix B4 at Deadline 4		No change since Deadline 4. If the Applicant can agree to carry out further bedform migration analysis using high-resolution, time-lapse bathymetry collected pre- and post-construction (i.e. captured in the IPMP) then we would consider this issue resolved.		The Applicant agrees that additional surveys of the sand wave fields would enable quantification of the migration rates for each of them and would also add to the evidence base regarding the recovery of the sand waves after levelling. Pre- and post-construction monitoring of specific parts (to be agreed with the MMO) of the offshore cable corridor and array area containing sand waves will be completed and outlined in an updated version of the IPMP **[7.10, Rev 1]** is provided at Deadline 6.
REP5-109_b2		5	B5, B28	"Further information on the anticipated location and extent of cable protection near MLS SAC is required to demonstrate that adverse impacts to the SAC due to disruption of sediment transport pathways operating around the northern boundary and seabed morphology can be excluded. The assessment should consider total amounts of cable protection proposed across the different project phases. Please also refer to B13."	No change. Further evidence is needed to demonstrate that cable protection near the SAC will not modify sediment transport pathways/processes operating on/near the SAC and in turn lead to morphological change.		Progressed. The hydrodynamic modelling carried out by the Applicant includes an indicative cable protection layout, However, it is not stated whether this is the WCS cable protection requirement for both offshore and nearshore areas. If this can be provided/confirmed then we would consider this issue resolved. See also our comments in Appendix B5.		The Applicant now commits to there being no cable protection within -5mCD which is the closure depth in this area and therefore ensuring there will be negligible impact on wave regime and nearshore sediment transport. Beyond this depth, cable protection could be deployed anywhere along the offshore cable corridor, up to the maximum of 10% of the export cable length. Modelling has been undertaken of the more likely areas where cable protection may be required and the effects would be similar, if it were placed elsewhere along the offshore cable corridor.
REP5-109_b3		8	B12, B29	The WCS for foundation installation requiring drilling is 10% of 34 Wind Turbine Generators (WTGs) and one Offshore Substation Platform (OSP)/Offshore Converter Platform (OCP). The rationale for this WCS is unclear. The anticipated location where drilling may be required for foundation installation has not been provided. It is also stated that aggregated mud clasts within drill spoil mounds would mostly remain static. Conversely, it is also stated that over time the mound would gradually winnow away and lower through erosion. Further clarity on WCS for persistence of drill arisings and their location is required, before we can advise on the scale and significance of changes to marine process and potential impacts to sensitive receptor from the presence of the arisings.	No Change. No new information has been provided that changes the advice provided at Deadline 3.		Progressed. Indicative locations for drilling have not been provided. However, the Applicant has carried out sediment dispersion modelling [REP4-040] which includes predicted changes in seabed level due to foundation drilling and seabed preparation in the array area. The Applicant has confirmed that sediment deposition generated by drilling for both small and large WTGs is predicted to occur within the array area near the structures and would be less than 0.5cm. We would advise carrying out post-construction surveying to confirm that any drill spoil mound parameters are as predicted.		In accordance with the guiding principles of the IPMP **[7.10, Rev 2]**, monitoring should be targeted to address significant evidence gaps or uncertainty. Given the small scale effect of potential drilling, the Applicant does not consider that it is proportionate to monitor the effects of drill arisings. This is consistent with the approach taken for other consented offshore wind farms, including Sheringham Shoal and Dudgeon Extension Projects and Rampion 2.
REP5-109_b4		10	B14, B28	It is stated that currently “the exact number of crossings are still being confirmed.” Therefore, the WCS for the number of cable protection needed at crossings is unclear. A map should be provided identifying the location of cable crossings offshore, including designated sites and sensitive receptors. And assessments updated accordingly.	No Change. No new information has been provided that changes the advice provided at Deadline 3.		No change. The Applicant has stated [REP4-039] that the precise location of cable crossings in the ECC for future projects (specifically North Falls, Sealink and Neuconnect) is not known currently. Indicative locations for these crossings have been provided in [REP1-059] Details of other cable crossings, for example, Five Estuaries are not included.		The potential crossing location for Five Estuaries (VE) is provided in the Export Cable Crossing Zone Plan **[REP1-059]**.
REP5-109_b5		15	B21	Wave measurements have not been gathered at the North Falls site for model validation. The data used for calibrating the	No Change. No new information has been provided that changes the advice provided at Deadline 3.		No change.		The Applicant reiterates that the data used for the wave assessment **[APP-093]** is adequate and applicable to the study area.

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				wave model were collected at West Gabbard 2 and South Knock wave buoys. The model was calibrated against a range of past significant storm events, but some were underpredicted. Therefore, the modelled data may not accurately describe the baseline wave climate. Further evidence should be provided to demonstrate that the wave model data are representative of the present-day conditions at the project site.					It is common to calibrate regional wave models using data collected 10's of km away. The model was calibrated using the largest storm events between 2016 and 2021 (the latest data available at the time that the wave assessment was produced). Overall, the Applicant considers there is a good agreement between the modelled and measured wave heights of each event, although in some cases the model over or under predicts wave height. The Applicant would like to highlight that the focus of this modelling is to investigate potential change due to the presence of the wind farm, for which the model is reliable.
REP5-109_b6		16	B22	Currently there is a lack of information regarding seabed mobility and seabed erosion/deposition potential to allow us to agree with the assessment conclusions in terms of impacts to bedload transport and secondary scour due to the placement of cable protection in the array. The seabed mobility and seabed erosion/deposition potential need to be considered and assessed. Full consideration should be given to these impacts over the course of the Project and beyond. We also advise that every effort should be made to minimise the placement of external cable protection, particularly on Annex I sandbanks or adjacent to KKE MCZ where it may interrupt sediment transport pathways and affect seabed morphology. Please also refer to our advice in NE Ref B5 and B13 relating to impacts from cable protection	Partially progressed. The Applicant has given further consideration to bedform movement direction in [REP3-045]. However, there is still a need for more accurate and confident assessment of observed bedform migration directions and rates, mobile bed thickness and the potential for erosion/deposition potential. This is particularly important for areas of sandbank and adjacent to KKE MCZ.		No change. The Applicant has considered changes to tidal currents and bed shear stresses due to the presence of windfarm infrastructure (WTGs/OSPs/OCPs) in the latest hydrodynamic modelling [REP4-040]. However, the contribution of array cable protection measures were not included in the modelling. This should be considered.		The additional effect of array cable protection on the changes in flows would be indiscernible compared to the magnitude of change in flows induced by the foundations.
REP5-109_b7		18	B24	"The potential for temporary physical disturbance associated with Operations and Maintenance (O&M) vessels has only been considered for Annex I sandbanks in the array area. Furthermore, it is stated that all other receptors are beyond the Zone of Influence (ZoI) for this impact. Does this exclude potential impacts to the nearshore. Further clarification is needed that indentations to the seabed due to O&M vessels (and Unexploded Ordnance (UXO)clearance) are not anticipated in the nearshore zone.	No Change. No new information has been provided that changes the advice provided at Deadline 3.		No change. No new information has been provided at Deadline 4.		The assessment of potential impacts due to O&M vessels considers the relevant receptors both in the array area and along the offshore cable corridor, including the nearshore. In respect of the impact of indentations on the seabed this has been assessed as either resulting in No change or, at most, Negligible significance of effect.
REP5-109_b8		19	B25	"It is suggested that the magnitude of decommissioning impacts would be comparable to or less than those identified for construction. However, the following should be used to inform an outline decommissioning plan to inform the consent: • Potential lasting impacts to the marine physical environment and processes of any assets left in situ; and	No Change. No new information has been provided that changes the advice provided at Deadline 3.		No change. No new information has been provided at Deadline 4.		The Applicant considers it is not necessary to provide an outline decommissioning plan pre-consent. The EIA appropriately considered and assessed decommissioning activities so far as it is practicable and possible to do so at this point in time. Each chapter of the ES considered and assessed the potential for likely significant effects during decommissioning based on assumptions as to the known requirements and methodologies at this time.

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				• Emerging alternatives to decommissioning such as repowering and life extension. Natural England advises that the Applicant should consider emerging alternatives to decommissioning and secure any associated monitoring in the outline decommissioning plan."					The decommissioning activities will be appropriately addressed through the development of a Decommissioning Programme post consent, to be submitted prior to commencement of offshore works, as required by DCO Schedule 1, Paragraph 25 and therefore mitigation will be agreed at that time. The Applicant notes this is the approach taken in the recently made Sheringham Shoal and Dudgeon Extension and Rampion 2 DCOs.
REP5-109_b9		22	B33	Natural England advises that the Applicant should provide further evidence to support the predictions of negligible sediment loss through scour during the lifetime of the Project.	No Change. No new information has been provided that changes the advice provided at Deadline 3.		No change. No new information has been provided at Deadline 4.		Scour protection will be used where required to minimise the impacts of scour. Secondary scour effects are included in the assessment in Sections 8.6.3.4.2 and 8.6.3.5 of ES Chapter 8 **[APP-022]**. Pre- and post-construction monitoring of scour around a selection of turbine foundations (to be agreed with MMO) will be completed. This is included in the updated version of the IPMP **[7.10, Rev 1]** submitted at Deadline 6.
(C) Benthic Ecology									
REP5-109_c	The Applicant has responded to Natural England's benthic section of the risk and issues log at Deadline 5 in the Applicant's Response to Natural England's Deadline 4 submissions [REP5-055]. Further responses regarding benthic ecology are also provided in Section 2.3 of this document, in response to Natural England's Benthic Ecology Advice on the Applicant's Deadline 4 Documents [REP5-105].								
(D) Fish and Shellfish Ecology									
REP5-109_d1		1	D1	We advise that Natural England's comments are read in conjunction with the advice of Cefas, however it should be noted that Natural England's remit differs to that of Cefas with regard to fish and shellfish ecology.	No change, pending review of Documents submitted at Deadlines 1 and 2.				Noted.
REP5-109_d2		2	D2	We note that there is overlap with spawning grounds and nursery grounds for herring (Figure 11.2), and (Figure 11.4). We note that Table 11.14 incorrectly suggests "Spawning grounds of Downs Herring located in areas adjacent to the southern array area," as opposed to directly overlapping with it. We highlight that whilst these species are not designated any designated sites in proximity of the works, herring are a Section 41 species under the NERC Act 2006, and both provide prey resources for other receptors such as RTD designated within the Outer Thames Estuary SPA.	No Change, the Sandeel and Herring Habitat Heatmapping Clarification note [REP3-047] does not address the overlap received.		No change.		The Sandeel and Herring Habitat Heatmapping Clarification note **[REP3 -047]**, was aimed at providing updated heatmaps based on the methodologies suggested by the MMO and concluded that the use of the updated heatmaps would not have any implications with regards to the conclusions of the impact assessment presented in ES Chapter 11 Fish and Shellfish Ecology **[APP-025]** with regard to sandeel and herring. As previously stated, due consideration was given to the location of known herring spawning grounds relative to the location of the Project throughout ES Chapter 11 Fish and Shellfish Ecology [**APP-025**] with this accounted for in the impact assessment. In addition, Table 11.2 of ES Chapter 11 Fish and Shellfish Ecology [**APP-025**], includes specific reference to the Downs herring as one of the species with spawning grounds that overlap with the offshore project area. As shown in Figure 11.2, whilst there is overlap between the Downs herring defined spawning grounds (Coull et al 1998) and the array area, this is limited to the eastern section of the array area boundary edge, with the majority of the

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									spawning grounds located immediately west of the array area and not within it. Additionally, the Applicant notes that specific mitigation has already been proposed to minimise impacts on herring via a piling restriction during the main spawning period of the Downs stock.
REP5-109_d3		3	D3	Natural England defers to the view of Cefas in determining the sensitivity of the species identified. It is important that the ecology of each individual species is taken into account when determining potential impacts upon them. Increased Suspended Sediment Concentration (SSC) and subsequent deposition of sediment on gravid herring and their eggs and larvae should be considered in relation to the Downs Herring spawning area. In relation to temporary increase in SSC and deposition please note our comments on the marine processes chapter. Where there is overlap with the Downs spawning area, we do not agree that habitat loss will be temporary, In relation to long-term habitat loss, we advise this is permanent rather than long-term. We advise the Applicant seeks the advice of Cefas on the sensitivity of particular species, and the appropriateness of the sensitivity assigned in the assessment. When agreement is reached on the marine processes chapter, and the further characterisation work suggested by Cefas has been carried out, Natural England would welcome the opportunity to comment on an updated assessment in relation the herring and sand eel. We advise that the further baseline work as advised by Cefas is required to further understand the potential direct loss of spawning habitat, which where infrastructure is placed is likely to be permanent.	No Change, not addressed in updated documents. Still pending agreement with Cefas.		No change.		As previously noted, due consideration has been given to feedback provided by the MMO and Cefas with regards to the PEIR and via detailed discussions during Seabed Expert Topic Group meetings, including aspects related to the sensitivity of fish and shellfish receptors (see Table 11-1 ES Chapter 11 Fish and Shellfish Ecology [**APP-025**]). Discussions with the MMO and Cefas (via the MMO) on fish and shellfish ecology, as well as other topics, are ongoing via the SoCG.
(E) Marine Mammals									
REP5-109_e1		5	E6, E34	We note that the multiple piling scenario includes simultaneous piling at East and South locations as the worst-case scenario (WCS). Natural England has concerns that the WCS no longer includes the North and South locations, as described in pre-application documentation, resulting in a reduction in the estimated number of impacted animals. Natural England highlights that the multiple piling scenario should include the combination of locations that produces the greatest estimates of impacted animals in order to constitute an accurate WCS. Natural England advises that the Applicant should re-calculate the simultaneous piling	Natural England notes that at Deadline 1, the Applicant submitted [REP1-057] 9.14 Further information regarding marine mammals. We will provide an update to the Risk and Issues Log at Deadline 4 following our review of this document.		No change.		Since the PEIR, there have been changes to the array area, as a result the “northern array area” is no longer being considered and the north location Natural England refers to from the pre-application stage is no longer relevant. Therefore, as described in the ES Appendix 12.3 Underwater Noise Modelling Report [**APP-098**] there are now different modelled locations for the new array area. The locations include points labelled East, South and West, however it is important to note that the West point is now the most northern point of the array area. The modelling indicates that due to deeper water depths at the East and South locations, these are the worst-case locations and have the largest impact ranges as shown in the ES Appendix 12.3 Underwater Noise Modelling Report [**APP-098**]. Therefore, assessments are based on these worst-

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				assessment based on the two locations that produce the WCS.					case locations, i.e. the locations with the maximum potential impact range.
(F) Offshore Ornithology									
REP5-109_f1		1	F1, F23, F35, F36 [RR-243])	Natural England cannot rule out an adverse effect on integrity (AEOI) for red-throated diver (RTD) at the Outer Thames Estuary Special Protection Area (OTE SPA) from the project alone. We advise that the project will contravene the SACO attribute to "Reduce the frequency, duration and / or intensity of disturbance affecting roosting, foraging, feeding, moulting and/or loafing birds so that they are not significantly disturbed" and to "maintain the extent, distribution and availability of suitable habitat (either within or outside the site boundary) which supports the feature for all necessary stages of the non-breeding/wintering period (moulting, roosting, loafing, feeding)." To more fully understand the nature and scale of impact we advise that the proportion of the SPA that could be 'most' impacted by North Falls OWF, i.e., the area within the 12km buffer to which the array is closer than any other OWF, should also be presented. Natural England welcome the partial mitigation of impact by updates to the proposed location of the array area since PEIR submission. We consider that the Applicant should demonstrate to the Examination that no further reduction in impact by increasing the distance between the SPA and the array is possible whilst retaining a viable project. If any further mitigation of the impact is not possible, we advise that every effort must now be made to ensure effective compensatory measures can be delivered.	No change		No change		The area of overlap between the 12km buffer of North Falls array area and the Outer Thames Estuary (OTE) SPA where North Falls is the closest OWF is 33.91 km2, 0.9% of the SPA. The Applicant's position remains that an adverse effect on the integrity of red-throated diver within the OTE SPA can be ruled out for the Project alone and in-combination during construction/ decommissioning and operation, in the context of existing sources of disturbance and displacement to this species within the SPA within the zone of influence (12km buffer) of North Falls, as discussed in the RIAA Part 4 Offshore Ornithology [APP-178], Sections 4.4.1.4.3.1.1, 4.4.1.4.3.1.2, 4.4.1.4.3.2.1, 4.4.1.4.3.2.2, 4.4.1.4.4.1 and 4.4.1.4.4.2]. No part of the 12km buffer of North Falls overlaps with an area of the SPA which is not already subject to a potential source of displacement for RTDs from OWFs and/or shipping. See also Applicant's Response to Relevant Representations from Natural England [**REP1-044**], NE-226, NE-248, NE-260, NE-26, and response to Natural England's Deadline 3 submission [**REP4-028**], REP3_061_b.
REP5-109_f2		4	F4, F16 [RR-243]	Natural England strongly recommends that construction and decommissioning of the export cable (EC) should not take place within the OTE SPA +2km buffer during the sensitive over wintering period for RTDs of November to March inclusive. This mitigation should be appropriately secured. All vessels should follow Natural England best practice guidelines on vessel movements during all other phases of the development for both the EC and array.	No change		No change		As per responses to Natural England's Relevant Representations ([**REP1-044**], NE-229, NE-241), the Applicant maintains the position that a seasonal restriction on the installation of the export cable within the OTE SPA and a 2km buffer during construction, as requested by Natural England, is not merited. This is based on the conclusion of the RIAA Part 4 Offshore Ornithology Birds Directive Annex 1 and Migratory Species [**APP-178**], section 4.4.1.4.3.2, that there would be no AEoI from construction works in the offshore cable corridor.
REP5-109_f3		6	F6 [RR-243]	It is not clear if cable laying vessels will also have guard vessels in attendance. If guard vessels are present, the area of potential	No change		In REP1-044 the Applicant states that other vessels will be closely associated with cable laying vessels, and thus, a 2km buffer from the		The Applicant maintains the position stated in the response to Natural England's relevant representations [**REP1-044**], NE-231. The

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				displacement impact around cable laying will be greater and therefore the assessment may need updating. If guard vessels are required, please detail how many, operating distance from the cable laying vessels, etc.			cable lay vessel is appropriate. Natural England question if the assessment can be appropriately precautionary with no consideration of the actual associated vessel activity. Inevitably, due to maintaining safe operating distances, guard vessels will increase the area subject to vessel displacement impacts during cable laying. It is not clear if the application of a 2km buffer is sufficient.		precautionary assumption is made that all RTDs will be displaced within 2km of cable laying vessels, which exceeds the available information on recorded displacement distances from ships (maximum 1,374 ± (SD) 416m, see ES Chapter 13 [**APP-027**], paras 125 and 126). Given the close association of cable laying and associated vessels, it is considered that the use of a 2km buffer for displacement is sufficient and the assessment does not require updating.
REP5-109_f4		12	F22 [RR-243]	[in relation to displacement of RTD within the OTE SPA] Natural England agree that some consideration of the diminishing displacement effect with distance from an array is appropriate. However, we do not believe the [Effective Displacement Area] EDA is an appropriate way to quantify this. We maintain that with respect to the availability of suitable habitat, the entire area of effect must be considered as impacted to some extent. Natural England do not agree that using the total area to assess potential displacement impacts in any way overstates the scale of the impact.	No change		No change		The view of Natural England is noted. In relation to displacement of RTD within the OTE SPA, the Applicant has presented both the EDA and the total potential displacement area (the overlap between the 12km buffer of North Falls array area and the OTE SPA), and maintains the view as set out in the RIAA [**APP-187**] that the total displacement area gives a potentially misleading overestimate of the scale of the predicted effect, and the EDA provides context to this. It is also noted that the EDA is one of the metrics referenced in the appropriate assessment for RTD and the OTE SPA for the consented East Anglia ONE North (BEIS 2022). See also the response to Natural England's relevant representations [**REP1-044**], NE-247.
REP5-109_f5		13	F23 [RR-243]	Natural England agree that two major shipping lanes run through this area and will impact RTD distribution. However, RTDs are still present, and indeed were present at sufficient density for this area of the SPA to be classified for their protection. We consider it highly likely that that these birds would be subject to further displacement by a turbine array. Furthermore, this displacement may be permanent whereas, at present, there may be temporally limited displacement impacts with resettlement of habitat between vessel movements. Natural England confirm that we consider the 'novel' area that the project will impact through disturbance and displacement to be 54.5 km2, constituting 1.4% of the SPA area. We consider this has the potential to result in an AEOI for the project alone.	No change		No change		The Applicant's position remains that an adverse effect on the integrity of red-throated diver within the OTE SPA can be ruled out during construction/decommissioning and operation, for the Project alone and in-combination, in the context of existing sources of disturbance and displacement to this species within the SPA within the zone of influence (12km buffer) of North Falls, as discussed in the RIAA Part 4 Offshore Ornithology [APP-178], Sections 4.4.1.4.3.1.1, 4.4.1.4.3.1.2, 4.4.1.4.3.2.1, 4.4.1.4.3.2.2, 4.4.1.4.4.1 and 4.4.1.4.4.2]. No part of the 12km buffer of North Falls overlaps with an area of the SPA which is not already subject to a potential source of displacement for RTDs from OWFs and/or shipping. See also Applicant's Response to Relevant Representations from Natural England [**REP1-044**], NE-226, NE-248, NE-260, NE-26, and response to Natural England's Deadline 3 submission [**REP4-028**], REP3_061_b.
REP5-109_f6		19	F30 [RR-243]	Natural England continue to advise that the North Falls and Five Estuaries projects should both be considering the same LBBG data when conducting cumulative and in-combination assessments. We advise that the Applicant should coordinate with VE and update the assessments. This advice applies to all species which are assessed in combination.	No change		No change		The Applicant updated the cumulative assessment for offshore ornithology at Deadline 3 [**REP3-040**] and is in the process of updating the in-combination assessments for key SPAs and qualifying species presented in the RIAA [**APP-178**] which will be provided by Deadline 7. As stated in responses to Natural England Relevant Representations ([**REP1-044**], NE-255), for OWFs considered in the cumulative and in combination assessments, including Five Estuaries, the latest publicly available data have been used (e.g. as provided in updates to assessments during a DCO examination). Thus, North Falls and Five Estuaries have used the same data. In some cases, an Applicant and Natural England approach is provided for a given OWF, and

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									where appropriate both values are considered in cumulative and in combination assessments with alternative totals. For collision risk, North Falls has also applied adjustments to values based on the latest SNCB (2024) advised avoidance rates.
REP5-109_f7		23	F34 [RR-243]	Natural England request that the area of North Falls OWF's impact that overlaps with 12km buffers of existing OWFs is further investigated, and the areas that will be closer to North Falls (and thus likely to be primarily impacted by North Falls once operational) are also calculated and presented. This should facilitate comparative review of three spatial areas of impact, all of which we consider to be important. 1. Total area impacted. 2. Novel area impacted. 3. Area where impacts may be exacerbated	No change		No change		With respect to the OTE SPA, the total area impacted and novel area impacted are as provided in the RIAA [**APP-178**], paragraphs 105 and 106. As per the response to REP5-109_f1 above, the area of overlap between the 12km buffer of North Falls array area and the Outer Thames Estuary (OTE) SPA where North Falls is the closest OWF to the is 33.91 km2, 0.9% of the SPA.
REP5-109_f8		25	F37 [RR-243]	The Applicant outlines the current situation regarding the area of the OTE SPA currently subject to in-combination displacement impacts on RTD arising from OWFs. It is stated that 49% of the SPA is within 12km of an OWF and thus impacted. The addition of North Falls will result in displacement impacts across a further 2% of the SPA (i.e., an additional 54.38km2). Natural England consider this to be a meaningful contribution. We note a minor discrepancy between the project alone and in-combination assessment. The former refers to an area of 54.5km2 being impacted, this being defined as 1.4% of the SPA area. The minor discrepancy in area impacted and the percentage of the OTE SPA that are represents should be clarified and the documents updated, as necessary. Natural England note that the project has reduced the scale of the proposed OWF and increased the distance from the array area to the OTE SPA, which we welcome. However, given the scale of the impact to RTD, if no other mitigation measures are available, then efforts should be focussed on ensuring that appropriate compensatory measures can be delivered that make a meaningful contribution to the existing AEOI. Thus, we welcome the submitted (without prejudice) report on potential compensation measures for RTD.	No change.		No change. We note the clarification [REP1-044] regarding the identified discrepancy and agree that the project will impact 1.4% of the SPA (excluding areas of overlap with the 12km buffers of other OWFs).		As acknowledged by Natural England, the minor discrepancy in the area of overlap between the OTE SPA and 12km buffer of North Falls (excluding areas of overlap with the 12km buffers of other OWFs) has been clarified. As stated above for REP5-109_f1, The Applicant's position remains that an adverse effect on the integrity of red-throated diver within the OTE SPA can be ruled out for the Project alone and in-combination during construction/decommissioning and operation, in the context of existing sources of disturbance and displacement to this species within the SPA within the zone of influence (12km buffer) of North Falls. Acknowledging the view of Natural England, without prejudice compensation proposals for RTD at the OTE SPA have been developed through the EPP and continue to be progressed. Updates are provided at Deadline 6 for the Compensation Document (**7.2.3, Rev 2**) and the Outline Compensation Implementation and Monitoring Plan (**7.2.3.1, Rev 2**).
(G) Offshore Ornithology Compensation									
REP5-109_g1		22	G37, G43, G46	Nesting rafts and habitat management are technically feasible however, site selection is likely a critical factor to the success of this	No change		No change		Surveys of sites on Shetland and mainland Scotland are being undertaken from May to September 2025 which will inform the detailed site selection and

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			[RR-243]	measure. Therefore, we are concerned that no sites have been shortlisted or secured and the Applicant should seek to secure sites as soon as possible. We are not convinced that the Applicant will be able to demonstrate sufficient control over rafts deployed in Finland in the long term and would consequently recommend that should this measure at this location be progressed, it is done so on a trial basis alongside more extensive deployment in Scotland. We are not persuaded that the provision of 20 nesting rafts would result in significant gains for red-throated diver and therefore represent a meaningful contribution to support the coherence of the UK NSN. See also G44 below. [Deadline 3] No change. Our concerns relating to the lack of properly short listed or secured sites remain and we note the Applicants intention that further progress will only be actioned if they are obligated to deliver the measure due to a DCO condition. The proposed scale of the measure remains unchanged, as does Natural England's judgement that it does not reflect the significance of the impact to be compensated. The delivery of the measure in Finland has been ruled out, which we consider to be sensible.				commercial arrangements post consent. A progress report on surveys is included in the Red Throated Diver Compensation Document, **7.2.3, Rev 2**, submitted at Deadline 6. As RTD compensation is provided on a without-prejudice basis, it is not considered reasonable to expect landowners to enter into agreements for land which may not be required. The Red Throated Diver Compensation Document, **7.2.3, Rev 2**, and the Outline Red Throated Diver CIMP, **7.2.3.1, Rev 2**, submitted at Deadline 6, include further information and clarification on the compensation scale. The Applicant's position remains that deploying compensation measures (rafts and/or habitat management) at 20 lochs is an appropriate scale.
REP5-109_g2		23	G40 [RR-243]	Natural England agree with the Applicant that there is no robust way to scale the level of compensation to be delivered due to the mismatch between the expected benefits (increased productivity) and the impact (habitat loss/degradation). Nevertheless, we do consider that the scale of impact is significant. Therefore, in very broad terms, we would expect that significant benefits should be expected to arise from any delivery of a compensation measure (or package of measures). We recommend a more ambitious approach to the nest raft measure, as part of a commitment to a clearly defined package of measures. [Deadline 3] No change. We continue to advise that a more ambitious approach to the nest raft measure is required in order to confer significant benefits to RTDs and the coherence of the NSN. We do not consider the addition of 6 juvenile birds per year, of which just 2 might be expected to survive and subsequently recruit into the breeding population to be equivalent to the predicted impacts. We note the Applicants argument that juvenile birds will likely occupy marine SPAs classified for non-breeding RTD. We	No change		No change		The Red Throated Diver Compensation Document, **7.2.3, Rev 2**, and the Outline Red Throated Diver CIMP, **7.2.3.1, Rev 2**, submitted at Deadline 6, include further information on compensation scale. The Applicant's position remains that deploying compensation measures (rafts and/or habitat management) at 20 lochs is appropriate. Calculations under different scenarios of compensation management and location of lochs indicate that between 6-14 additional fledglings could be produced per year. Juveniles in their first non-breeding season could be expected to use marine SPAs designated for non-breeding RTDs. Consequently, a contribution to the National Site Network could be deemed to have been made in the first non-breeding season after compensation lochs have been successfully used by RTDs. In relation to the contribution to the NSN, the Applicant welcomes the Deadline 5 response from Natural England to ExQ2 [**REP5-110**], 'Natural England has advised that "The success of the measure, as proposed by the Applicant, relates to the increased productivity of breeding RTD on rafts, or in habitat subject to other management actions. Thus, a benefit is (potentially) accruing as soon as a pair is breeding on a raft or at improved habitat. There is no mortality debt concern due to the nature of the

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				do not consider the temporary presence of these birds within SPAs as being of equivalent value to increased numbers of breeding birds within the population, with respect to ensuring long term resilience and NSN coherence.					impact. Therefore, and in the absence of any evidence regarding how quickly rafts or improved habitat will be occupied and/or result in improved productivity, Natural England consider implementation of the measure one breeding season in advance of construction commencing to be adequate'
REP5-109_g3		24	G41, G43, G46 [RR-243]	Natural England consider the proposal to contribute to the identification of a strategic sanctuary area through data collection requires considerable further work from the Applicant to more clearly define the aims and objectives. As a clear scheme of work is not yet evident, we cannot comment on the scale/extent of this measure. We note that discussions with SPR are in the early stages and confirm our support for such a collaboration, noting that the contribution made by North Falls needs to be clearly distinct from the DCO requirements of SPR. However, we also highlight that compensatory measures should be demonstrated as being securable and deliverable within the time frames of Examination. As the provision of nesting rafts alongside habitat management does not directly address the impact of the project, data collection to inform the identification of sanctuary areas does not represent a compensatory measure itself, and there are uncertainties about the level of benefit that might accrue at the UK NSN, Natural England advise that these measures should be proposed as a package. Consideration should be given not just to the spatial elements of the relevant datasets but also the temporal elements, to future-proof any proposed sanctuary areas for the lifetime of the Project with respect to trends in other anthropogenic activities. [Deadline 3] We note that no progress has been made with respect to any collaborative effort as regards strategic initiatives and as such, a package of measures is not clearly defined. Noting that further engagement with SPR is planned, at present we consider the proposed compensation package appears to rely solely on the provision of nesting rafts. This exacerbates our concerns about the scale of that measure being insufficient.	No change		No change		As noted in the Red Throated Diver Compensation Document (**7.2.3, Rev 2**), The Applicant continues to engage with ScottishPower Renewables (SPR) over the potential for collaboration to support the development of a potential sanctuary area within the OTE SPA, and expects to be invited to contribute to a working group being established by SPR. The Applicant has also provided further supporting information for the proposed scale of compensation in relation to enhancing productivity at breeding lochs in Scotland (see responses to REP5-109_g1 – g3 above)
(H) Onshore Ecology and Ornithology									
REP5-109_h1		6	H8	Further reductions to the Maximum Design Scenario (MDS) should be considered to minimise environmental impacts including	No change, pending review of documents submitted at Deadline 3.		Progressed. Natural England notes in REP1-044 that the Applicant has specified the cable corridor is joint with Five Estuaries providing		The need for the width of the onshore cable route is set out in detail in Section 5.7.2.3.1 and Plate 5.20 of ES Chapter 5 Project Description **[APP-019]**. As

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				(but not exclusively) reducing the working corridor and cable crossings.			MDS for cable corridor at crossing points and along the remainder of the corridor. However, even as a joint cable corridor we note that this is still much greater than that proposed for East Anglia 1N and 2.		previously advised, the onshore cable route width has been optimised as far as practicable to minimise the land take required. This has included cable arrangement, minimising haul road width, considering onshore cable route width during placement of top and sub-soil storage bunds, and trench design, as well as co-ordinating and collaborating with Five Estuaries to seek to reduce overall landtake across the two projects. It is also the case that the Applicant will seek during detailed design to reduce the working width further where practicable.
REP5-109_h2		18	H20	More can be done to avoid and reduce impacts to Holland Haven Marshes SSSI by conditioning the number of Horizontal Directional Drilling (HDD) walk over surveys and surveyors. Mitigation measures should be fully secured in the Schedule of Mitigation and named plans such as the Outline HDD method statement.	No change.		No change pending review of the updated Outline HDD Method Statement and Contingency Plan, which Natural England understand will be submitted at Deadline 5.		The Applicant has consulted with Natural England in advance of updating the Outline Horizontal Directional Drill Method Statement and Contingency Plan (Rev 2) **[REP5-026]**, and has agreed appropriate updates to resolve Natural England's residual concerns. The Applicant awaits any further feedback from Natural England at Deadline 6.
REP5-109_h3		19	H21, H25	There have been incidents of bentonite breakout from HDD operations on other projects, which have resulted in long term habitat contamination issues on SSSIs and SPAs. An outline HDD and/or bentonite management plan is required.	Progressed. However, no further information or new documents have been provided, so no change to our advice since Deadline 3.		No change pending review of the updated Outline HDD Method Statement and Contingency Plan, which Natural England understand will be submitted at Deadline 5.		See response to H20, above.
REP5-109_h4		26	H29	Natural England's default position is for no transits routes to occur across the SSSI. Natural England advises that this commitment should be secured in the Mitigation Schedule. But should it be found not to be possible an management plan will be required.	No change. However, no further information or new documents have been provided, so no change to our advice since Deadline 3.		No change pending review of the updated Outline HDD Method Statement and Contingency Plan, which Natural England understand will be submitted at Deadline 5.		See response to H20, above.
REP5-109_h5		30	H31	More information should be provided to address concerns over the suitability of temporary hedgerows and their use by dormice as well as removing them when they may be a place of shelter for dormice.	No change, pending review of documents submitted at Deadline 3.		Progressed. Natural England has concerns over removing temporary hedgerows daily during the dormouse active season because dormouse could be using these features for shelter and the activity could become licensable. Therefore, more information should be provided to address concerns over the suitability of temporary hedgerows and their use by dormice as well as removing them when they may be a place of shelter for dormice.		As stated in the Applicant's previous response to issue H31 in Applicant's Response to Relevant Representations from Natural England (Rev 0) **[REP1-044]**, the temporary hedgerows are proposed purely to maintain commuting habitat connectivity and are unlikely to provide suitable nesting habitat for hazel dormice, due to the lack of cover provided. This has been reiterated in updates to paragraph 83 of the Outline Landscape and Ecological Management Strategy (Rev 4) (Clean) **[REP5-024]** stating these temporary hedges "would consist of 'dead' or containerised hedges, created using natural materials integrated into man-made materials for ease of movement. For example, this could include native climbing plant such as ivy Hedera sp. grown onto galvanised steel frames. The final proposed method for temporary hedgerows, including their materials, will be detailed post-consent within the EMP". The Hazel Dormouse Mitigation Handbook (Wells, Chanin and Gubert, 2025) supports the use of temporary/ dead hedging as described by the Project as a temporary connecting feature "in situations where active construction sites are likely to prevent dormice from dispersing across". The Applicant maintains its position that the temporary hedging provided is highly

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									unlikely to harbour resting hazel dormice, as sufficient shelter would not be provided. The ECoW will be responsible for the movement and monitoring of the temporary hedging throughout use - including monitoring the need for EPS licence acquisition in the unlikely event the temporary hedge is being used for shelter. Temporary hedges will only be moved when absolutely necessary and required for haul road access as to not disrupt the commuting route provided. Pre-construction surveys will confirm baseline conditions for hazel dormice and whether an EPS licence will be required alongside the temporary hedging. The Outline Landscape and Ecological Management Strategy **[7.14 (Rev 5)]** has been updated to clarify the ECoW responsibilities relating to the temporary hedging, and will be submitted into the Examination at Deadline 6.
(I) Seascape									
The Applicant has no further responses to make in relation to Appendix I – Seascape. A response is provided in relation to the residual unresolved points under REP5-110_y in Table 2.7 below.									
(J) Landscape VIA									
The Applicant has no further responses to make in relation to Appendix J – Landscape VIA – all matters are now labelled as 'resolved'.									

2.8 Applicant's Response to Natural England's comments regarding Appendix M5 [REP5-110] (ExQ2)

Table 2.8 Applicant's Response to Natural England's comments regarding Appendix M5 [REP5-110]

REF	EXQ2	QUESTION TO:	QUESTION	NATURAL ENGLAND'S RESPONSE	APPLICANT'S RESPONSE
9.2 Schedules 8, 9 and 10 – Deemed Marine Licences under the 2009 Act					
REP5-110_a	Q9.1.2	NE	**Requirement 2 (3) – Offshore design parameters** The NE - Risk and Issues Log [REP4-067], item A4 recommends that the applicant considers an amendment to the dDCO to include the maximum volumes of drill arisings within the requirements and both DMLs. The applicant's Response to NE's Deadline 3 submissions [REP4-028] in relation to Schedule 1 Part 3 Para 2, Schedule 8 Part 1 Condition 2, and Part 2 Condition 10 indicates that the applicant has updated the DMLs in Schedules 8, 9 and 10 of the dDCO to specify the total volume of drill arisings [REP4-004]. NE is requested to confirm that the dDCO requirement 2 Offshore design parameters submitted included in the dDCO [REP4-004] satisfactorily addresses this point. If not, please set out any drafting changes that are sought.	Natural England notes and accepts the changes made within Revision 5 of the DCO and the inclusion of maximum volumes of drill arisings within the DMLs. We consider this change sufficient to address the concerns raised in A4 of our risks and issues log.	The Applicant notes this issue is resolved.
REP5-110_b	Q9.1.3	NE	**Requirement 7 – Provision of landscaping** The NE - Risk and Issues Log [REP4-067], item A5 states that they expect the landscape requirement set out in the dDCO Schedule 1 Part 3 requirement 7 provision of landscaping to also cover survey methods, monitoring requirements and the requirement to maintain, including the potential for replanting due to plant failures. The applicant's Response to Natural England's	Natural England notes the response by the Applicant. However, we note that we have not requested any specific detail be added; our request was to amend the wording of the condition to note that the final plan should include consideration and details of survey methods, monitoring, and a requirement to maintain including potential replanting. We consider this level of	Commitments relating to survey methods, monitoring and maintenance of the landscaping works are set out in the Outline Landscape and Ecological Management Strategy (Rev 4) **[REP5-024]**, to which the final Landscaping Scheme and Ecological Management Plan must accord, under Requirements 7 and 12 of the draft DCO **[REP5-008]**. The Applicant is content that such detail is therefore adequately secured without amendments to the wording of the Requirement and this would be unnecessary duplication.

REF	EXQ2	QUESTION TO:	QUESTION	NATURAL ENGLAND'S RESPONSE	APPLICANT'S RESPONSE
			Deadline 3 submissions [REP4-028] indicates that it does not propose to make further changes to the drafting of the dDCO on this point for the reasons set out in that response. The applicant considers the level of detail sought by NE to be covered in the requirements is more appropriately addressed in the final Ecological Management Plan (EMP). Given the drafting changes that have been made to requirement 7 and an updated Outline Landscape and Ecological Management Strategy (OLEMS) at Deadline 4 [REP4 006] NE is requested to provide further justification for the inclusion of the matters referred to above on the face of requirement 7 and to specifically set out any further drafting changes to this requirement that they seek.	detail appropriate for this stage of the works. It is important to secure monitoring and maintenance of the landscaping works to ensure the mitigation is monitored and maintained for the required periods. As an additional point Natural England notes the requirement refers to consultation with Natural England. This should be consultation with the relevant Statutory Nature Conservation Body (SNCB), as should all references to Natural England within the DCO, to ensure future proofing should there be a change to the statutory nature conservation body.	The Outline Landscape and Ecological Management Strategy [**7.14 (Rev 5)**] has been updated to change references to Natural England to the 'Statutory Nature Conservation Body', and will be submitted into the Examination at Deadline 6. Requirement 7 has also been amended accordingly at Deadline 6.
REP5-110_c	Q9.1.4	NE	**Requirement 8 – Code of Construction Practice** The NE - Risk and Issues Log [REP4-067], item A6 which relates to Schedule 1 Part 3 requirement 8 Code of construction practice identifies this item as partially resolved. The applicant's Response to Natural England's Deadline 3 submissions [REP4 028] points out that requirement 8(1) sets out that the code of construction practice (CoCP) must accord with the outline code of construction practice. In addition, NE has been added as a named consultee for this requirement. NE is requested to confirm whether or not this issue has now been resolved and, if not, set out any further drafting amendments that are sought.	Natural England is grateful for the change. However, notes that it should state consultation with the SNCB as detailed in our response to 9.1.3 above. Once this amendment is made our issue with this condition will be resolved.	As noted above, the Outline Landscape and Ecological Management Strategy [**7.14 (Rev 5)**] has been updated to change references to Natural England to the 'Statutory Nature Conservation Body', and will be resubmitted into the Examination at Deadline 6. Requirement 8 has also been amended accordingly at Deadline 6.
REP5-110_d	Q9.1.6	NE	**Requirement 12 – Ecological Management Plan** The NE - Risk and Issues Log [REP4-067], item A7 which relates to Schedule 1 Part 3 requirement 12 Ecological management plan identifies this item as partially resolved. The requirement provides 12(1) for consultation with NE on the ecological management plan for the relevant stage and 12(3) requires that pre commencement works must only take place in accordance with the relevant details set out in the outline landscape and ecology management strategy as certified. For the avoidance of doubt NE is requested to indicate whether they are content with the requirement as drafted, and if not, set out any further amendments that they seek.	Natural England notes that we have several outstanding issues with the current Outline Landscape and Ecological Management Strategy Subject to the resolution of these issues we consider the current drafting appropriate. (See H26, H31, NE's Risk & Issues Log, Appendix K5)	Issue H26 in relation to great crested newt District Level Licensing (DLL) is categorised as 'purple' i.e. as a "*Note for Examiners and/or competent authority. May relate to DCO/DML*" within Appendix K5 - Natural England's Risk and Issues Log [**REP5-109**]. No further action is required from the Applicant on issue H26. The Applicant has responded to the issue H31 of Appendix K5 - Natural England's Risk and Issues Log [**REP5-109**] of within this document, in Table 2.6 above.
REP5-110_e	Q9.1.8		**Requirement 21 – Ecological Management Plan** The NE - Risk and Issues Log [REP4-067], item A9 which relates to dDCO Schedule 1 Part 3 requirement 21 Biodiversity net gain. The applicant's Response to Natural England's Deadline 3 submissions [REP4 028] points out that requirement 21 provides that the final biodiversity net gain assessment must be in accordance with the outline biodiversity net gain strategy, which is a secured document, and which contains the information sought by NE who is a consultee on the finalisation of the BNG assessment. In addition, requirement 21(2) requires that the BNG assessment must be implemented as approved. For the avoidance of doubt NE is requested to indicate whether they are content with the requirement as Requirement 21 – Ecological Management Plan The NE - Risk and Issues Log [REP4-067], item A9 which relates to dDCO Schedule 1 Part 3 requirement 21 Biodiversity net gain. The applicant's Response to Natural England's Deadline 3 submissions [REP4 028] points out that requirement 21 provides that the final biodiversity net gain assessment must be in accordance with the outline biodiversity net gain strategy, which is a secured document, and which contains the information sought by NE who is a consultee on the finalisation of the BNG assessment. In addition, requirement 21(2) requires that the BNG assessment must be implemented as approved. For the avoidance of doubt NE is requested to indicate whether they are content with the requirement as drafted, and if not, set out any further amendments that they seek.	Natural England notes that this issue is also linked to issue H36 which is still pending further clarifications, as set out in our response to Deadline 4. We are unable to confirm that this issue is fully resolved until these clarifications have been provided. (See NE's Risk & Issues Log, Appendix K5).	The Applicant has responded to issue H36 within the Applicant's Response to Natural England's Deadline 4 submissions **[REP5-055]**. The Applicant has no further comments to make in relation to this point at this stage, and is hopeful that the matter is resolved following Natural England's review of the Applicant's Response to Natural England's Deadline 4 submissions **[REP5-055]**.

REF	EXQ2	QUESTION TO:	QUESTION	NATURAL ENGLAND'S RESPONSE	APPLICANT'S RESPONSE
REP5-110_f	Q9.1.9	NE	**Requirements 25 and 26 – Offshore and Onshore decommissioning** The NE - Risk and Issues Log [REP4-067], item A30 advises that an Outline Decommissioning Plan as requested for all other OWF NSIP applications is provided at the time of consent to ensure that decommissioning is achievable and environmentally sensitive. The dDCO [REP4-004] includes requirement 25 Offshore decommissioning and requirement 26 Onshore decommissioning. NE is requested to confirm that these requirements are sufficient to respond to its concerns in relation to decommissioning. If not, please set out any drafting amendments or additional requirements that they seek.	Natural England notes that no Outline Decommissioning plan has been submitted and that our comment was on the lack of an outline plan. Therefore, our position remains unchanged.	The dDCO [**REP4-004**] includes the standard requirements 25 Offshore decommissioning and requirement 26 Onshore decommissioning. The Applicant considers it is not necessary to provide an outline decommissioning plan pre-consent. The Applicant notes this is the approach taken in the recently made Sheringham Shoal and Dudgeon Extension and Rampion 2 DCOs. Decommissioning is an evolving subject, where standard practice changes over time as lessons are learnt. In 2018, standard practice for decommissioning offshore cables was to cut and cap the cables, leaving them in situ. Now, 7 years later, the standard practice is to remove them. Therefore, any decommissioning plan produced now may not be relevant when it comes time to actually decommission the project. Therefore, the project position is, given the ever changing norms in decommissioning, to commit to something now may result in problems later on.
REP5-110_g	Q9.2.2	NE MMO	**Volume of Arisings** The dDCO (Rev 5) [REP4-004] has been amended at Condition 10 (8) of Schedule 8, Condition 11 (4) of Schedule 9 and Condition 11 (4) of Schedule 10 to include the total volumes. Are these amendments accepted?	Natural England accepts these amendments as appropriate and has updated our Risks and Issues Log accordingly (Appendix K5 to our Deadline 5 submission).	Noted.
10. Ecology/Biodiversity/BNG/HRA					
REP5-110_h	Q10.0.1	NE MMO	**Marine Mammals – Methodology/Cumulative Assessment** Appendix E4 of Natural England's Deadline 4 comments on the Information Regarding Marine Mammals [REP1-057] submitted by the applicant are noted. With regards to the interim Population Consequences of Disturbance (iPCoD) modelling and subsequent conclusions made, NE point to the applicant's over reliance on this as the main assessment tool. For clarity, what other specific assessment tools could/should be used by the applicant (if it was able to provide any other evidence) and why? Are other NSIP examples relevant? (Note: The ExA acknowledges dose assessment references made elsewhere).	Besides the iPCoD modelling, the Applicant also conducted assessments using the Effective Deterrence Range (EDR) approach and the dose response curve (DRC) approach. In some scenarios, EDR and DRC approach showed significant effects while iPCoD modelling consistently resulted in a non significant effect. The Applicant used only the iPCoD modelling assessment outcomes to conclude the non significant effects and justify no requirement for additional mitigation. Thus, Natural England maintains its original position that the significance of the disturbance impact must be presented for each of the approaches, and that the conclusions should not be based solely on the least precautionary outcomes.	The Applicant maintains that considering the overall evidence base, including the number of animals impacted at any one time and the duration of effects, the magnitude of the effect based on the population modelling is the most appropriate and proportional to determine the overall significance of effects. Other relevant consented offshore windfarms (OWFs) that have taken this approach include Awel Y Mor and Sheringham Shoal Extension Project and Dudgeon Extension Project. However, further information has been provided for the cumulative assessment using the dose response approach in Table 2.3 of the Marine Mammal Assessment Clarification submitted at Deadline 5 [**REP5-069**]. In addition, the Project's stance on mitigation options have been clarified in the updated Draft MMMP **[REP5-012]** and Outline SIP **[REP5-014],** submitted at Deadline 5. Comparison tables have been provided showing the significance of the disturbance impact presented for each approach in Marine Mammal Assessment Clarification submitted at Deadline 5 [**REP5-069**]. See Table 2.2 of [**9.81**] for the approaches and results for project-alone and Table 2.4 shows the approaches used for the cumulative assessment and the differences between the significances of effect.
REP5-110_i	Q10.0.2	NE MMO The Applicant IPs	Marine Mammals – Methodology/Cumulative Assessment/Transboundary aspects (i) Noting the comments of the Netherlands Ministry of Infrastructure and Water Management at [REP3-065] has the applicant adequately addressed cumulative effects/transboundary implications for marine mammals? As context the ExA acknowledges/highlights: ES Chapter 12 Marine Mammals [APP-026]; ES 12.1 Marine Mammal Consultation/Baseline information [APP-096 &097 &[APP-160]; ES Appendix 13.3 Supplementary Information for CEA [APP-104]; Environmental Statement Appendix 12.6 Marine Mammal Cumulative Effect Assessment Screening [APP101] ; Further Information Regarding Marine Mammals (Rev 0) [REP1 057] & [REP3-046]; the useful Cumulative Effects Assessment Summary [REP3-042] at Deadline 3; and Updated Information for Offshore Ornithology Cumulative Effects Assessment (Rev 0)	Natural England notes the comments made by the Netherlands Ministry of Infrastructure and Water Management. However, it is not in Natural England's remit to provide advice on transboundary effects. Nonetheless, it seems plausible that the issues relating to the transboundary effects would be resolved with the commitment to NAS as per our advice [see Deadline 5 Appendix E5].	The Applicant has adequately addressed cumulative effects/transboundary implications for marine mammals. As noted in the ExA question, a substantial volume of assessment material has considered and assessed effects on marine mammals including cumulative and transboundary. As discussed in ISH2, the submission from the Netherland Ministry of Infrastructure and Water Management did not raise new issues but attached an email dating from 2023. The feedback in 2023 was provided to the Applicant in response to the Preliminary Environmental Information Report and was taken into account by the Applicant in the production of the ES and RIAA. Therefore, cumulative/transboundary effects have been adequately assessed. In addition, the Applicants stance on noise reduction methods have been clarified in the updated Draft MMMP (**7.7 (Rev 2 & 3)**) and Outline SIP (**7.8 (Rev 1)**), submitted at Deadline 5.

REF	EXQ2	QUESTION TO:	QUESTION	NATURAL ENGLAND'S RESPONSE	APPLICANT'S RESPONSE
			[REP3-040]; RIAA Part 3 Marine Mammals Annex II Species [APP-176] &[APP-177]; Draft Marine Mammal Mitigation Protocol [APP-242] & [REP3-013]. (ii) Accounting for existing Issues Specific Hearing responses. The applicant is requested to give its full responses to [REP3-065] if not already done so by the next deadline.		
REP5-110_j	Q10.0.3	NE MMO The Applicant	**Marine Mammals – Cumulative Assessment / Mitigation** (i) Applicant. NE Deadline 4 commentary regarding Cumulative Assessment [REP1-057] also implies there is cherry picking of least impactful outcomes resulting in non-significant effects for marine mammals which runs counter to the precautionary principle of EIA methodology. Overall, because of these issues NE point out that the most conservative methods for project alone, cumulative and in combination assessments have not been utilised by the applicant. They allege there are evidence gaps in the relationship between sound, disturbance and population impacts and assumptions and uncertainties built into the model. What information can the applicant provide to address/further justify its own case more robustly? (ii) Can the applicant further clarify/explain its position towards NAS modelling generally (relative to national best practice) and the range of marine mammal noise mitigation it is committing to presently? And does the applicant acknowledge the benefits of Noise Abatement System (NAS) modelling if fully applied? (iii) The ExA note the MMO supports the commitment of noise abatement in the Draft Marine Mammal Mitigation Plan (MMMP) and Site Integrity Plan (SIP). The MMO also agrees that the effects of noise abatement systems in reducing the noise impacts should be included in the assessment at this stage including noise abatement systems (NAS) modelling. Furthermore, the MMO supports NE in recommending that the applicant revises the in combination assessment and applies the Effective Deterrent Radius (EDR) approach as per the Best Practice Guidelines Phase III and the Guidance for assessing the significance of noise disturbance against Conservation Objectives of Harbour Porpoises Special Areas of Conservation. What is the applicant's current/most up to date position on this issue? (iv) The ExA acknowledges that the national underwater noise policy papers have been published, by DEFRA, JNCC, NE and Cefas (documented by NE/MMO Deadline 1). These set out the direction of travel into reducing the noise at source for piling and sets out further detail on dealing with UXO mitigation. The applicant has said it has taken such advice into account up to D4. Does the applicant intend to further adapt its existing submissions to the most recent national/technical advice? Is it satisfied it can demonstrate best practice in adequately managing impacts/effects? (v) The applicant's commitment to using NAS/and soft starting of piling machinery clarification is requested by the ExA alongside commitment to up to date best practices in effective deterrent radius approach within an in combination assessment. Signpost/clarify/adjust where necessary.	(vi) Natural England notes that a final MMMP for UXO clearance will be submitted for approval under a future Marine Licence application, separate from the DCO application. Natural England will continue to engage with the Applicant and review information provided on any potential temporal restrictions. We also acknowledge that the Applicant amended the draft MMMP to make clear that if high-order clearance is required then NAS must be used.	The Applicant notes Natural England's response, no further comments are required.

REF	EXQ2	QUESTION TO:	QUESTION	NATURAL ENGLAND'S RESPONSE	APPLICANT'S RESPONSE
			(vi) Natural England/applicant. The applicant has stated that UXO cannot be scheduled to avoid winter months though it does propose an amendment to the Draft MMMP [APP-242] to make clear that 'if High-order clearance is required then NAS must be used'. When will the revised version be submitted? Is NE content with this approach/resolution?		
REP5-110_k	Q10.0.10	The Applicant MMO NE Essex Wildlife Trust	**Marine environment/Benthic/Seabed matters** (i) What does the applicant further propose to fill in the evidence gaps referred to by NE/MMO towards the Kentish Knock East Marine Coastal Zone? (ii) On 8 January, the Office for Environmental Protection Investigation (OEP) announced that it was launching an investigation into a suspected failure by Defra to take the necessary measures to achieve Good Environmental Status (GES) of marine waters by the statutory deadline of 31 December 2020, as mandated by regulation 4(1) of the Marine Strategy Regulations 2010. Additionally, Defra did not provide an updated report on the UK Marine Strategy by 20 December 2024, nor did it issue a formal assessment confirming whether the 2020 deadline was met. The OEP's investigation, conducted under section 33(2) of the Environment Act 2021, seeks to ensure accountability for the suspected failure and, if confirmed, secure a comprehensive plan to achieve GES as soon as possible. On 29 January, Defra published an updated Marine Strategy Part Three: 2025 UK Programme of Measures. strategy outlining the measures to achieve GES in UK seas. Several of the measures referred to are still in the process of being development, and where there are uncertainties or knowledge gaps, the strategy sets out plans to address these gaps. Is the applicant aware of this background? (iii) Applicant/MMO. Does the applicant need to address these context in further detail relativeto the ES? Or adapt any of its mitigation provision accordingly? (iv) The ExA also notes that NE has updated the Margate and Long Sands SAC condition assessment (January 2025) which has determined the site to be in unfavourable condition due to existing anthropogenic pressures on the designate site feature. This is key context the ExA is drawing attention to. According to NE Risk Register Point P7 there is insufficient evidence of the potential worst case area of impact of impact on benthic communities within the MLS SAC. What is the applicant's most up to date position? The ExA acknowledges the presence of reef-forming ross worm (Sabellaria spinulosa) in the vicinity, which when formed as a reef qualifies as an Annex I habitat (biogenic reef). Areas of high S. spinulosa density support a diverse attached epifauna of bryozoans, hydroids, sponges and tunicates, and additional fauna including polychaetes, bivalves, amphipods, crabs and lobsters. (v) NE/MMO/applicant/Essex Wildlife Trust - Is any form of benthic/marine related compensation warranted/anticipated? If so, what should that comprise of?	(v) Please see Natural England's Deadline 5 responses. It is not possible to comment on the likelihood for compensation and/or MEEB requirements until Worst Case Scenarios have been identified, quantified and evaluated sufficiently within an ecological context to provide full transparency in the Applicant's assessment conclusions in relation to impacts within Margate and Long Sands SAC and Kentish Knock East Marine Conservation Zone (MCZ).	See responses in Sections 2.2 and 2.3. The Applicant maintains that Worst Case Scenarios have been identified and assessed and there will be no AEOI of the Margate and Long Sands SAC and no significant risk of hindering the conservation objectives of the Kentish Knock East MCZ and therefore no compensator or MEEB is required for these receptors.
REP5-110_l	Q10.0.11	NE The Applicant	**Seabed matters/Margate Long Sands & Kentish Knock East MCZ & NE advice** (i) NE – The applicant has submitted updated hydrodynamic and dispersion modelling [REP4-040]	(i) Please see our detailed advice in Appendices B5 and C5 to Natural England's Deadline 5 for our detailed response on the further information on sediment deposition and seabed level change provided by the	See responses in Sections 2.2 and 2.3 regarding NE Appendices B5 and C5. The Applicant maintains that there will be no AEOI of the Margate and Long Sands SAC and no significant risk of hinderance of the conservation objectives of the Kentish Knock East MCZ.

REF	EXQ2	QUESTION TO:	QUESTION	NATURAL ENGLAND'S RESPONSE	APPLICANT'S RESPONSE
			[REP4-042] and information about additional offshore mitigation with a view to addressing your outstanding concerns regarding effects from sediment deposition and seabed level change, which have implications for habitats regulations assessment (Margate and Long Sands (MLS) SAC) and marine conservation zone assessment (Kentish Knock East (KKE) MCZ). The ExA requests a detailed response on the additional information at DL5. In doing so, confirm your advice on AEoI for MLS SAC and hindrance of the conservation objectives for KKE MCZ. If you consider that AEoI and/ or hindrance of conservation objectives cannot be excluded, set out what specific additional information you consider is needed and indicate your view as to whether it is likely this can be resolved prior to close of examination. (ii) Applicant – NE's latest Risk and Issues Log [REP4-067] indicates that it is still not able to advice that AEoI can be excluded for MLS SAC, or hindrance of the conservation objectives of KKE MCZ. Confirm if any consideration has been given to preparation of a without prejudice derogations case for the MLS SAC, or Stage 2 assessment for KKE MCZ, in the event that NE's advice remains unchanged. If not, explain why not, noting the requirement in paragraph 5.4.27 of Overarching National Policy Statement for Energy (NPS EN-1). (iii) NE – The applicant has submitted an outline Sediment Disposal Management Plan (SDMP) [REP4-038] and Cable Specification and Installation Plan [CSIP) [REP4-039] for the export cable. The ExA requests comments on the outline plans at DL5. In your response, please set out your view as to whether the measures proposed are sufficient to manage construction effects to avoid AEoI and/ or hindrance of the conservation objectives of the MLS SAC and KKE MCZ respectively from relevant construction phase impact pathways. (iv) NE –The ExA noted at ISH2 that NE published an updated condition assessment for MLS SAC in January 2025. The applicant has set out its position on the implications of this for its HRA in [EV6-007] and [REP4-042]. NE is requested to provide its view on the implications of the updated condition assessment for the HRA, and the response provided by the applicant. In doing so, confirm any additional information that you consider would be required by the SoS to carry out the HRA. (v) NE – It is proposed that material from the export cable corridor can be disposed of anywhere in the disposal site (as shown on Figure 2-1 of the Outline Sediment Disposal Management Plan [REP4-038] subject to constraints listed in section 3 of [REP4-038]. Comment on whether you consider this an appropriate approach given the proximity of the export cable corridor to the MLS SAC. Please identify any concerns and, if so, how you consider these could be addressed. (vi) Applicant – In the Outline Cable Specification and Installation Plan (CSIP) [REP4-039] it is stated that a separate CSIP for seabed preparation works may be prepared dependent on timing of works. Explain how this would separate CSIP is proposed to be secured and who would be consulted on this plan.	Applicant at Deadline 4. With regards to our benthic ecology advice, we consider that the Worst Case Scenario for secondary impacts need to be identified, quantified and evaluated sufficiently within an ecological context to provide full transparency in the Applicant's assessment conclusions in relation to impacts within Margate and Long Sands SAC and Kentish Knock east MCZ. An AEoI for MLS SAC and hindrance of the conservation objectives for KKE MCZ cannot be excluded currently, however Natural England consider it both possible and likely that this matter can be resolved by the close of examination. (iii) Please see Tables 2 and 3 in Appendix C5 to Natural England's Deadline 5 response. (iv) Please see Table 5 in Appendix C5 to Natural England's Deadline 5 Response (v) Please see Tables 2 and 3 in Appendix C5 to Natural England's Deadline 5 response and Table 4 in Appendix B5. (x) Please see Table 2 in Appendix C5 to Natural England's Deadline 5 response and Tables 4-6 in Appendix B5. (xi) Please see Tables 5 and 6 in Appendix C5 to Natural England's Deadline 5 response and Table 4 in Appendix B5.	The Applicant therefore agrees with Natural England that it is likely this issue can be resolved by the close of the Examination and the Applicant will engage with Natural England further on this matter by Deadline 7.

REF	EXQ2	QUESTION TO:	QUESTION	NATURAL ENGLAND'S RESPONSE	APPLICANT'S RESPONSE
			(vii) Applicant – The Outline CSIP [REP4-039] states that it does not cover the array cables and these would be covered by separate construction management plans. The ExA notes that Condition 21(h) of Schedule 8 DML for Generation Assets of the draft DCO [REP4-004] provides for a CSIP to submitted but is unclear if any outline principles with which the final plan will accord have been submitted to examination. The applicant is requested to explain its approach, including how the ExA can have confidence in the measures proposed if an outline has not been provided. (viii) Applicant - The sediment dispersion modelling in [REP4-040] considers different construction phase activities separately. Confirm if there is potential for some or all activities to occur simultaneously, and if so explain why it does not also consider cumulative effects. (ix) Applicant - Sediment disposal has been modelled for the array area (Simulations 11 and 12) in [REP4-040] but does not appear to have been modelled for activities related to the export cable. Explain why disposal from the export cable has not been modelled. (x) NE – You sought further information from the applicant about how the buffer zone of 50m to KKE MCZ was determined. The applicant states in its Supporting Information on Offshore Additional Mitigation [REP4-041] that a standard buffer of 50m for Sabelleria reef is advised by NE, and therefore the same distance for coarse sediment, sand and mixed features of KKE MCZ is considered conservative. Confirm if you are satisfied with this explanation and/ or if the applicant's additional modelling provided in [REP4-040] [REP4-042] is sufficient to support the use of a 50m buffer to avoid hindrance of the conservation objectives. If not, please set out in detail what further information is needed. (xi) NE – You sought further information from the applicant about how the buffer zone of 150m to MLS SAC was determined. Confirm if you are satisfied that the applicant's additional modelling provided in [REP4-040] [REP4-042] is sufficient to support the use of a 150m buffer to avoid AEoI. If not, please set out in detail what further information is needed. (xii) Applicant - Supporting Information on Offshore Additional Mitigation [REP4-041] includes further assessment of relevance to the RIAA Part 2 Benthic Ecology [APP-175] and MCZA Report [APP-237]. Provide updated versions of the RIAA and MCZA Report incorporating this information by the close of examination.		
REP5-110_m	Q10.0.12	NE The Applicant	**Outstanding matters in NE's Risk and Issues Log [REP4-067]:** (i) Applicant – NE [REP4-067] has indicated that item P5 of its Principal Areas of Disagreement Summary Statement (PADSS) (which also relates to several items of its advice for marine processes and benthic ecology) could be partially addressed with a commitment to pre- and post-construction bedform migration analysis, secured through updates to the In Principle Monitoring Plan (IPMP) [APP-245]. Comment on NE's request. If such a commitment can be made, provide an updated IPMP by DL6. If not, explain why.	(ii) Please see Table 4 NE Ref 1 in Appendix C5 to Natural England's Deadline 5 response. and Tables 4-6 in Appendix B5 to Natural England's Deadline 5 Response. (iv) As per Natural England's advice within our Deadline 5 response (Appendices B5 and C5), further interpretation of the hydrodynamic modelling is required to demonstrate that cable protection near Margate and Long Sands SAC will not modify sediment transport pathways/processes operating on/near the SAC. Natural England advises that where such potential pathways of effect exist, any placement of scour prevention/cable protection constitutes a lasting impact	ii) See responses in Sections 2.2 and 2.3 regarding NE Appendices B5 and C5. iv) The hydrodynamic and dispersion modelling was completed with an indicative 400m length of cable protection adjacent to the MLS SAC (Figure 5.18 and Table 5.4 of the hydrodynamic and dispersion modelling report) informed by analysis of geophysical data. The predicted absolute changes in bed shear stresses (provided as Figures 5.60 to Figure 5.67 in the Hydrodynamic and Dispersion Modelling Report [**9.54, Rev 1**]) show that the predicted absolute change in bed shear stresses in the KKE MCZ and MLS SAC are less than 0.05N/m2. Baseline magnitudes of greater than 2N/m2 are predicted across both the MCZ and the SAC. A change of less than 0.05N/m2 on top of these baseline values would have no discernible effect on the sediment sizes that can be transported before and after the changes. Therefore, in the unlikely event cable protection were to be deployed more

REF	EXQ2	QUESTION TO:	QUESTION	NATURAL ENGLAND'S RESPONSE	APPLICANT'S RESPONSE
			(ii) NE – You indicate in P5 in [REP4-067] that information about the worst-case scenario parameters for sediment deposition due to construction is still required for you to finalise advice for the MLS SAC and KKE MCZ. Confirm what specific information is required and why this is necessary. (iii) Applicant – Item P12 of NE's PADSS [REP4 067] advised that use of readily removeable cable protection options is considered, which could reduce or mitigate impacts. The ExA notes your responses in [REP1-044] and at ISH2 [EV6-007] on this point, and that cable protection is not expected to be needed as burial is the preferred approach. However, noting that the draft DCO [REP4-004] allows for installation of cable protection, the ExA requests a fuller response to NE's advice, including an explanation of the predicted impacts of each cable protection option over the lifetime of the proposed development (and beyond if there is no commitment to removal) and consideration of the options against the mitigation hierarchy. (iv) NE – Clarify if your advice about readily removable cable protection has a bearing on your advice regarding AEoI and/ or hindrance of conservation objectives for the MLS SAC and KKE MCZ respectively. Do you consider that if cable protection is installed, and not removed, this could result in an impact pathway for AEoI and hindrance of conservation objectives? If so, explain why. (v) NE – In P8 of your PADDS [REP4-067] you request full consideration of the likely nature of impacts upon SPA supporting habitats and prey availability. The applicant [REP1-044] set out where impacts on benthic supporting habitats in the Outer Thames Estuary SPA were assessed in its RIAA [APP-175] and ES Chapter 13 [APP-027]. Confirm what further assessment you consider is needed beyond this information. (vi) Applicant – Item A27 of NE's PADDS [REP4 067] provides advise on the use of caveats such as "where practicable" in the Schedule of Mitigation [APP-262]. The ExA notes your response in [REP1-044] but seeks assurance that any mitigation proposed to avoid AEoI and/ or hindrance of conservation objectives is adequately secured and there is no flexibility retained that could result in the mitigation being reduced to a level that would render it ineffective in this regard. Explain how the discharging authority can have confidence in the mitigation and final effect level can have if such caveats are used.	over the lifetime of the project which is potentially irreversible. Natural England advises that the modification of sediment transport pathways/processes operating on/near the SAC could lead to morphological changes that could alter the extent, distribution, and composition of benthic communities within the SAC. Unless relevant commitments are made by the Applicant and sufficient certainty in successful removal of cable protection demonstrated; we advise the scale of these impacts have the potential to hinder the SAC conservation objectives. Given the proximity of cable protection from KKE MCZ, Natural England does not believe that the conservation objectives for the site will be hindered as a result of ECC cable protection. (v) Natural England acknowledges that there is an assessment of prey availability in the Ornithology ES chapter, and that the potential for adverse effects for OTE SPA red-throated diver through impacts on prey availability has been ruled out. Having reflected on our position, we consider that for this project any further assessment of impacts to supporting benthic habitat to Outer Thames SPA within the benthic ES chapter is unlikely to materially change this assessment. Accordingly, we confirm that no further action on this issue by the Applicant is required. We also highlight that the WCS in relation to impacts to benthic MPAs is not yet agreed and therefore we are unable to agree with the Applicant's rationale provided at [REP1-044].	extensively in the offshore cable corridor adjacent to the SAC, beyond the 150m buffer from the SAC, there would still be no discernible effect and no potential AEOI of the SAC. v) The Applicant welcomes Natural England's position regarding the assessment of prey effects. The worst case scenario with regards to benthic MPAs is provided in Section 3.3.1 of Supporting Information on Offshore Additional Mitigation [**REP4-041**]. This aligns with the parameters secured in the dDCO [**6.1, Rev 7**], where applicable.
REP5-110_n	Q10.0.13	MMO NE The Applicant Essex Wildlife Trust Essex CC/Tendring DC	**Marine Environment/Deemed Marine Licencing/dDCO** (vii) Essex Wildlife Trust (EWT)/Councils - the "Working in Proximity to Wildlife Plan" (is referred to by EWT's Relevant Representation). Firstly, the ExA request this document is submitted to the examination and secondly, can EWT/relevant Essex Council's indicate the status/weight of this document/role in local decision making? (i) EWT/NE advise that the applicant should commit to specific mitigation measures, particularly NAS, in the MMMP. The MMO acknowledges that EWT consider that this should sit alongside a Working in Proximity to Wildlife Plan to reduce the risk of disturbance from ships, boats and other vessels and the risk of them	(i) Natural England maintains its position that the Applicant needs to commit to reducing the noise at the source i.e. NAS. At this point, the Applicant is referring to NAS as an 'additional mitigation' which is not in line with either our advice or the Defra Noise Policy (2025). (ii) Natural England has not received further information in regard to our comment on the worst case scenario for the multiple piling locations. (vii) Natural England has not received further information regarding the Monitoring Plan. We acknowledge that the Applicant plans to conduct additional monitoring besides the standard requirement	(i) The Applicant's stance on noise reduction measures have been clarified in the updated Draft MMMP (**7.7, Rev 2** [**REP5-012/013**] submitted at Deadline 5 and Rev 3 submitted at Deadline 6) and the Outline SIP (Revision 1, of Document Reference 7.8 [**REP-014/015**], submitted at Deadline 5). The Applicant responded to Q10.0.13 in the Applicant's Response to ExA's Second Written Questions [**REP5-054**].

REF	EXQ2	QUESTION TO:	QUESTION	NATURAL ENGLAND'S RESPONSE	APPLICANT'S RESPONSE
			colliding with marine mammals. Can EWT clarify why the inclusion of the document is an important? Secondly, what is the applicant's most up to date position to these points? (ii) MMO/NE's concerns regarding overlap with the dDCO requirements/Deemed Marine Licences are relevant in that it is alleged they are not accurately capturing all the required maximum parameters of the proposed works and submits that the applicant should update the DCO and DMLs to ensure maximum parameters of all important metrics are appropriately secured. Can the applicant guarantee/signpost/update/provide further evidence maximum parameters "are" addressed or "can be" addressed? (iii) Applicant. The Site Integrity Plan Condition is advised to be no sooner than 9 months and no later than 6 months owing to in combination impacts. – Is the applicant in agreement to ensure that formally? If so, signpost the alteration(s). (iv) MMO. In relation to requirements to cease works should noise impacts be exceeded, how is this achieved/regulated? NB:- The MMO agreed that a key mitigation for marine mammals should be included in the condition wording for the DML is that piling activity must cease in the event that the monitoring highlights that noise impacts are in excess of the predicted impacts. The MMO was said to be reviewing the Condition. Are the MMO now content dDCO/DML wise? Please clarify. (v) Applicant/MMO. Would the MMO be notified formally over which piling method is to be up taken in advance of any commencement independent of DML provision? And by which mechanism dDCO/DML would that be achieved? (vi) MMO/applicant. In relation to the technical requirements/conditions for species specific "monitoring" of benthic ecology/fish and shellfish/marine mammals &birds overall and other related matters. Briefly explain if they would/should be independent/interdependent of dDCO requirements/articles covered in the content of any DML or other Licensing mechanisms or vice versa? The applicant is asked to review the approach in the recent Rampion 2 SoS Decision in relation to the administration of the dDCO/DMLs that was secured toward ecology on a species specific level and amend its approach where necessary. (vii) Applicant/MMO/NE. With respect to monitoring. Does the monitoring strategy need to be further tailored given piling methodology changes or any other interests/technicalities at this stage? Can the applicant explain what is intended/options are available and via Adaptive Monitoring with respect to marine wildlife and signpost where it is presently secured? Adjust where necessary. (NB: the ExA acknowledges IPMP [APP-245] outlines the monitoring which would inform mitigation requirements. The detailed methodology for the monitoring presently states it would be developed post consent, in consultation with NE and agreed with the MMO).	for noise measurements for the first four piled and engage with us post-consent.	
REP5-110_o	Q10.0.15	The Applicant NE	**Overall ornithological/ecological harm avoidance** AEoI cannot be ruled out for lesser black-backed gull from the Alde Ore Estuary because of predicted mortality owing to collision	(i) Natural England considers that this question is for the Applicant to respond to.	As detailed in the Applicant's Response to ExA's Second Written Questions [**REP5-054**], the Applicant agrees with Natural England's position that there is insufficient information on the proven effects of blade painting.

REF	EXQ2	QUESTION TO:	QUESTION	NATURAL ENGLAND'S RESPONSE	APPLICANT'S RESPONSE
			risk, when considered in combination with other OWFs. In terms of further improving avoidance or existing mitigation available. (i) Has painting the rotor blades or single blade another colour (such as Black) ever been considered by the applicant's assessments before seeking derogations/compensatory arrangements? (ii) Would such action reduce bird deaths? (iii) Is there flexibility/scope to do that ES assessment wise/dDCO wise and commit to it if it is beneficial to ecology? (iv) Could the applicant give evidence on this matter and clarify why it has been ruled out where necessary. The ExA is requesting to know why novel avoidance measures can/cannot be pursued.	(ii) Natural England consider blade painting to be a potentially viable mitigation technique for reducing bird collision mortality. However, we would highlight that at present both the manufacture and deployment of painted blades or turbine components and measure efficacy remains untested in the offshore environment. It is not yet proven that blade painting can reduce lesser black-backed gull collisions offshore, and if so, the scale of reduction possible. Following a Natural England commissioned research report (Martin, 2022), field trials under the OWEC programme are planned to assess both the efficacy of the method and any unintended consequences (e.g. increased displacement impacts). Other trials are also planned (e.g., at the Ijmuiden Ver Alpha OWF in the Netherlands). However, it is not clear if these trials will report results in time for the Applicant to be able to consider the potential to custom paint turbine components when ordering turbines. We further note that some concerns have been raised around technical considerations and potential limitations when undertaking such modifications. (iii) Natural England are supportive in principle of the mitigation measure being applied in appropriate locations, if it is ultimately deemed effective, fully supported by evidence, and proves to be deliverable from a supply chain perspective. However, if desired, the dDCO could be amended to allow for the potential inclusion of this mitigation in the future should evidence emerge regarding its effectiveness. We note, however, that the use of this mitigation may increase the impact on seascape and visual impacts and that this would need to be assessed in advance of Natural England confirming its appropriateness or otherwise. We reserve the right to re-consider our advice on Seascape impacts should this mitigation option be progressed.	
REP5-110_p	Q10.0.16	NE RSPB	**Overall Ornithological Compensation (without prejudice or otherwise)** (i) Can NE/RSPB clarify to the ExA why collaborative measures would be preferable for any form of compensation sought as necessary? Is this purely policy/best practice based rationale? (ii) Are greater ecological benefits possible via collaborative approach if so what are they and why? If the reasons are species specific/case by case specific, if so, why? Are there any other project specific reasons for the stated preference?	(i) Natural England consider that compensatory measures are best delivered strategically and at scale to optimise the chances of delivering sufficient ecological benefits to impacted seabirds. Ultimately, the MRF should facilitate the effective delivery of strategic measures. In-lieu of a MRF delivery mechanism and if deemed appropriate and possible, we have advised collaborative approaches to compensatory measures would be preferable to piecemeal simultaneous delivery across several projects. This is especially the case when those projects have relatively small contributions to in combination impact totals that nonetheless contribute to an AEOI. (ii) Briefly, we consider a range of benefits are possible, many of which arise by sharing the	The Applicant has included the option of using the MRF in its compensation proposals, as well as providing project-led options in order to ensure that measures can be secured until such time as the MRF is available.

REF	EXQ2	QUESTION TO:	QUESTION	NATURAL ENGLAND'S RESPONSE	APPLICANT'S RESPONSE
				burden of design, delivery and monitoring over long time periods. • Significant efficiency gains can be made across several areas, e.g. securing land agreements, evidencing measures, contracting specialist suppliers and practitioners. • Monitoring can be deployed more strategically, with more prospect of delivering or testing more challenging aspects (e.g. colour ringing, novel techniques, and technology). • Standardised approaches are more easily agreed and delivered. Divergent approaches can be more readily investigated and compared or even designed to test ideas and methods. • Aggregation of relatively small project alone impacts can enable the delivery of a more meaningful compensatory measure, potentially increasing the prospect of success. Collaborative approaches do not inherently deliver greater ecological benefit, but we do consider that this is certainly a possible outcome. We also recognise that from the project perspective there is a level of risk involved in any collaborative measure due to the reliance on other projects which may, for example, have conflicting timescales or requirements.	
REP5-110_q	Q10.0.17	The Applicant NE MMO Essex CC Tendring DC RSPB/NT IPs	**Overall HRA derogation/Ecological Compensation/Schedule 15 Wording** The ExA notes the applicant's point that in the Secretary of State's decision letter (DESNZ, 2024) for the Sheringham Shoal Extension Project and Dudgeon Extension Project (SEP & DEP), it is stated that "The Secretary of State agrees with the applicant and NE that strategic compensation represents the best option for delivering compensation for impacts of OWFs. Given all relevant technical disputes with Natural England/MMO (as statutory consultees) as well as other representations such as from the National Trust and the RSPB combined -mixed with the risks/uncertainty of other scheme outcomes the ExA acknowledge these are important examination factors. (i) NE/MMO – a) Does any further HRA related derogation case (without prejudice or otherwise) above what is already provided in the examination material need to be addressed by the applicant? b) Secondly, does any other designated site/species specific compensation measure need to be requested from the applicant? For the avoidance of any doubt please confirm if there is any omission presently or not having regard to all marine life and related protected sites. (ii) Applicant. How can the ExA be satisfied compensation measures can be in place before any negative effect on a European site or sites begins given there is no control over when MRF funding systems will become functional nationally? (iii) Applicant. Expanded Schedule 15 compensation wording was requested from the applicant by the ExA	(i) Natural England are content that the derogation cases the Applicant has prepared are sufficient to account for all HRA issues relating to marine ornithology [Deadline 4 responses Appendices G4.1 [REP4-060], G4.2 [REP4-061], G4.3 [REP4-062], G4.4 [REP4-063]. and H4.1 [REP4-064]. (iv) Natural England refers to our Relevant Representations [RR-243] and subsequent responses provided at Deadlines 1-5 and have no further comments to add at this stage regarding the sufficiency of the compensation proposals.	Noted

REF	EXQ2	QUESTION TO:	QUESTION	NATURAL ENGLAND'S RESPONSE	APPLICANT'S RESPONSE
			during the recent Issue Specific Hearings for the proposal. Please provide that if not already undertaken. For without prejudice Schedule 15 wordings dealing with compensation purposes to be provided, the ExA notes that the definition of 'relevant planning authority' (which could be taken as meaning Tendring District Council, or any successor planning authority) may not be adequate to ensure the inclusion of any existing strategic nature board or all relevant Councils. Does the applicant intend to cover this issue? (iv) IPs. The UK Government 29 January issued interim guidance for the Marine Recovery Fund (MRF), a mechanism designed to support strategic compensation measures for offshore wind activities that impact marine habitats. The guidance provides information on ornithological and benthic compensation measures available in the Library of Strategic Compensation Measures. It serves as a resource for offshore wind developers to reference appropriate compensatory strategies prior to the MRF becoming fully operational. Do NE/RSPB/MMO Local Councils/IPs have any other views on the potential adequacy compensatory measures overall? Is there anything else that should be included to ensure effectiveness/the most suitable delivery outcomes?		
REP5-110_r	Q10.0.18	The Applicant NE	**Lesser Black Backed Gull (LBBG) – Compensation/HRA** (i) NE. [REP4-010] regarding LBBG compensation having Likely Significant Effect/Adverse Effect on Integrity (AEoI) on Orfordness Shingle Street SAC. The applicant states the compensation works will not have AEoI and provide justifications for this at section 3.2.3.1. of [REP4-010]. What is the response from NE on this matter? (ii) NE and applicant. There is some discussion regarding effects from use of Lantern Marshes for LBBG compensation, but what about Gedgrave Marshes or VE2 are you content? (iii) Has the applicant assessed whether compensation for LBBG at Gedrave Marshes may have LSE/AEoI on: • Alde-Ore Estuary Special Protection Area (SPA); • Alde-Ore Estuary Ramsar site; • Alde-Ore Estuary Site of Special Scientific Interest (SSSI); • Orfordness-Havergate National Nature Reserve (NNR); • Orfordness Shingle Street Special Area of Conservation (SAC); and • Suffolk and Essex Coast and Heaths National Landscape. Please confirm/evidence/clarify. (iv) Whilst NE are broadly supportive of the updated LBBG compensatory details with respect to apportioning and general approach there appears potential for stronger measures to be delivered collaboratively with respect to scale and benefits. In particular –a contribution to a share measure 0.2ha is likely to be deemed insufficient as an alternative to a project alone 4ha site proposal. The ExA is highlighting that a shared measure may not be compliant with HRA legislation and is seeking a stronger alternative in collaboration with other operators. Please update the examination record accordingly. (v) In terms of scaling compensatory measures for LBBG. There still appears some shortcomings with using the Hornsea 3 Part 2 ('H3pt2') method for calculating breeding pairs required to generate sufficient recruits to compensate for the project. In light of submissions, the issue remains contentious in the submissions, plus there	(i) The section 3.2.3.1 outlines the designated features of the SAC, the conditions of the coastal lagoons when they were last surveyed in 2021 and an assumption of the quality of shingle habitat present. As no baseline or up to date (within last 3 years max) surveys have been undertaken, it does not identify what species are present and the value of those in the context of the SAC. In 3.2.3.2 the conservation objectives are listed but not how Lantern Marshes contributes to the ability of the SAC to achieve Favourable Conservation Status. Without understanding what species are present and evidencing the quality of the habitats it is not possible for Natural England to rule out an AEoI. (ii) If Gedgrave Marshes becomes the preferred option, then there are potential impacts on SPA overwintering wader and wildfowl features using the site. Evidence is needed to ascertain to what degree the site is functionally linked to the wider SPA. The project could potentially enhance conditions for SPA features dependent on what species are using the area and for what functional purpose. VE2 also lacks baseline evidence and bases conclusions of no LSE/AEoI on assumptions, so baseline evidence is required for that project [REP7-104, REP7-107, REP8-051]. (iii) In the documents reviewed for LBBG compensation Gedgrave Marshes has not had an HRA Screening for impacts on N2K sites. (iv) Natural England welcome the ExA comments on ensuring appropriate contribution to a collaborative measure of sufficient scale. (v) Natural England do not anticipate updating our advice on the calculation of breeding pairs with	i) Abrehart (2022) reports that the communities and shapes of the lagoons on Lantern Marshes were consistent across surveys in 2012, 2018 and 2021. Therefore, with no apparent management measures of these lagoons, it is unlikely they will have changed significantly since 2021. Nevertheless, the need for surveys to inform mitigation and design has been added to the Outline LBBG Compensation Implementation and Monitoring Plan [**7.2.2.1, Rev 2**] submitted at Deadline 6. The scope and timing of surveys, as well as the final design and mitigation will be discussed with the LBCSG during development of the LBBG CIMP post consent. ii and iii) An assessment of effects, should the Gedgrave Marshes option be selected, is provided in Habitat Regulations Assessment Lesser Black-backed Gull Compensation - Gedgrave Marshes Impact Assessment [**REP5-072**]. As above, the need for surveys to inform mitigation and design has been added to the Outline LBBG Compensation Implementation and Monitoring Plan **[7.2.2.1, Rev 2]** submitted at Deadline 6. The scope and timing of surveys, as well as the final design and mitigation will be discussed with the LBCSG during development of the LBBG CIMP post consent. The Applicant's responses to points ix) to xi) remain as presented in the Applicant's Response to ExA's Second Written Questions **[REP5-054]**.

REF	EXQ2	QUESTION TO:	QUESTION	NATURAL ENGLAND'S RESPONSE	APPLICANT'S RESPONSE
			is British Trust for Ornithology information yet to be formalised. Therefore, case specific NE advice will need to be factored by the ExA (as indicated by NE) until it closes. The ExA requests the applicant to apply flexibility inthis regard and to seek updated responses from NE until the close of examination which will help finalise compensation details. (vi) NE advises that the scale of implementation of seabird compensatory measures should be sufficient to address the 95% Upper Confidence Limit (UCL) predicted impact value. And the mean or central impact value (CIV) should be used to inform and define success criteria. NE advise that the measures under consideration should demonstrate:- 1. They could compensate for the UCI value should the impacts of the project be greater than the CIV; 2. Are scaled using a ratio to increase confidence that sufficient benefits will still arise, should the measure underperform; 3. Takes account of 'philopatry' if necessary, to increase the prospect of a significant contribution to National Site Network (NSN) coherence; and 4. That the target for the compensatory measure should be set with respect to the CIV. They advise the application of the Hornsea 4 (H4) method, with additional consideration being made for philopatry if necessary. NE advise that for the proposed sites within or immediately adjacent to the AOE SPA, no account needs to be made for natal dispersal. This is because they are content that measures here will directly and demonstrably contribute to the coherence of the NSN. However, if a measure is implemented at a location outside of, and remote from the NSN (e.g. Outer Trial Bank) NE advise that the calculation of scale and targets should relate to birds expected to disperse, and thus potentially recruit back into the NSN. NE do continue to consider that Outer Trial Bank offers significant benefits, by restoring an important colony that will export additional LBBG into NSN sites. Moreover, the compensatory measure should be scaled using the UCI impact value, applying the H4 method with additional consideration of philopatry (if required) to derive the quantum, and finally applying a 3:1 ratio to generate the number of pairs the measure should, theoretically, be able to accommodate. In addition, likely nesting densities should be considered to define a minimum area. Can the applicant further clarify and update its compensation package to ensure points 1-4? (vii) Tables 2 and 3 of NE's Deadline 4 comments highlight a series of resolution steps and further refinements for the applicant to make. The applicant is requested by the ExA to undertake due adjustment to its proposals in light of all of those suggestions – this includes the need for caution over the applicant relying on a 0.2ha collaborative measure compared to a 4ha project alone measure, as well as more rigorous monitoring overall. Presently it is questionable if the collaborative measure is sufficiently evidenced or robust for providing adequate compensation. The applicant is invited to address this issue in full. (viii) Compensation measures envisaged are stated to include: predator exclusion via fencing around a pre-selected area to aid colonisation efforts by LBBG into a 'safe' area; predator control e.g. by lethal means/eradication of rats; disturbance management -	respect to scaling and judging success of the compensatory measure (REP4-060) (vi) Natural England notes this question is for the Applicant. (vii) Natural England notes this question is for the Applicant to respond to. (viii) Natural England is not aware of existing evidence but camera trapping in areas where birds are already nesting could help in evidence gathering. The National Trust may have evidence for Orfordness site. (ix) Natural England is unaware of other eradication approaches being defined as culling . However, work has been undertaken elsewhere and there is a paper on predator control that might be helpful (Baines, 2025). (x) For the case of Lantern Marshes, awareness campaigns are unlikely to reduce disturbance as disturbance is already low. However, raised awareness would help to explain why the area is excluded from general access. Evidence of its success for breeding and overwintering birds could also be used to highlight the benefit of minimising disturbance for species subject to recreational pressures elsewhere in the SPA/Ramsar site. (xi) Natural England would not support the use of planting/hedgerow creation to screen the predator exclusion fencing, as this is likely to reduce the attractiveness of the fenced area for LBBG and indeed adjacent areas for SPA/Ramsar site waterbirds.	

REF	EXQ2	QUESTION TO:	QUESTION	NATURAL ENGLAND'S RESPONSE	APPLICANT'S RESPONSE
			awareness campaigns, warden use during the breeding season and/or signage; and Habitat management - planting, grassland cutting and/or scrub clearance to create optimal ground cover and sward height. Yet, the information regarding specific predator frequency and the effects on existing bird populations is light. It is asserted foxes and possibly rats are the main LBBG predators but what indication of local fox /rat numbers can be evidenced? (ix) Other predator eradication approaches are mentioned as potentially falling under adaptive management? Would this equate to predator culling for both foxes and rats? Any other predatory bird species? (x) Lantern Marshes are already isolated areas with no public footpaths (seemingly recreational visits are not allowed by the landowner) – so how would awareness campaigns/disturbance discouragement prove effective relative to existing circumstances? (xi) What would the predator fencing most likely look like? Please provide height, extent/examples. Plus, would natural plantings be able to be established to disguise fencing. Say hedges?		
REP5-110_s	Q10.0.20	NE	**Guillemot and Razorbill in combination assessment/population analysis for the Flamborough and Filey Coast Special Protection Area (FCC SPA)/Stour and Orwell Estuary SPA/Ramsar** (i) Is NE content with the response provided by the applicant in Table 2.1 [REP3-039] regarding differences in the in-combination assessment and Population Viability Analysis for guillemot and razorbill at FFC SPA? (ii) NE are requested provide clarification to the applicant regarding figures for guillemot and razorbill. The reduction in growth rate quoted by NE appears therefore not to be based on a specific PVA run, but the nearest equivalent mortality total in Table 9-122 in the SADEP RIAA (Royal Haskoning DHV, 2022). (iii) At D2, NE stated that the applicant is yet to assess impacts from the proposed development on the Stour and Orwell Estuary. Yet, these sites are assessed in the applicant's RIAA. At D3, the applicant maintains is position that there will be no AEoI to either the Stour Estuary SPA or Stour Estuary Ramsar. Can NE confirm if you agree with the conclusions of the applicant as set out in the RIAA [APP-181]? NE: Please clarify (i) to (iii) by Deadline 5. (iv) NE in its D4 submission [REP4-063] states that the proposed development would lead to mortality of 3 adult guillemot due to displacement. NE further state that the applicant's compensatory measure for guillemot at FFC SPA can be sufficiently scaled to also compensate for the Farne Islands SPA impact. As such, a separate derogations case for the Farne Islands is not necessary. Can NE explain how it considers the applicant's compensation measures can be scaled to compensate?	(I, ii, and iii) Please see Appendix C5 to our Deadline 5 response. (iv) If the measure also needs to compensate for the annual mortality of guillemots apportioned to the Farne Islands SPA, the scale of implementation should account for that new level of total mortality impact across the two colonies, rather than from FFC SPA alone. Any success criteria should also consider the measures efficacy in light of the need to compensate a greater level of mortality. It might be necessary to implement the measure at additional sites on their long/shortlists if impacts to birds from Farne Islands SPA are also to be compensated.	The Applicant understands NE is referring to their comments in F5. Please see the Applicant's responses in Section 2.5. The Guillemot and Razorbill Compensation Document **[7.2.5, Rev 2]** and Outline Guillemot and Razorbill Compensation Implementation and Monitoring Plan **[7.2.5.1, Rev 2]** have been submitted at Deadline 6 with updates to the scale of compensation to include the Farne Islands SPA.
REP5-110_t	Q10.0.23	The Applicant NE RSPB Essex WT	**Kittiwake – Compensation (without prejudice)** (i) Scale vs Target compensation arrangements. NE cite Hornsea 3 Part 2 ('H3pt2') methodology to be the most ecologically complete for compensatory measures where it is necessary to calculate the number of breeding pairs required to compensate for a specified	Natural England has no comments further to those submitted in our Relevant Representations [RR-243] and Deadline 1-5 responses.	Noted.

REF	EXQ2	QUESTION TO:	QUESTION	NATURAL ENGLAND'S RESPONSE	APPLICANT'S RESPONSE
			mortality impact. H3pt2 method is referred to as conceived to inform the design parameters of artificial nesting structures (ANS) for kittiwake. Additionally, NE advise the scale of implementation of compensatory measures for seabirds should be sufficient to address the 95% Upper Confidence Limit (UCL) predicted impact value. This is highlighted by NE as different to a 'target' figure to achieve set by the central impact value (CIV) which HRA have generally utilised. Thus, for case by case pragmatism a 1:1 ratio would only likely to be appropriate where there is a high confidence in the likelihood of success. Therefore, the scale of without prejudice compensation offered remains contentious as an examination theme the ExA is conscious of. The ExA requests that a cautious updated non-prejudicial approach is applied by the applicant – i.e. it should be prepared based on its own preferred calculations if no other approach is to be applied to deliberately overcompensate rather than to undercompensate given the HRA risks to the likelihood of effectiveness and success for unproven and untested measures. What are the applicant's views on this? Can a buffer/safeguard be provided? (ii) The applicant indicates, "between seven and ten breeding pairs are required to produce sufficient fledglings per year that survive to breeding age to compensate for the predicted annual collision mortality for breeding adult kittiwakes from the Flamborough and Filey Coast Special Protection Area (FFC SPA)." The ExA requests further clarification how this is to be achieved at a shared artificial nest structure (ANS) at the Gateshead Kittiwakery with an undocumented/limited capacity? (iii) What (if any) apportioning benefits arise at the ANS? (iv) If Five Estuaries OWF share an ANS equivalent to 48 nesting spaces (Five Estuaries examination document REP5-018) how would the scale of compensation be possible for North Falls impacts (broadly similar)? (v) Clarify if there would be sufficient breeding pairs present to compensate the CIV? And the reasons why given NE advice. (CIV value of 0.76 results in a target of 5 pairs per a 1:1 ratio). (vi) The applicant is required by the ExA to demonstrate they could compensate for the UCL value should the impacts of the proposal be greater than the CIV, and the measure is scaled using a ratio to increase confidence that sufficient benefits will still arise, should the measure underperform. Note: A UCL impact value of 2.72 results in a requirement for 17		
REP5-110_u	Q10.0.24	The Applicant NE RSPB NatureScot	**Red Throated Diver (RTD) – Compensation (without prejudice)** (i) In terms of breeding enhancement. Artificial nesting rafts/and or habitat measures for "up to 20" RTD breeding lochs" are mentioned. The applicant/NE are asked to clarify how many lochs/artificial rafts would be required as minimum/maximum commitments. (ii) The applicant's response to NE D3 submissions [REP4-028] states that options are habitat management of peatland in Shetland which could increase from 0 to 0.77 chick per loch occupied by a pair of RTD. Compensation at 20 lochs would produce additional 4.3	(i & ii) Natural England continue to agree with the Applicants position that it is not possible to directly quantify the scale of the measure with respect to the scale of the impact. This represents a significant challenge both for the Applicant in terms of scaling and justifying their compensatory measure, and for us in evaluating the measure and providing advice. We continue to advise that the project will exert a significant disturbance/displacement impact on the RTD feature of the OTE SPA, resulting in adverse effects on site integrity (AEOI). Therefore, we advise that a significant ecological benefit must arise as a result of any compensatory measure that seeks to offset that	The Applicant's responses to i) to (xiv) remain as presented in the Applicant's Response to ExA's Second Written Questions **[REP5-054]**. In addition, the Applicant is in discussion with NatureScot and understands that NatureScot considers compensation at 20 waterbodies to be ambitious. (xv) A response to the relevant question in the ISH was provided in Applicant's Response to Actions List for ISH1 and ISH2 **[REP4-036]**, Agenda item 3.2.5. (xvi) Updated Compensation Documents and Outline CIMPs are provided at Deadline 6 **[7.2.1 to 7.2.5.1, Rev 2]**.

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			adults per annum. Clarify when will the applicant decide which option to use? (iii) The ExA requests indicative raft design/loch information to inform the examination and regard to all innovations/best practice post 2013 as per the information in the CIMP. (iv) Habitat Management is referred to reduce peat erosion. What land areas would be involved? Is plan information available? Would this solely be bog restoration? And who would be the potential delivery body? Would it likely be via the land owner/a public body? (v) Applicant/NE. Why would the compensation measure (if required) be needed to be set up only one breeding season prior to the construction of the North Falls array area? With precautionary interests in mind clarify further, if this is adequate? (vi) In terms of both routine management/maintenance and monitoring who would be the likely undertaker of those tasks and what would their expected professional qualification be? How could the monitoring information be reliably independently verified/logged? And is digital recording possible for remote areas given disturbance problems? Could the outline plan give further evidence of the effectiveness of such measures? (vii) In the event of nest failure (RTDs can take up to 3 years to use a raft) – adaptive management is referred following reporting to the RTD Steering Group. Could some rafts with protection roofs not be utilised in the first instance to reduce prospect of predators taking eggs? (viii) In the hearings, the applicant explained that after the three year monitoring period for RTD, adaptive management would be undertaken if the compensation measures employed hadn't been successful. Can the applicant explain what these adaptive management measures would consist of and have these been discussed/agreed with NE/NatureScot? (ix) RTD breeding success is highlighted it may decline as predation may become more frequent due to recovery of the great skua population. If this does occur, productivity at the control nests would be expected to decrease, i.e. monitoring of control nests would be important. Would predator control itself be applied in the compensation arrangement? (x) NE seek a longer term commitment to monitoring if rafts are successful - for the lifetime of the project. The ExA seeks applicant's reasoned response. (xi) Confirm the frequency of anticipated monitoring. Adjust documentation where necessary. (xii) Confirm who is likely to be the independent chair of the RTD Steering Group (as well as any other Steering Group for any other without prejudice compensated bird species) to ensure future Governance is fit for purpose. (xiii) What collaborative opportunities are presently available for existing undetermined NSIPs or consented NSIPs? Is Five Estuaries collaboration likely? (xiv) Would the Marine Recovery Fund (MRF) be used to pay for a different type of compensation if it was up taken; or would it be the same breeding enhancement/habitat management approach settled via the MRF mechanism?	impact. In that light we continue to question if the measure proposed, at the suggested scale, can be deemed sufficient. The Applicant's position that their impact is not significant, reiterated in REP4-028, appears to be a factor in their assertion that the measure would be sufficient to compensate. We believe that benefits to breeding RTD could accrue, in support of NSN coherence, as a result of raft installation and/or habitat management actions. We maintain that the ecological benefit of the measure must be evaluated, accepting that this cannot be directly related to the ecological damage that is to be compensated. We advise that this can be undertaken by assessing the measures benefit in terms of its aims. From a conservation perspective the measure aims to add more RTDs to the population. If that can be achieved, this would be worthwhile, relevant, and achievable. Those extra birds have the potential to contribute to ensuring network coherence. However, we continue to question if the scale of the measure is sufficient as the proposed benefits are small. We note the Applicant's ongoing challenge to our assessment of the measure's sufficiency to date. However, no evidence or alternative process to justify the scale of measure implementation proposed has been supplied. It appears that 20 rafts represent an approximation of the minimum deployment that could potentially yield any level of benefit to the population in terms of additional RTD production. On reflection, Natural England cannot advise on the minimum number of rafts that would be required to adequately compensate the projects impact. We continue to support the measure as potentially the only project-led option for the project to pursue, but it is not clear if delivery at a greater scale is feasible, or even desirable. We reiterate our advice regarding the need for the Applicant to discuss what might be achievable and appropriate with NatureScot. Any further information on (or commitment to) the proposed habitat management options would be welcomed. Landscape restoration and/or peatland management works (even if in conjunction with rafts) for RTD may represent a more compelling compensatory measure, even if the benefits felt at the population level are broadly comparable. It is not clear if other options to deliver a package of measures are viable, such as contributions to pre-existing mink control efforts alongside habitat management or nest raft provision. We believe that this situation highlights the absolute necessity for strategic measures to deliver meaningful and preferably 'like-for-like' compensation for disturbance and displacement impacts to RTD features at English SPAs. We reiterate our advice that the Applicant should explore the potential to collaborate with East Anglia One North/Two regarding their compensatory measures, and also highlight the importance of the DCO securing the ability of the Applicant to 'switch' their RTD compensation over to the MRF should the Library of Strategic Compensation Measures ('LoSCM') hold a relevant measure in due course.	

REF	EXQ2	QUESTION TO:	QUESTION	NATURAL ENGLAND'S RESPONSE	APPLICANT'S RESPONSE
			(xv) NE. Is NE content with adaptive management measures proposed by the applicant if compensation measures for RDT are not successful -as referred to in the Hearings and accounting for Deadline 4 submissions from the applicant? (xvi) Overall are Natural England/RSPB satisfied compensation delivery for LBBG; Guillemot and Razorbill; Kittiwake; RTD would be effective in principle?	(v) The success of the measure, as proposed by the Applicant, relates to the increased productivity of breeding RTD on rafts, or in habitat subject to other management actions. Thus, a benefit is (potentially) accruing as soon as a pair is breeding on a raft or at improved habitat. There is no mortality debt concern due to the nature of the impact. Therefore, and in the absence of any evidence regarding how quickly rafts or improved habitat will be occupied and/or result in improved productivity, Natural England consider implementation of the measure one breeding season in advance of construction commencing to be adequate. Natural England highlight that the success of the measure should be judged at agreed intervals by an expert panel with the benefit of monitoring data. (xiv) The MRF can only utilise measures from the LoSCM. Habitat management measures are not currently in the library. The only measure in the library at present that could benefit RTD is predator reduction, albeit this was accepted into the library based on it providing benefits for breeding seabirds, rather than waterbirds such as RTD. Natural England consider that a strategic approach to managing vessel-related disturbance and displacement impacts within RTD SPAs would be the most appropriate compensatory measure to develop further in this space, and consider that it could be deliverable via the MRF, but recognising there are significant challenges to evidencing and implementing the measure. (xv) Natural England notes that no new information was submitted at D4 by the Applicant, and the Applicant deferred their response to the relevant question in the ISH. Therefore, we anticipate responding to this question at Deadline 6 after review of their response. (xvi) Natural England is content the proposed compensation delivery would be effective in principle. However, there remains a significant need for further information and/or security regarding the proposed locations of the measures and greater refinement of options (other than for kittiwake). We recommend the Applicant revisit the Natural England checklist for compensatory measures to inform any subsequent versions the compensation documentation, to ensure that all relevant updates to the checklist points are included.	
REP5-110_v	Q10.0.26	NE	**Seasonal Restrictions** NE. The applicant does not propose seasonal restrictions for birds during construction. Do NE have remaining concerns over this point, considering the information provided by the applicant in paragraphs section 4.4.1.4.3.2.1 of Part 4 of the RIAA [APP-178]? Presumably this is why compensation is asked for/proposed? Please clarify.	Compensation for RTD is to address the disturbance and displacement impact arising from the turbine array, accepting that this impact has been mitigated as far as possible. However, compensation is not appropriate when earlier steps of the mitigation hierarchy (avoid, reduce, mitigate) are available. In this regard, Natural England maintain our position that temporary impacts arising from vessel movements and cable laying can, and should, be mitigated by seasonal restrictions on cable installation, as is the case with other similar proposals (e.g. East Anglia One North/East Anglia Two OWF). Natural England's general advice is that seasonal restrictions for RTD SPAs should be applied along any part of the ECC within the SPA boundary and a 2km buffer between 1st November and 31st March	The Applicant maintains its position that mitigation during the construction phase through a seasonal restriction on the installation of the export cable within the OTE SPA and a 2km buffer, as requested by Natural England, is not merited. This is based on the conclusion of the RIAA that there would be no AEoI from construction works in the offshore cable corridor (RIAA Part 4 Offshore Ornithology Birds Directive Annex 1 and Migratory Species **[APP-178]**, section 4.4.1.4.3.2). The potential requirement for compensation for displacement of RTDs relates to the North Falls array area.

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				inclusive. Please also see our advice to the Five Estuaries examination, REP8A-050.	
REP5-110_w	Q10.0.27	The Applicant NE	**Bats** (i) Applicant. Noting the comments of the Netherlands Ministry of Infrastructure and Water Management at [REP3-065] has the applicant considered a zone of influence for European sites in the UK designated for bat features that could be affected by off-shore pathways? If so, can the applicant confirm the zone of influence used, and reasons why, and if any bat features of sites within the zone are migratory. If this assessment has not been performed, can the applicant explain why that is the case? Update the CEA where necessary. (ii) NE/applicant. The effects on migratory bats is noted in the submission from the Netherlands [REP3-065] can Natural England confirm whether or not it considers that the proposed development would result in any adverse effects on migratory bats. If not, why not? If so, what mitigation would be required (if any)? (iii) The LIR's from Essex County Council and Suffolk County Council cite likely harm to migratory bats – in particular Nathusius' pipistrelle, caused by the wind turbine rotor blades. It appears that migratory bats and especially juveniles, could potentially be vulnerable to death from collision with, or proximity to, moving wind turbine blades based on the assertions made. Considering the LIR's does the applicant think that its surveys and current evidence base are adequate to respond to and address this issue? What is its response concerning the successful protection of bats including migratory bats? Please detail in full. (iv) Suffolk County Council have suggested that due adjustment to wind cut-in speeds secured through addition of parameters in the DCO or a suitable control document as a requirement. Is the applicant able to confirm the suitability such a potential requirement and its preferred wording if it is required by the SoS at any stage? (v) NE. As a migratory species, the ExA notes that Nathusius' pipistrelle is protected by the Convention on the Conservation of Migratory Species, to which the UK is a signatory state. What obligations under these treaties in relation to Nathusius' pipistrelle are relevant to the proposal? Are they met or capable of being met through requirements if they were deemed necessary? NE advise by Deadline 5.	(ii) Natural England can confirm that it considers that North Falls OWF is likely to have adverse effects on migratory bats. There is some evidence (see Five Estuaries Examination document [RR-035]) that the array sits within an 'at risk' area for bats crossing between Great Britain and mainland Europe. However, there is currently a lack of baseline data associated with migratory bats, as well as their interactions with turbines offshore, leading to considerable uncertainty regarding the exact nature of impacts. Monitoring which provides useful and relevant additional data (e.g. presence/absence, bat flight height, bat behaviour around existing wind turbines) would therefore be beneficial. Natural England suggests that appropriate onshore and offshore monitoring (at both this site and existing adjacent others) is essential, along with a comprehensive literature review on the topic. There is now some research which could help with both appropriate survey and subject to the findings of monitoring, the development of an offshore bat mitigation strategy (e.g. Brabant et al., 2021). Additionally, it is worth exploring whether access can be obtained for relevant bat data held by Motus: Motus Wildlife Tracking System. Notable documents include Eurobats wind turbine advice (Rodrigues et al, 2015) as well as onshore wind turbine advice (NatureScot, 2021). There are also a number of notable environmental impact assessments including (but not limited to) the North Irish Sea Array Offshore Wind Farm (North Irish Sea Array,), the Oriel offshore wind farm (Oriel Windfarm Limited, 2023), the Codling wind park (Codling Wind Park, 2024) and the Arklow Bank wind park (Sure Partners Ltd., 2021). A combination of approaches have been used for these environmental impact assessments, including attaching bat detectors to: floating buoys, boats doing geotechnical surveys, and existing wind turbines in the near vicinity (CIEEM, 2025). Additionally, use of night vision aids should be considered to look at bat behaviour around nearby existing offshore turbines. It is likely to be appropriate to do a similar combination of approaches here. The monitoring approach should be designed to provide sufficient information to inform a robust mitigation strategy should the monitoring data indicate it is warranted, including setting out how the information will be used to identify whether mitigation is needed and explore potential options. A draft monitoring plan should be submitted into the Examination or/and an updated Offshore In-Principle Monitoring Plan. The potential for	The Applicant's notes Natural England's comments, and in particular the recommendation to (i) prepare a draft monitoring strategy for migratory Nathusius pipistrelle *Pipistrellus nathusii*, and (ii) to provide a comprehensive literature review on this topic. The Applicant has, in response: 1. Updated the Offshore In-principle Monitoring Plan **[7.10 (Rev1)]** and submitted the updated version into the Examination at Deadline 6. 2. Provided a literature review below summarising the existing available information regarding migratory Nathusius pipistrelle and monitoring approaches for migratory bats. The literature review provided below provides additional context to the assessment of the effects on migratory bats provided within ES Chapter 23 Onshore Ecology [**APP-037**], and has been used to inform the proposed updates to the Offshore In-principle Monitoring Plan **[Document reference: 7.10 (Rev1)]**. **<u>Migratory Nathusius pipistrelle and migratory bat monitoring approaches: a review</u>** ***Migratory Nathusius' pipistrelle ecology*** Literature suggests migratory bat corridors are closely associated with coastlines, and change depending on weather conditions and seasonality (DBEIS, 2022; Voigt *et al*., 2023), supporting the need for onshore as well as offshore monitoring. Passive acoustic monitoring of Nathusius' pipistrelles in the Netherlands found that migratory movements over the North Sea last longer than one night, with day roosting taking place in offshore structures such as offshore wind turbines (Lagerveld *et al*., 2023). Lagerveld *et al*. (2023) also found routes over the North Sea were only taken by 6 – 10% of Nathusius' pipistrelles recorded, with 69% showing preference for onshore coastal routes. Where bats do take migratory routes over the open sea they use using specific corridors, negatively correlated with windspeed and direction (Brabrant *et al*., 2021; Seebens-Hover *et al*., 2022). There is also a seemingly positive correlation between temperature, atmospheric pressure and bat migration. The number of bats estimated to migrate over the southern North Sea is 40,000 individuals (although there a are significant error bar on this figure, with a range of 100 – 1,000,000). Out of those 40,000, approximately 2,000 – 6,000 individuals are estimated to migrate from Germany and Denmark to the UK (Limpens *et al*., 2017). Generally, Nathusius' pipistrelles that breed in central Europe are more sedentary and migrate over shorter distances (Sachanowicz *et al*., 2019), whilst eastern populations migrate over longer distances (Hutterer *et al*., 2005). The Dutch Government's Framework for Assessing Ecological and Cumulative Effects (KEC) 4.0 for the roll-out of offshore wind energy and wind farm zones (RWS Informatie, 2022) concluded there is a low probability that individual offshore wind farms would result in mortality rates significant enough to compromise the conservation status of any migratory bat species. ***Telemetry tracking – Motus Wildlife Tracking System*** Motus is a project run by Birds Canada in collaboration with a wide network of organisations and researchers, providing a platform for radio telemetry data from multiple contributing stations across the globe for small flying organisms, including migratory Nathusius' pipistrelles. Currently 2,058 Motus receiver stations are active across 34 countries, allowing the tracked migration paths of individuals on a global scale, including across the North Sea. From the individual Nathusius' pipistrelle flight paths tracked on Motus, there is a total of four individuals which have been recorded both in the UK and mainland Europe, by recording stations in the vicinity of the North Falls' array area: • From Ekologihuset (#12069), Sweden to Sandwich Bay Bird Observatory (#11588), UK;

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				collaboration between the Applicant and the Five Estuaries project should be explored, as well as with the 'parent' windfarms of Galloper and Greater Gabbard, given that mitigation through e.g. curtailment would only be effective if adopted across these projects. (v) Article 2(3) of the 'Convention on the Conservation of Migratory Species of Wild Animals' states that the parties: (a) Should promote, cooperate in and support research relating to migratory species; (b) Shall endeavour to provide immediate protection for migratory species included in Appendix I; and (c) Shall endeavour to conclude agreements covering the conservation and management of migratory species included in Appendix II. Appendix II of the convention includes European populations of Rhinolophidae and Vespertilionidae (i.e. all UK bat species). Nathusius pipistrelle is a priority species under the EUROBATS Agreement. With regard to point (a), all monitoring data needs to be made available for studying cumulative effects of other windfarms. With regard to point (c), to help prevent bat mortality and therefore fulfil national protection laws (the UN Convention on the Protection of Migrating Species and the EUROBATS Agreement), there are potential mitigation options that could be instigated such as; stopping wind turbine operation during the main bat migration nights at windspeeds at and below 6 m/s. Most offshore bat activity takes place at windspeeds of and below 6-7 m/s (Ahlén et al. 2009, Brabant et al. 2021, Lagerveld et al. 2021, Seebens-Hoyer et al. 2022). However, this mitigation would only be required should sufficient evidence be gathered that demonstrated the potential for significant impacts to migratory bats, and therefore that further mitigation was deemed necessary (and could be targeted at the identified risks).	• From Wenduine (#10270), Belgium to Languard bird observatory (#13891), UK; • From WUR Minsmere2 (#12367), UK to Kokszijde (#9874), Belgium; and • From Dunwich Heath (#13893), UK to Kokszijde (#9874), Belgium. Data recorded by Motus is based on detector stations, and the flight paths observed do not represent the specific movements of an individual bat but are an indication of the direction and rough migratory routes. ***Survey methodologies of other offshore wind farms*** As a result of constraints with survey equipment and methodologies, the probability of detecting migratory bats offshore is inherently low. Therefore, no standard methodology for surveying bats offshore is available at the time of writing. Selected offshore wind projects in the Irish Sea have included offshore migratory bats within their baseline surveys, using various means with varying degrees of success, as summarised below. <u>Northern Irish Sea Array (NISA) (NISA Offshore Wind Farm, 2024)</u> • **Methodology**: Static detectors deployed at Rockabill island, at headlands of the north Dublin coast (in Skerries and Balbriggan) and on marine vessels. • **Results**: ○ Marine Vessels - experienced a high level of background noise interference, adding difficulty to the species identification of any potential bat calls. In 2022, two potential bat calls were recorded while at sea – one potential Leisler's bat and one potential Nyctalus sp. Due to the high level of uncertainty with the results of the marine vessel surveys, no meaningful conclusions can be drawn from this type of survey for the NISA project. ○ Headlands Surveys - 2022 recorded Leisler's bats at all locations where detectors were deployed, with the peak number of passes being in September (308 passes on the 10th, 91 passes on the 11th and 317 on the 12th). No Nathusius' pipistrelles were recorded during the 2022 headland monitoring. Both Leisler's bat and Nathusius' pipistrelle were recorded during the 2023 headland monitoring. The peak in Leisler's activity during the 2023 headland monitoring was in July (688 passes). Peak passes for Nathusius' pipistrelles were recorded in October (251 passes). Rockabill lighthouse - In 2022, both Leisler's bat and Nathusius' pipistrelle were recorded on Rockabill island. Individual passes of Leisler's bat were recorded from April – August, increasing to a total 430 passes September. Two individual passes of Nathusius' pipistrelle were recorded, one each in May and in September. In 2023, similar trends were observed, with a peak in Leisler's bat activity in September (over 300 passes) and two individual passes of Nathusius' pipistrelles (one in June and one in August).p**Assessment of significance**: No likely significant effects. <u>Oriel Wind Farm (Oriel Wind Farm Ltd., 2023)</u> • **Methodology**: Static detectors opportunistically deployed on marine vessels undertaking geophysical surveys. • **Results**: No recordings of bat activity were obtained offshore, however Leisler's bat activity was recorded when the vessel was anchored outside of Dun Laoghaire Harbour in June, July and August. Due to the lack of evidence, no meaningful conclusions on offshore bat activity can be drawn from Oriel Wind Farm's surveys.

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					<u>Codling Wind Park (Codling Wind Park Ltd., 2024)</u> • **Methodology**: Static detectors deployed onshore at their two landfall options (Wales and Ireland). Also considered survey data from the proposed Dublin Array Offshore Wind Farm, static detectors at Sorrento Point (onshore), Dalkey Island, Muglins Lighthouse and Kish Bank Lighthouse. • **Results**: Recorded a total of 112,585 individual bat passes over the deployment period. This was largely due to the abundance of common pipistrelle and soprano pipistrelle calls (93,251 passes in total, 83% of total bat calls). No common noctules were recorded by these surveys, but 14,988 passes of Leisler's bat were recorded and 122 passes of Nathusius' pipistrelles. Dublin Array Offshore Wind Farm surveys similarly found that the majority of bat passes occurred during periods unsuitable for migration, suggesting the degree of any migratory movements observed were not at a substantial level. <u>Arklow Bank Wind Park (Sure Partners Ltd., 2021)</u> • **Methodology**: Static detectors deployed on an offshore monopile and headland surveys. • **Results**: o Monopile surveys - In all three years of offshore monopile survey, only common pipistrelle (two in August 2021, three in October 2022 and two in July 2023) and Leisler's bats (one in July and two in August 2021, two in August 2022 and four in June 2023) were detected. o Headlands Surveys - The 2023 headland survey recorded Nathusius' pipistrelle activity between April – October, with peak activity observed in August. Leisler's bat activity varied April – October, with activity peaking in May. Significantly more bat activity was observed onshore during the headland surveys compared to that of the offshore monopile surveys. ***Collision risk modelling*** A workshop was held in Utrecht in March 2024 to discuss Nathusius' pipistrelle and their associated collision risk in relation to offshore wind farms in the North Sea (Royal HaskoningDHV, 2024). The primary objective of this workshop was to refine the estimation of bat fatalities, and in turn the parameters used to model collision risk, including: • Weather conditions; • Wind turbine design and operation; • Timing; • Spatial differences; • Bat behaviour and populations. The workshop concluded that the knowledge gaps present in migratory bats and their interactions with offshore wind require more research in order to develop a reliable and practical method for modelling collision risk. Monitoring offshore would likely aid in providing data to feed into future collision risk modelling. As stated in Section 23.6.2.4 of 3.1.25 Environmental Statement Chapter 23 Onshore Ecology **[APP-037]**, migratory offshore Nathusius' pipistrelles have been observed flying at 1-3m over the sea, with deviation from this low altitude being observed when hunting (Ahlén et al., 2007; 2009). Therefore, Nathusius' pipistrelle flight heights are generally lower than the Project's rotor swept zone, however, Rodrigues et al. (2015) cites Pipistrellus sp. as having a higher collision risk (likely due to their known migration over open habitats). Section 23.6.2.4 of 3.1.25 Environmental Statement Chapter 23 Onshore Ecology **[APP-037]** also notes emerging evidence suggesting the majority of bat mortalities at offshore wind farms occur from barotrauma, rather than direct

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					collisions with turbines (Baerwald *et al*., 2008). However, a study by Lawson *et al*. (2020) using rats and mice as models found that areas of extreme pressure changes occur close to the surface of turbine blades, requiring small mammals to take very specific and improbable flight paths that skim the surface of the blades, in order to increase their risk of barotrauma and mortality. If this model of extreme pressure changes on similar small mammals is representative of bats, it is unlikely that barotrauma is responsible for a significant number of turbine-related bat fatalities. Therefore the potential effect of offshore wind turbines upon bats, should they be migrating in proximity to them, carries considerable uncertainty. ***Conclusion*** To aid filling in the existing data gaps in offshore bats, the Applicant will be providing measures focused around improving existing knowledge on migratory bats through supporting offshore and onshore monitoring projects for six years from the commencement of construction. Namely, the monitoring options proposed include: • Onshore acoustic monitoring at coastal locations of the onshore project area following best practice guidelines (Collins, 2023; NatureScot, 2021); and • Monetary support for existing monitoring projects offshore, such as the BCT National Nathusius' Pipistrelle Project (NNPP) or Motus. The Offshore In-principle Monitoring Plan **[APP-245]** has been updated accordingly to include these measures. Where possible, the Project will work collaboratively with Five Estuaries Offshore Wind Farm for the monitoring of migratory bats. The Applicant agrees with Natural England that committing to specific mitigation measures, such as curtailment, is inappropriate at this stage as the degree of bat migration over the North Sea is uncertain, as is a reliable method to model bat migration. Further detail relating to the effect of implementing a curtailment strategy upon the Project was provided in response to Agenda item 3.2.1 in Applicant's Written Summary of Oral Submissions made at the Issue Specific Hearing 2 (ISH2) **[REP4-034]**.
REP5-110_x	Q14.0.1	The Applicant Additionally, SSECHP, NE and SCC, or other IPs may optionally respond	**Whether or not the applicant is a Statutory Undertaker for the purpose of CROWA 2000** s.85(A1) CROWA 2000 applies when a "relevant authority" (which includes "any statutory undertaker" as defined by s.85(3) CROWA 2000) is "exercising or performing any function" relating to or affecting an Area of Outstanding Natural Beauty ("AONB"). There is no requirement for the "relevant authority" to be exercising a statutory function. The definition of "relevant authority" includes "any Minister of the Crown". Because some ministerial functions are undertaken by virtue of prerogative powers rather than statutory provisions, the exercise of prerogative powers could just as much impact on an AONB as could the exercise of statutory powers. Is s.85(A1) CROWA 2000 limited only to the exercise or performance of statutory functions by the relevant authority? SCC has noted that no limitation appears in the legislative provision itself and nor, in this context, should such a limitation be implied. SCC's view is that the applicant is a statutory undertaker, and so a relevant authority. It contends that this is a sufficient basis to bring it within the scope of s.85(A1) CROWA 2000 when it exercises or performs "any function" which relates to or affects an AONB, irrespective of whether that function flows from or involves the discharge of a statutory power or duty. In response to submissions made by SCC at ISH2, the applicant said that it would confirm the applicant's position on whether it is a statutory undertaker for the purposes of the duty and set these out at applicant's Response to Actions List for ISH2 [REP4-036].	Statutory undertakers are defined in CRoW 2000 section 85 (3) via a reference to Part 11 of the Town and Country Planning Act 1990, which in turn refers onto Section 262 of the same Act. As this is a potentially complex area of the law Natural England recommends that the ExA seeks independent legal advice on this matter.	The Applicant has confirmed that it is a "statutory undertaker" as defined in section 85(3) of the *Countryside and Rights of Way Act 2000* (**CRoW Act**) and a relevant authority for the purposes of the CRoW Act for the reasons set out in response to Q14.0.1 in the Applicant's Response to ExA's Second Written Questions (ExQ2) **[REP5-054]**.

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			It does not appear to be set out within this document, although it is noted that at ISH2 the applicant's view was that it is a special purpose vehicle set up solely for the Project and does not have wider statutory undertaker functions. (I) Please set out whether or not the applicant considers itself as a "statutory undertaker" and, (II) whether or not the applicant is therefore a relevant authority. (III) The implications of being subject to the new duty in s.85(A1) CROWA 2000, if what it was proposing would "affect" any land within an AONB.		
REP5-110_y	Q14.0.6	The Applicant NE	**Natural England – Risk and Issues Log (Deadline 4 Submission)** Following the submission of the Natural England – Risk and Issues Log [REP4-067] submitted at Deadline 4, it appears that no changes have been made to issues I1 to I12, with a similar number of red and amber risks. Please can Natural England and the applicant set out precise steps which they consider would reduce the risk, and therefore RAG rating, of each issue.	The Applicant's assessment finds significant effects for three assessment viewpoints and the users of the Suffolk Coast Path; moderate-minor (not significant) effects on selected special qualities; moderate-minor (not significant) effects on the special character of the Suffolk Heritage Coast (SHC); and that the "total cumulative effects on the special qualities of the SECHNL and the special character of the SHC may be significant" (REP3-044). Natural England's assessment finds that the project has the potential to significantly (in EIA terms) impact the special qualities of the Suffolk and Essex Coast and Heaths National Landscape (SECHNL) and SHC, in particular when acting cumulatively with other existing, consented, and proposed OWF projects. Natural England has not seen evidence that would cause us to change our advice on the impacts to landscape and visual receptors that we have submitted into examination, and we continue to consider that impacts to the SECHNL and SHC are underestimated in the Applicant's assessment. Recognising that this difference in opinion is unlikely to be resolved, and in line with our Relevant Representations advice [REP1-071], we recommend that the Applicant should clearly set out how the Project proposes to enable the decision-maker to further the purposes of the national landscape as set out in the Section 245 (Protected Landscapes) of the Levelling Up and Regeneration Act 2023, whilst also seeking opportunities for enhancement in line with the Protected Landscapes Management Plan.	The Applicant acknowledges the residual difference in the conclusions regarding the effects on the special qualities of the SECHNL and SHC between the Applicant's assessment and Natural England's position. The Applicant's maintains its position as concluded within ES Chapter 29 SLVIA **[APP-043]**, as detailed in previous responses. This notwithstanding, in response to the Examining Authority's Rule 17 Request **[PD-014]**, the Applicant has prepared a set of without prejudice National Landscape Enhancement Scheme Principles, and this has been submitted at Deadline 6 as the Applicant's Response to ExA's Request for further information (Rule 17) - National Landscapes **[9.89]**.

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