FIVE ESTUARIES OFFSHORE WIND FARM

10.40.1 APPLICANT'S COMMENTS ON NATURAL ENGLAND'S DEADLINE 5 SUBMISSIONS

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In preparation of this document Five Estuaries Wind Farm Ltd has made reasonable efforts to ensure that the content is accurate, up to date and complete for purpose.

Revision	Date	Status/Reason for Issue	Originator	Checked	Approved
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CONTENTS

DEFINITION OF ACRONYMS

Term	Definition
ANS	Artificial Nesting Structure
BNG	Biodiversity Net Gain
CSIP	Cable Specification and Installation Plan
DAS	Digital Aerial Survey
DCO	Development Consent Order
DML	Deemed Marine Licence
ECC	Export Cable Corridor
EIA	Environmental Impact Assessment
EPS	European Protected Species
ES	Environmental Statement
FFC	Flamborough and Filey Coast
HRA	Habitat Regulations Assessment
IMP	In principle Monitoring Plan
LBBG	Lesser Black Backed Gull
LEMP	Landscape and Ecological Management Plan
LIMP	Lesser Black Backed Gull Implementation and Monitoring Plan
LPA	Local Planning Authority
LSE	Likely Significant Effect
MDS	Maximum Design Scenario
MLS	Margate and Long Sands
MMMP	Marine Mammal Mitigation Plan
MMO	Marine Management Organisation
MPA	Marine Plan Area
MRF	Marine Recovery Fund
NE	Natural England
NERC	Natural Environment Research Council
NSIP	Nationally Significant Infrastructure Project

Term	Definition
OLEMP	Outline Landscape and Ecological Management Plan
OOEG	Offshore Ornithology Engagement Group
OWF	Offshore Wind Farm
SAC	Special Area of Conservation
SIP	Site Integrity Plan
SNCB	Statutory Nature Conservation Body
SPA	Special Protected Area
UXO	Unexploded Ordnance
VE	Five Estuaries Offshore Wind Farm
WCS	Worst Case Scenario

1. INTRODUCTION

1.1.1 As per the Rule 8 Letter [PD-009] published by the Examining Authority on 25 September 2024, comments on any submissions received at Deadline 5 are to be included with submissions for Deadline 6.

1.1.2 This document has been prepared to set out the response of Five Estuaries Offshore Wind Farm Limited ('the Applicant') to submissions made by Natural England at Deadline 5 with regards to the Five Estuaries Offshore Wind Farm Project ('the Project'), application reference: EN010115.

1.1.3 The Applicant has only responded to points where it believes it would be helpful to the ExA. Rather than copying across whole documents, the Applicant has presented the relevant text or a summary of the points made in the Deadline 5 submissions and then responded to them (while being mindful of the context of those excerpts and being careful not to lose context in summaries).

1.1.4 The absence of commentary on a submission should not be taken as implication that the Applicant supports its content.

2. NATURAL ENGLAND COVER LETTER [REP5-094]

Ref	Summary of Deadline 5 submission OR Excerpt of Deadline 5 submission	Applicant's comments
NE01	**Updated Draft Development Consent Order (DCO)** Natural England has reviewed the updated draft DCO [REP4-005] and Schedule of Changes to the Draft Development Consent Order (To Revision E, Deadline 4) [REP4-006] and have updated our Risk and Issues Log accordingly (please see Appendix L5 to this Deadline 5 submission). As advised in our Deadline 4 response [REP4-061], we met with the Applicant on 9 December 2024 to discuss the outstanding DCO issues. An outcome of that meeting was that Natural England has reviewed the Applicant's Response to Natural England's Relevant Representation [REP1-051] with regard to the DCO issues and provided advice and recommendations on the outstanding DCO issues under Natural England's Discretionary Advice Service (DAS).	This is noted and the Applicant has included and responded to Natural England's comments on the DCO in Section 8.
NE02	Natural England considers the Applicant's proposed changes to condition 19 within Schedule 10 (the Generation Deemed Marine Licence), a significant step forward in resolving issues A1 and A11 in our Risk & Issues Log tab A. However, we have outstanding concerns with regard to the timing of the submission of the report being within 9 weeks of the installation. Previous wording of this condition on other projects, such as East Anglia One North and East Anglia 2, has been for the report to be submitted within 6 weeks of the first foundation piling. We consider 6 weeks to be appropriate timing and would also note that the proposed wording is too open as it does not refer to when the 9 weeks period starts (installation of 1st pile, or last pile?). Further we would note the wording in condition 19 (2) *"if, in the reasonable opinion of the MMO in consultation with the statutory nature conservation body, the assessment shows impacts significantly in excess to those assessed in the environmental statement and there has been a failure of the mitigation." Our emphasis added*. The use of 'and' instead of 'or' (as used in other OWF DCOs) means that in order to stop works the mitigation has to fail and the impact needs to be significantly in excess of predictions. We would note the drafting used on previous Offshore Wind Farm DCO's requires works to stop in either event. If the noise impacts are significantly in excess the mitigation may not fail, but simply be insufficient, and we question if this wording would require the works to stop and for additional mitigation to be agreed.	The Applicant considers 9 weeks to be appropriate given this is from the first pile. The DML has been amended to clarify this at D6. The reference to 'and' is from the MMO's proposed condition in their relevant representation [RR-070] as such the Applicant maintains that wording is appropriate.
NE03	**LBBG Proposed Compensation Site** Natural England welcomes the Applicant's 2024 vegetation and invertebrate survey report results from Orford Ness [REP4-042]. However, we note that the area covered by these surveys now lies outside (though immediately adjacent to) the revised proposed LBBG compensation area. We have also reviewed the updated LBBG Habitats Regulations Assessment [REP4-008], LBBG Compensatory Areas Environmental Impact Assessment [REP4-014], and LBBG Ecological Impact Assessment [REP4-016]. The updated LBBG HRA [REP4-008], includes results from the updated surveys. However, these were carried out adjacent to a section of the Proposed Compensation Site (PCS) but not within its boundary or adjacent to the new northern section of the PCS. The northern section of the PCS was not included in the initial surveys (January 2024) or the 'eastern' adjacent surveys (August to October 2024) (Para 2.2.8). Therefore approx. 2.3ha of the PCS have not been formally surveyed at all, including ditch systems. Furthermore, both surveys were carried out at sub-optimal times (Para 2.2.9) and are based on one visit outside the main survey window for flora and fauna.	The data gather during the desk study and surveys, including views over the parts of the PCS not visited on the ground, has enabled a thorough and systematic review of the implications of the proposed works for conservation objectives (where these exist) for each of the European and Ramsar sites concerned. It is our opinion that sufficient information has been gathered to conclude that, with mitigation, neither the proposed works nor the existence of the PCS could undermine those conservation objectives and therefore it is possible to conclude, beyond reasonable scientific doubt, there would be adverse effects on the integrity of any European or Ramsar site. As a point of clarity, we concluded that there was LSE for the Orford Ness designated sites, which is why we undertook a Stage 2 'shadow' Appropriate Assessment. This is set out, we believe clearly, in the HRA report [REP4-008].

	The assessments presented are based on 'inferences' from the data gathered and conclusions of LSE remain based on incomplete baseline information and are therefore not robust. Moreover, the Applicant continues to conclude no Likely Significant Effect (LSE) despite acknowledging that the new survey and assessment data is based on surveys outside of the PCS, were undertaken outside optimal survey periods, and made using 'inferences' and assumptions of the data gathered. Our previous concerns, therefore, remain unresolved.	
NE04	In the updated LBBG EIA [REP4-014], new areas and amended boundaries have been identified but the baseline data are still absent. We advise that additional information is needed to confirm the conclusions of no significant impact. Our concerns remain unresolved. This also applies to the updated LBBG EcIA [REP4-016]. Lastly, no new information on the proposed ditch crossing has been provided in the EIA as the new survey data do not cover the area impacted.	As set out above for the HRA, we believe that sufficient information has been obtained to reach the conclusion that, with mitigation, the effects of the works and the existence of the PCS would not be significant. The area of the potential proposed ditch crossing was visited by the Applicant in January 2024. As stated in the Lesser Black Backed Gull Compensatory Areas Environmental Impact Assessment [REP4-013], any new crossing of the existing ditch required for access will be designed to maintain local hydrological regimes and avoid open shingle banks with lichen flora. To facilitate this, either a temporary bridge will be used—removable upon completion of the fence installation—or a culvert will be installed. The culvert will be covered with shingle sourced locally, ensuring it does not originate from any Annex I habitat and any new crossing will require an Ordinary Watercourse Consent application to the Lead Local Flood Authority. Therefore, no significant effects on the ditches are likely. The detailed methodology for crossing the ditch will be outlined in the final Lesser Black Backed Gull Implementation and Monitoring Plan (LIMP), which will be submitted to the Secretary of State and Local Planning Authority for approval.
NE05	**Seabird Compensation Calculations** Appendix G1 to Natural England's Deadline 3 submission to the Outer Dowsing Offshore Wind Farm Examination sets out our current advice regarding the calculation of compensation quanta. We are submitting this into the Five Estuaries Examination in the hope this assists the Examining Authority in considering the calculations provided by the Applicant with respect to the compensatory measures proposed for Flamborough & Filey Coast SPA kittiwake, guillemot and razorbill, and Alde-Ore Estuary SPA LBBG. The key piece of advice is that the Hornsea 3 Stage 2 method should be used for scaling compensatory requirements where there is a need to calculate the number of breeding pairs required. However, if there is insufficient demographic data for a given species to populate the calculation it is acceptable to use the Hornsea 4 method, provided that the calculations are updated using philopatry data to account for the need of the colony to sustain itself.	The Applicant has supplied the compensation quantums for LBBG, guillemot and razorbill using the HOW4 methods and for kittiwake using HOW3 stage 2 methods, although the Applicant reiterates that they believe that HOW4 method is most suitable for all species due to the unsustainable results that have arisen using natal philopatry rates especially for razorbill. The Applicant also believes that philopatry rates are not required for guillemot and razorbill compensation in the SW as it is acknowledged that there is no/ little connectivity with FFC SPA, however all benefits will be going into the national site network. The Applicant also believes that philopatry rates are not required for LBBG compensation at the affected SPA as the compensation is reliant on number of pairs and where the juveniles disperse to is of no relevance.

3. NATURAL ENGLAND RESPONSE TO THE RULE 17 LETTER - BATS [REP5-098]

Summary of Deadline 5 submission OR Excerpt of Deadline 5 submission	Applicant's comments
Existing Offshore Windfarms To clarify our earlier advice, curtailing the Five Estuaries wind turbines in isolation of the neighbouring OWFs, would be unlikely to be an effective mitigation measure. Instead, all four OWFs (Five Estuaries, Galloper, Greater Gabbard and North Falls) would need to adopt an identical curtailment strategy for this mitigation measure to be effective. As stated in our earlier advice, curtailment is currently the only long-term mitigation known to reduce bat fatalities from collision and has been used extensively as bat mitigation for onshore wind farm developments. However, at present there is limited information on migrating bat ecology and collision risk factors offshore to design a targeted and (therefore effective and proportionate) curtailment strategy for an OWF.	The Applicant has noted and welcomes Natural England's recent response at Deadline 5 [REP5-089]. This is reflective of much of the Applicant's position at Deadline 5 [REP5-074]. In particular, the likely ineffectiveness of any proposed mitigation, such as curtailment, due to the close proximity of existing offshore wind farms in the area. Both the Applicant and Natural England agree that there is currently a data gap around the behaviour and potential impacts on migratory bats. As a result, the Applicant continues to engage with Natural England (meeting most recently on 14th January and 3rd February), to seek to discuss a potential approach to monitoring, or contributing to current research projects, which would help to further the knowledge base of migratory bats. The Applicant will continue to engage with Natural England on this nascent topic.
Evidence Gaps While there is some evidence to suggest that the proposed Five Estuaries offshore wind farm may be located within an important migration route for Nathusius' pipistrelle, there is a continued lack of empirical data regarding offshore bat ecology, their migration and their interaction with offshore wind farms. Without this information, it would be very challenging to identify the collision risk factors for migratory bats that would inform a targeted (and therefore effective and proportionate) curtailment. Very little is known about bat presence offshore (this is restricted to a small number of studies).	
Monitoring and Mitigation Pre-construction surveys of bat presence offshore could be compared with post-construction surveys and in turn be used to inform potential adaptive management and/or mitigation measures. Therefore, Natural England advises that pre-construction bat surveys would help establish presence, species of bat, relative abundance at different locations. These surveys could potentially provide a more robust baseline against which to compare post-construction monitoring of migrating bats at the proposed development site. Monitoring of offshore/migrating bats could include both the use of acoustic detectors and associated bat tagging/tracking, and should be designed to detect changes in bat activity (such as changes in flight height, evidence of resting on or increased foraging around turbines) after construction compared to before construction. Depending on the technology available, it may also be feasible to monitor interactions of bats with wind turbines through remote sensing techniques e.g. infrared. The monitoring should focus on those areas where bats have been recorded pre-construction and should be designed to provide evidence to inform any adaptive mitigation and management depending on the results, as well as the effectiveness of any such measures. We also advise that any data collected during the proposed surveys/monitoring should be made publicly-available (e.g. Marine Data Exchange) to inform offshore bat distribution/migration route mapping, as well as future impact assessments and marine spatial planning. Natural England notes that designing monitoring for bats offshore presents a considerable technical challenge and that, if possible, a coordinated approach with other developments may be more effective.	

4. NATURAL ENGLAND RESPONSE TO THE RULE 17 LETTER - ORNITHOLOGY [REP5-099]

Ref	Summary of Deadline 5 submission OR Excerpt of Deadline 5 submission	Applicant's comments
	The surveys undertaken in the 2024 breeding season do not fully address our request for significant amounts of on-site monitoring and engagement with local experts to establish a baseline for disturbance at the proposed compensation sites. The surveys undertaken by the Applicant in 2024 were designed to reconnoitre sites in North Cornwall for potential inclusion in the compensation project. They were not undertaken to provide comprehensive data on the guillemot and razorbill population sizes, their breeding status or the impacts from disturbance and predation. Visits to individual candidate sites were undertaken over one day and only provided a snapshot of data to identify each site's potential suitability for compensation and monitoring, e.g. to determine whether breeding colonies were present, observable, vulnerable to anthropogenic disturbance and amenable to the proposed compensation. To this end the work undertaken in 2024 has identified several potential sites for inclusion in the compensation project, however, further work in subsequent breeding seasons will be necessary to test the survey approach at these sites and establish a baseline for disturbance. In 2024, insufficient data were collected at each site to adequately assess the guillemot and razorbill population sizes, their breeding status and success as well as the levels of disturbance and predation. To obtain these data, the applicant will need to undertake generic seabird surveys and plan a program of observations to monitor any impacts from disturbance and predation.	The Applicant has outlined the monitoring that will be undertaken at the sites in the 5.5.8 Guillemot and Razorbill Implementation and Monitoring Plans - Revision C [REP5-025]. The 2024 surveys were undertaken to establish sites where disturbance was an issue and future monitoring will be undertaken at these sites including colony counts, productivity and disturbance to further understand the sites.
	The Applicant has proposed initial monitoring over 2 years to test a survey methodology and establish a baseline of data, but also investigate appropriate set-back distances to advocate for water-borne craft approaching colonies. These commitments are welcome. We understand that details of this work are to be presented in an updated implementation and monitoring plan (IMP) at a later Examination deadline. We recommend the Applicant includes adaptive measures (i.e. alternative survey options and/or sites) and, where data collection proves difficult, investigates the use of novel techniques, such as drones or remote cameras. These may prove useful, particularly where proportions of a breeding colony are not visible from vantage points or when staffing sites for long hours may be impractical.	The sites that have been chosen for the compensation measures are visible from land therefore the novel approaches mentioned are considered to not be required at these locations. However, noting the suggestion from Natural England to potentially use alternative techniques as adaptive management the Applicant will review the Guillemot and Razorbill Implementation and Monitoring Plan and submit an updated version at Deadline 7.
	To alleviate our concerns regarding engagement with local experts, further liaison is needed. We recommend liaison with the local bird community, particularly the individuals that undertake the local seabird surveys for the national Seabird Monitoring Programme, or groups such as the Cornwall Bird Watching and Preservation Society (https://cbwps.org.uk/) and the South-West Marine Ecosystems programme (https://swmecosystems.co.uk/). This could provide valuable information to help select other appropriate sites and monitor those already chosen. More generally, evidence of engagement with delivery stakeholders (e.g. landowners, potential partner organisations) needs to be presented. Effort should be made to reach delivery agreements with relevant parties, in order to demonstrate that the proposed compensation measures can be applied effectively.	The Applicant is in discussions with local groups and experts and will continue this dialogue as mentioned in 5.5.8 Guillemot and Razorbill Implementation and Monitoring Plans - Revision C [REP5-025]. The compensation measures are likely to be delivered in collaboration with other projects, and the benefits measured, in one of two ways: > Measures will form part of a wider strategic scheme that will target and benefit colonies across the region. However, the benefits of the compensation measures attributed to VE OWFL will be monitored at the shortlisted sites presented. It is foreseen that these shortlisted sites may be shared between VE OWFL and Rampion 2 as there is more than sufficient benefit available to compensate for both project's impacts; or > A broader, regional, compensation package with the same measures that will be undertaken in collaboration with a group of developers and the benefits from these measures will be proportionally distributed between each project at an agreed rate.

		As such there is potential for the Applicant to deliver these alone, with a partner (e.g. Rampion 2) or collaboratively with a larger group of developers.
	The Applicant should undertake these tasks with a view to ensuring that the response to the compensation measure can be quantified over time, its success rated and, if necessary, adapted or altered in a timely manner to make improvements. Once appropriate monitoring is in place and a baseline of data obtained, the compensation measure should be implemented within at least 4 years of operations commencing at the wind-farm. This will ensure birds hatched as a result of the compensation measure have had time to mature and recruit into the adult breeding population when predicted impacts commence or in the early years of operation.	It is planned that the compensation measures are to be in place three breeding seasons before the operational phase of VE as set out in 5.5.8 Guillemot and Razorbill Implementation and Monitoring Plans - Revision C [REP5-025]. Baseline monitoring could commence in the 2025 breeding season.

5. NATURAL ENGLAND RESPONSE TO THE RULE 17 LETTER - BENTHIC [REP5-097]

Ref	Summary of Deadline 5 submission OR Excerpt of Deadline 5 submission	Applicant's comments
	Natural England welcomes the Technical Note – Methodology for Determining MDS (Offshore) Rev B [REP4-034], which provides further clarification on a number of topics including Maximum Design Scenario (MDS) values for cable crossings, MDS trapped sediment volume in cable protection, MDS boulder clearance and pre-lay grapnel; and the maximum length of cable protection within Margate and Long Sands Special Area of Conservation (MLS SAC). Natural England highlights that further information/evidence, which we do not believe are directly relevant to responding to points E1 and E7, has been included e.g. 'MDS trapped sediment volume in cable protection', for which we have provided no further comment. Therefore, we advise that no comment, should not be taken as read that Natural England is in agreement with the Applicant on the assessment of trapped sediment, especially in light of evidence of exposed cable/scour protection at the London Array Windfarm also located within MLS SAC.	The comment is noted by the Applicant.
	E1 – insufficient evidence Whilst Natural England welcomes the Applicant's updated Technical Note – Methodology for Determining MDS (Offshore) Rev B [REP4- 034], we advise that the MDS/WCS for cable protection within the SAC remains unclear across all relevant documents. We advise that this needs to be clarified and the relevant documents updated accordingly. Please also see our advice below.	This comment is noted by the Applicant. The comment is addressed in the below response.
	E7 – WCS No, Natural England concerns have not been addressed. The updated Technical Note 'Methodology for Determining MDS [REP4-034]' does not clearly state either the total area, or volume of cable protection required within Margate and Long Sands SAC for both cables. Natural England reiterates that whilst these calculations continue to be ambiguously stated within the Applicant's documents, it is not clear how the regulator will be certain that the WCS within the SAC has not been exceeded. For example, whilst an area of 5,400 m3 has been stated within the Technical note (Section 3.1.5 and 3.3.2), it is not clear that this figure refers to only one of two cables thus the estimated WCS is double the 5,400 m3. In addition, volume calculations remain absent from the updated Technical Note. Therefore, we advise that all relevant documents will need to be updated to clearly demonstrate the total area and volume of cable protection required within the SAC. And whether that will be one linear line of protection or multiple of a particular length and design. Natural England notes that the technical note [REP4-034] appears to deal with cable installation only and does not cover operation. Our outstanding concern raised in our Relevant Representations A15 [PD2-003] regarding the deployment of cable protection during operation remains. Therefore, we advise that any during operations cable protection deployment would be subject to further licensing requirements.	The MDS for cable protection within M&LS SAC is 900 m in length in total (not per cable). This equates to 5,400 m^2 in total area. In practice, this may be made up of one, or more lengths of cable protection, which in total does not exceed 900 m in length or 5,400 m^2. It is not possible to determine the number, or individual lengths of cable protection this may ultimately require. The MDS of 900 m length (5,400 m^2) of protection is the total that is envisaged for the construction and operation periods, if it is even required as the Applicant is confident the cable can be successfully buried in this area. The Applicant is aware that laying cable protection under the DCO would only be possible during the construction period. Should cable protection be required to be laid following the completion of the construction period, the Applicant is aware that this would require a separate Marine Licence. The Technical note has been updated to be clear on the total length (900 m), total area (5,400 m^2) and volume (5,400 m^3) of potential cable protection within the SAC (Section 3.1). The Margate and Long Sands Special Area of Conservation Benthic Mitigation Plan [REP5-027] is already clear about the 900 m length in total and 5,400 m^2 of cable protection within the SAC so has not been updated. The calculation of volume has only been presented within the MDS Technical Note for other cable protection (not within the SAC) and so the volume of cable protection within the SAC is only now also included within the updated MDS Technical Note included at this deadline (Deadline 6).

Ref	Summary of Deadline 5 submission OR Excerpt of Deadline 5 submission	Applicant's comments
	Natural England aims to update the condition assessment and having it publicly viewable on their Designated Sites system by the end of January 2025.	This comment is noted by the Applicant and are aware that the condition assessment has now been published.
	Whilst we note that there are actions for the Applicant in relation to benthic compensation measures, Natural England wish to draw your attention to our response to Examiners Question 1 (ME. 1.10) at Deadline 2 [REP2-059]. Currently it is understood that it is unlikely that the Applicant will be able to provide sufficient evidence and/or level of security within this examination that removal of telecommunication cables alone will sufficiently offset the impacts to Annex I sandbanks within Margate and Long Sands SAC. And whilst we have highlighted in our relevant and written representations [PD2-008] the limitations of each of the project level compensation measures to help inform decision making, we advise that the SNCB's and Applicant's preferred compensation measure remains that of strategic benthic compensation in the form of a new designated site or site extension, as we believe that this will have the greatest ecological merit and chance of delivery.	Natural England's comments is welcomed by the Applicant. Strategic Compensation is also still the Applicants preferred option, should compensation ultimately be required. On the 29th January 2025, Defra released a Ministerial statement and interim guidance regarding the Marine Recovery Fund. The Applicant believes this should provide significant comfort to the Examining Authority (and the Secretary of State) that if compensation is required that the use of MPA designation and/ or extensions of MPAs can be relied upon. The key points from the interim guidance regarding MPA designations are summarised below: > Defra has committed to delivering sufficient MPA designations and/or extensions to provide strategic compensation for likely benthic environmental impacts. > Projects that might use MPA designations/extensions include those from Leasing Rounds 3, 4, and the 2017 extension round and Round 5, associated transmission infrastructure projects, and operational projects requiring compensation for maintenance activities. > Applicants need to pay into the Marine Recovery Fund (MRF) to access these compensation measures and provide evidence of payment and implementation plans. Key links: > Written statements - Written questions, answers and statements - UK Parliament > Strategic compensation measures for offshore wind activities: Marine Recovery Fund interim guidance - GOV.UK

6. APPENDIX G1 – NATURAL ENGLAND'S ADVICE ON SEABIRD COMPENSATION CALCULATIONS [REP5-095]

Ref	Summary of Deadline 5 submission OR Excerpt of Deadline 5 submission	Applicant's comments
	Natural England understands, through correspondence with the Applicant, that it would be useful for Natural England's preferred approach to calculating the number of breeding pairs required for seabird compensation measures to be provided into Examination, in particular our position regarding species other than kittiwake. Our current position is set out below.	This is noted by the Applicant.
	Natural England considers that the Hornsea 3, Stage 2 method, should be used for all compensatory measures where it is necessary to calculate the requirement in terms of the number of breeding pairs. This is because the Hornsea 3 method is considered the most ecologically realistic. Where it is not possible to adequately populate the Hornsea 3 stage 2 method due to limited demographic information regarding the species under consideration, the Hornsea 4 method could be used, provided that the calculations are updated using philopatry data to account for the need of the colony to sustain itself. The ratio applied to that number of pairs to address the uncertainty of success should continue to be set on a case-by-case basis, taking into account the level of impact, the feasibility of the measure, and its potential effectiveness.	The Applicant understands that Natural England believes that the methods outlined are the most ecologically realistic, however the methods result in 293 razorbill pairs for an impact of 0.2 birds. The Applicant believes this is unsustainable.
	Developers have used different methods for working out how many nest spaces are needed to provide adequate compensation for a given level of impact. Two main methods have emerged: • 'Hornsea 3 Stage 2' method – this calculates the number of birds needed to replace those lost at the impacted site, and the number of adults that need to be produced by a colony to sustain itself, as opposed to drawing birds out of the wider population to do so. • 'Hornsea 4' method – this solely looks at the number of birds needed to replace those lost and does not incorporate the need for the colony to sustain itself. Whilst recognising there is legitimate debate about the merits of different methods, Natural England currently considers the Hornsea 3 Stage 2 method the most appropriate method. As there is no clear evidence to suggest that populations of kittiwake, guillemot, razorbill and large gulls are nesting space-limited, the intervention site will only be compensating for the predicted impacts when its fledglings become successful breeding adults and add 'new' birds to the population. In other words, the benefits should be seen as those fledglings that would never have been born without the intervention. Where nest space for a given species is clearly limited for example, sandwich tern, an alternative approach might be appropriate. The use of the Hornsea 3 stage 2 method has been challenged on the basis that the intervention site should not be considered a closed population, as birds will join and leave it through the normal processes of immigration and emigration. Whilst it is correct that seabird populations are generally not closed, Natural England takes the view that any immigration of breeders into the intervention site would simply represent movement of birds within the wider population, rather than the generation of 'new' adults. If there were a large non-breeding adult population then these could indeed represent new breeders if they colonised the intervention site, but we have no evidence that this is the case. If we were to assume that immigrant adults colonised the intervention site, we might expect productivity to be greater than that achieved at their former colony, for example if the site was closer to prey	The Applicant believes that the use of Hornsea 3 stage 2 method and/or Hornsea 4 with natal philopatry is not appropriate with unsustainable results for several species using these methods. The Applicant also believes that philopatry rates are not required for guillemot and razorbill compensation in the SW as it is acknowledged that there is no/little connectivity with FFC SPA, however all benefits will be going into the national site network. The Applicant also believes that philopatry rates are not required for LBBG compensation at the affected SPA as the compensation is reliant on number of pairs and where the juveniles disperse too is of no relevance.

Ref	Summary of Deadline 5 submission OR Excerpt of Deadline 5 submission	Applicant's comments
	resources. However, this would already be reflected in the various productivity scenarios within the models. More generally, there is a clear benefit to having a consistently applied, scientifically robust method of calculating the number of breeding pairs required to generate the replacements into the national site network, as opposed to having different methods for different kinds of habitat provision/protection types. Our current view is that because these measures produce the same kind of benefit, there is not a clear rationale for applying different calculations for example, predator eradication as opposed to Artificial Nesting Structures (ANS) provision.	
	Other aspects of calculating seabird compensation requirements Natural England generally advises that seabird compensatory measures are scaled against the 95% upper confidence limit (UCL) predicted impact value, rather than the central impact value. We see this as necessary to ensure that, given the uncertainty regarding OWF impacts, the decision-maker can still have confidence that the compensatory measures can provide sufficient benefit should the impacts exceed those of the central prediction. In addition, and in line with the approach taken with compensatory measures for other impacts e.g. terrestrial or intertidal habitat loss, uncertainty regarding the success of the compensatory measure should also be taken into account when developing the compensation proposals. This should be done on a case-by-case basis and including the use of ratios where relevant alongside multiple interventions, locations, different designs etc. Guidance is clear that 1:1 ratios are only appropriate where there is high confidence in the likelihood of success, which given that seabird compensation is still in its infancy, is unlikely to be the case for seabird compensation measures. Measures with high likelihood of success and flexibility for adaptive management, e.g. island predator eradication may allow a lower ratio than for where the measure is less well tested and there are greater constraints on adaptive management e.g. ANS. Other factors such as the scale of the predicted impact and the sensitivity of the impacted species will also need to be factored in. We recognise that using the 95% UCL impact value can, in combination with use of greater ratios, result in large compensation quanta for some species, and that therefore a pragmatic interpretation of these calculations may be needed. For example, where a compensation case for a project with a substantial quantum is well detailed and has good prospects of success, a case could be made that where the Hornsea 3 part 2 approach is adopted, it is unnecessary to then adopt both the 95% UCL impact value and a ratio higher than 2:1 to adequately account for uncertainty. It is also important to distinguish between the compensation quantum, which informs the scaling and design of the measure to be implemented, and the target or objective for the compensation to achieve, which Habitats Regulations Assessments have generally (though not always) set with respect to the central impact value.	The Applicant does not agree that UCI is suitable for calculating the compensation quantums. There are already many levels of precaution that applied before this stage and the layering of levels of precaution are leading to an inflated compensation quantum as highlighted above. Other developers have had similar unsustainable quantums using the Natural England methods, including over 600,000 pairs for an impact of 72 razorbills, see 20.17 Guillemot and Razorbill Compensation Quanta [REP3-049] from the Outer Dowsing Offshore Windfarm Examination.

7. NATURAL ENGLAND COMMENTS ON UPDATED DRAFT DCO AT DEADLINE 4

Ref	Five Estuaries response to Natural England Relevant Representations At Deadline 1	**Natural England updated position.** (Note that unless otherwise detailed, the outstanding concerns that Natural England have following our review of your response to our relevant representations can be found in those Relevant Representations or subsequent submissions)	Applicant's Response At Deadline 6
A1	This is noted and the Applicant has responded at A11.	See Issue A11	This is noted by the Applicant.
A2	The M&LS SAC Benthic Mitigation Plan has been submitted as final as it secures key commitments in relation to the use of cable protection within the designation. The final details of cable protection within the SAC will be set out in the final CSIP. The requirement to follow the commitments set out in the mitigation plan is secured in Schedule 11, Part 2, Condition 13(1)(g)(iv).	Natural England considers that the submission of an updated mitigation plan at the time of the works is a standard approach when dealing with a Rochdale Envelope approach, especially within the marine environment due to the potential for change. The submission of an updated plan just prior to the works allows the mitigation to be tailored to the actual works being conducted and to include the latest environmental survey data to ensure the mitigation is appropriate.	Details of measures in the Margate and Long Sands SAC will be set out in the CSIP, and therefore this is where updates to the proposed works will be approved. The Applicant maintains that the commitments made in the Benthic Mitigation Plan [ref] are sufficient to minimise any impact on the SAC.
A3	Without prejudice schedules will be provided for other species at a later deadline.	Pending the submission of the draft schedules expected at Deadline 5 as per your response to ExA written questions 1, question ME 2.12. We note in the 5.5.4 Kittiwake Evidence and Selection Roadmap a reference is made to expected Natural England conditions re: strategic compensation. We would note these draft conditions were provided as part of our relevant representations within Appendix A.	The Applicant awaits Natural England's comments on the without prejudice schedules submitted at Deadline 6.
A4	The Applicant refers Natural England to the outline landscape and ecological management plan [APP-254] where the detail requested is set out. The Applicant considers it unnecessary to specify these points in the requirement when it can be addressed in detail and secured in the outline plan.	Natural England notes the wording within the outline plan. However, our position remains that these broad details are important and should be captured within the requirement. This is likely to be an issue where we agree to disagree.	This is noted by the Applicant.

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A5	The 9.21 Code of Construction Practice [APP-253] submitted with the application is final not an outline. It is not proposed to submit a later version for approval. No amends are required.	Similar to our response at A2, due to the Rochdale envelope it is standard that the Code of Construction Practice (CoCP) is resubmitted for approval once the detail of the onshore works is known. This has been a standard approach for all offshore wind farm Nationally Significant Infrastructure Project (NSIP) applications, and we see no reason why Five Estuaries should not be required to submit an updated CoCP/s for each relevant part of onshore works.	The Applicant notes this topic was discussed at Issue Specific Hearing 7. The Code of Construction Practice (CoCP) has been drafted as a final document, securing the commitments within it, and this approach agreed with Essex County Council. The Applicant notes, there are also a number of outlines in the CoCP for detailed plans that will come forward later, such as the soil management plan, which is secured by requirement 11.
A6	The Applicant is proposing to seek clarification with Natural England on consultation on the LEMP. It is contrary to the aim of allowing pre-commencement works to require plans to be discharged to allow them to commence. ECoW advice would be sought, and supervision as required for precommencement works, this is set out in 3.4.1 of the OLEMP [AS-006].	Consultation of the relevant statutory nature conservation body (SNCB) on the Landscape and Ecological Management Plan (LEMP) is a standard requirement, given the purpose of the document and the function of Natural England. We consider that consultation should be appropriately secured and would note it has been secured in most OWF DCOs. With regard to the clearing works, discussions are underway internally within Natural England and we may update or clarify this position early in 2025.	The Applicant notes that the Relevant Planning Authority in discharging the requirements will be responsible for consulting with consultees as appropriate.
A7	These requirements relate to the methodology for carrying out works not the provision of compensation and the Applicant considers that they are properly controlled by the LPA not the SoS as they are practical planning matters, not Habitats Regulations issues.	Natural England notes the response, as per the Red Amber Green (RAG) rating, this was raised for information and consideration of the Examining Authority (ExA) and Secretary of State (SoS), noting this covers only a question of where within the document the provision should be included.	This is noted by the Applicant.
A8	The Applicant notes that BNG is not a statutory requirement for this project. The Applicant considers that the detail requested should be included in the strategy itself and not in the requirement.	Natural England position has not changed and consider that consultation and the duration of the Biodiversity Net Gain (BNG) should be secured within this requirement.	The Applicant notes that the Relevant Planning Authority in discharging the requirements will be responsible for consulting with consultees as appropriate. The details of the BNG will all be set out in the plan for approval having regard to the final number, location and types of habitat units required as well as maintenance for the required lifetime.
A9	The Applicant does not agree with Natural England's proposal as it is too restrictive and may adversely affect the construction programme. The MMO require a minimum of 6 months for the approval of pre-construction plans, and where the Applicant has the necessary detail in place ahead of this time, it is prudent to submit in advance to	Natural England notes the response. We also note the updated Site Integrity Plan (SIP) condition within the Deadline 4 DCO and, while we accept the updated wording, our request stands for the plan to be provided no more than 9 months prior to the works.	Noted, however the Applicant's original position still stands. Experience from other projects suggests that the timescales for approvals relating to marine mammals (i.e. the SIP, MMMP, EPS licence application), where it has been requested that all materials are in front of the SNCB and the regulator before *any* are approved, have taken considerably in excess of 9 months to determine and therefore the proposed restriction would likely lead to unnecessary programme delay.

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	reduce the potential for delays. Piling programmes for projects (to level required for planning under the SIP) will be known greater than 9 months in advance, and therefore it is not reasonable to restrict the submission of the SIP in this way.		
A10	The Applicant has committed to significant ornithological monitoring of potential compensation measures. The Applicant has not identified any obvious monitoring options that would considerably increase the certainty of assessment outcomes, although initial proposals are set out in the Offshore In- Principle Monitoring Plan [APP-265] However, the Applicant is open to continuing to engage with Natural England on this matter.	Natural England's position on the need to secure monitoring for benthic, ornithology and marine mammals remains. Further we would note that the condition does not include a requirement for any post construction ecological surveys - only surveys to address navigational or archaeological concerns have been included. Discussion on the In Principle Monitoring Plan is ongoing, subject to the outcome we would expect to see the monitoring conditions updated as required.	The Applicant has submitted an updated Offshore IPMP (Revision D) at Deadline 6. However, the Applicant's position fundamentally remains the same and has not identified any obvious monitoring options that would considerably increase the certainty of assessment outcomes.
A11	The Applicant is considering this point and reviewing recent precedents and will propose drafting on this point at a later Deadline.	Natural England notes and thanks the Applicant for the updated wording submitted at deadline 4. We consider that this wording is potentially a big step forward and are currently reviewing internally. We anticipate that we will be able to provide a more detailed response early in 2025.	This is noted by the Applicant.
A12	The Applicant does not agree with the inclusion of the proposed condition. The EIA process is carried out to ensure that likely significant effects are identified and assessed for the purposes of decision making. Where uncertainty of effects or the efficacy of mitigation or compensation remains, the Applicant has committed to appropriate monitoring and, if necessary, adaptive management. However, it is not appropriate to widen this out to any and all effects, and essentially leave the EIA as an open- ended process. By their very nature, effects that have not been anticipated cannot be assessed. The Applicant through scoping, expert topic groups, statutory consultation and its own expert assessment has sought to identify as far as reasonably possible all likely effects as required by the EIA regulations. The Maximum Design Scenario ensures a	Natural England notes the response and notes that similar concerns were raised and considered by the SoS when deciding to apply this condition to the Sheringham and Dudgeon Extension Project. However, with regard to addressing non-significant effects we would be content with an update to the wording to note that this condition would only apply to matters which the MMO (in consultation with the relevant SNCB) consider significant. The provision was not intended to cover every unanticipated effect no matter how minor.	Whilst the Applicant is pleased that the Natural England suggested update would make the condition slightly more proportionate, it maintains its original position. This condition amounts to an effective continual and open-ended re-running of the EIA which is neither the purpose of EIA nor of carrying out monitoring. Where uncertainty exists, the Applicant has committed to monitoring and potential adaptive management, however for the vast majority of receptors the potential impacts are well understood and documented, and the EIA has taken a proportionate approach to assessing a worst case scenario. There is no reason to suggest that this process is flawed or subject to such uncertainty that this condition should be considered reasonable or necessary. In simple terms it undermines the very purpose of undertaking an EIA and places an ongoing burden on the Applicant for any unforeseeable effect which, by its nature, could not have reasonably been predicted by either Natural England nor the Applicant. Even in this case however the EIA has still done its job in assessing the *likely* significant effects. The Applicant maintains that this condition is seeking to extend the purview of the MMO and the SNCB far beyond what it should reasonably be.

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	precautionary approach is applied and conclusions of significance can be relied upon. The condition proposed holds the Applicant open to responding to any, even non-significant effects, that were unanticipated at the time of its EIA. In the unlikely event that unanticipated impacts are found through monitoring (and it is noted that monitoring is not mandatory and should be focus on areas of uncertainty or predicted significant adverse effects), this should be used for making better and more informed decisions in later EIA processes, not as an opportunity to reassess a project that has already been through the statutory process. This open-ended condition also introduces long term liabilities and reduces certainty of delivery, potentially reducing the commercial viability of the project and introducing unnecessary programme and cost risk.		
A13	Noted by the Applicant.	None needed.	No response required.
A14	The Margate and Long Sands SAC Benthic Mitigation Plan [APP-243] has been submitted as final to ensure the commitments made within it are fixed. Final details of any cable protection to be used in the SAC will be set out in the CSIP. It is considered that compliance with the plan is appropriately secured in Schedule 11, Part 2, Condition 13(1)(g)(iv), and that the detail requested will be provided in the final CSIP.	See response to A2 above.	See the Applicant's response to A2
A15	This condition restricts the use of cable protection to being deployed within 10 years from the granting of the Order, not the start of construction or operation, therefore the deployment is already significantly time limited. The Order must be implemented within 7 years of granting, and sometime after implementation must be allowed for construction activities otherwise the condition would be incompatible with the wider DCO. The Applicant considers this restriction appropriate as at allows reasonable flexibility in the timing of	The position that deployment of cable protection post construction within a site designated for benthic features should be by application for, and granting of, an additional marine license, is a standard position agreed by all SNCBs. Your response is noted but the standard agreed position has not changed.	The Applicant has committed in Section 7.1.1 of the Margate and Long Sands SAC Benthic Mitigation Plan [REP5-027] that 'If cable protection is required within MLS SAC outside of the 'construction period', an additional ML [Marine Licence] and associated assessment will be required.

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	construction, whilst restricting deployment of cable protection during operation.		
A16	Without prejudice schedules will be provided for other species at a later deadline.	Noted.	
A17	The Applicant has reviewed this for the Deadline 1 revision of the dDCO.	Natural England has noted acceptance of this change within our Risks and Issues Log.	This is noted by the Applicant.
A18	The Applicant considers that this level of detail is unnecessary in the schedule as requirements for forming the OOEG are set out in 5.5.6 Lesser Black Backed Gull Implementation and Monitoring Plans [APP052].	Natural England's position has not changed. We would note that similar levels of detail have been included in compensation schedules granted by the SoS, for example within the East Anglia One North and Two OWF DCOs.	The DCO's referenced by Natural England were among the first offshore wind DCOs to include compensation schedules, notably for measures that still required considerable development. The Applicant's proposed measures for LBBG are, by comparison, well advanced, with the measure at Orford Ness secured within the Order Limits. The scope of matters before the OOEG therefore is likely to less detailed and more consultative, and this is why the Applicant considers the previous wording to be overly prescriptive and unhelpful.
A19	The Applicant will review this when updating the relevant schedule of the dDCO.	Noted, pending changes to the compensation schedules.	The Applicant awaits Natural England comments to the schedules.
A20	As the schedule requires the final LIMP to be in accordance with the outline LIMP submitted with the application (and due to be updated at Deadline 2), the Applicant considers that these are already appropriately secured as part of the outline LIMP and subsequent detailing in the dML is not necessary. The final LIMP is subject to approval by the Secretary of State following consultation with Natural England and other stakeholders, therefore this is the mechanism to ensure all relevant points are addressed before the compensation measure is implemented.	Similar to A18, we note that more detailed lists have been included in compensation schedules for prior projects. Our position remains unchanged.	See the Applicants response to A18.
A21	The Applicant is not proposing to increase this period at this time.	Natural England position remains that the period should cover 4 full breeding seasons.	The Applicant's position also remains unchanged.
A22	The Applicant considers it appropriate to link the compensation to the period of impact, which in this case is operation.	Noted. Natural England's position remains unchanged.	The Applicant's position also remains unchanged.
A23	The Applicant notes that these activities are marked amber as they only require a new marine licence if they exceed the parameters included in the MDS (Table 1.31 APP-070). Of the Amber	Noted. Natural England will review the updated Outline Offshore Operations and Maintenance Plan (OOOMP) and update our position should that be	This is noted by the Applicant.

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	activities only foundation replacement is not present in Table 1.31 MDS for O&M activities; this is because the number of activities is expected to be 0. The Applicant can appreciate the logic of changing this item to red, however the others shall remain Amber.	warranted. We do accept the update to change the foundation replacement works to Red.	
A24	The Applicant notes this and will update with the appropriate cross references. An updated document will be submitted at a future deadline.	As above, Natural England will review the updated document and will change our position where appropriate.	This is noted by the Applicant.

8. NATURAL ENGLAND'S COMMENTS ON THE IN PRINCIPLE MONITORING PLAN

Ref	Summary of Deadline 4 submission OR Excerpt of Deadline 4 submission	Applicant's comments
NE57	**Introduction** Natural England welcomes the submission of the Five Estuaries Offshore In Principle Monitoring Plan (IPMP) as part of the application. Further, we welcome the Applicant's inclusion of the general guiding principles for proposed monitoring (Section 2). We also refer the Applicant to Natural England's Best Practice Advice document which sets out our expectations in terms of monitoring. This document is available at: Environmental considerations for offshore wind and cable projects - Phase IV Best Practice Advice for Post-Consent Monitoring, Version 1.0, July 2022.pdf. Relevant sections are also included in Annex A of this document for reference.	This is noted by the Applicant.
NE58	**Overarching Concerns with the IPMP** Natural England advises that this is a live document which is updated throughout examination and post consent to reflect the outcome of discussions and/or monitoring.	This is noted by the Applicant.
NE59	In recognition of the emphasis being placed by projects currently in the post consent phase on the IPMP when setting the monitoring requirements and parameters; Natural England highlights the importance of this document. Natural England emphasises the requirement to agree the scope of the IPMP and hypotheses which will be tested by the monitoring as part of the consenting phase.	This is noted by the Applicant.
NE60	Overall, Natural England feels that much more detail is required than is provided in the IPMP in its current form. For example; What are the hypotheses the monitoring will be testing and how do they relate to the assessments undertaken in the ES? How will the monitoring be designed to ensure that the desired outcomes can be achieved i.e. is the monitoring fit for purpose? What are the indicative timings of the surveys? Can lessons be learnt from previous thematic surveys and how will modifications to surveys design be incorporated between survey campaigns? What does 'success' look like to demonstrate that no further monitoring is required? What happens if the results do not support the null hypothesis? Is further monitoring required (with/without modifications)? If impacts are greater than predicted, do actions need to be undertaken to address these impacts? How will further monitoring and actions be secured, is a change to the wording of the dML required? And if so, how will success of any action/s be monitored and what will be the success criteria before monitoring can cease? To answer the above, Natural England considers the IPMP should focus on what the uncertainties and evidence gaps of the EIA and/or HRA are, rather than repeating the outcomes of the EIA only (Sections 4.3 - 4.8). We consider that establishing and agreeing the uncertainties and evidence gaps of the EIA and/or the HRA is necessary to inform what monitoring should be undertaken.	The Applicant notes NEs concern in relation to the current detail included within 9.32 Offshore IPMP – Revision C. The Applicant has submitted an updated version of the IPMP (Revision D) at Deadline 6.
NE61	As per the Applicant's 'General Principles and Guidance' (Section 2) Natural England advises an approach mechanism in which the Applicant presents a clearly defined hypothesis or null hypothesis of no impact would be beneficial. Monitoring thereafter would	The Applicant has submitted an updated version of the IPMP (Revision D) at Deadline 6.

Ref	Summary of Deadline 4 submission OR Excerpt of Deadline 4 submission	Applicant's comments
	aim to test this. We advise a review period during which Statutory Nature Conservation Bodies (SNCBs) and regulatory bodies such as the Marine Management Organisation (MMO) are consulted by the Applicant to assess the results of the first period of monitoring. For example, one mechanism that could be introduced for particular receptors would be a live document which is reflective of what the monitoring is observing, including consideration of species/habitat recovery.	
NE62	We advise that monitoring should be effective in providing sufficient evidence pre-construction to inform the deployment of mitigation measures and similarly demonstrate the efficacy of mitigation measures during construction and post-construction. This is important to demonstrate compliance with the measures identified in assessments to mitigate significant impacts. It is also important to provide evidence to assess the significance of adverse effects, evaluate the success of mitigation measures and to help inform whether further remedial measures are required.	This is noted by the Applicant.
NE63	In relation to remedial measures, Natural England wishes to highlight the importance of ensuring that all relevant monitoring proposals for Five Estuaries (and/or associated DCO/dML conditions) consider the aim of securing a mechanism for adaptive monitoring when unforeseen impacts are detected. Thus, ensuring remedial measures (i.e., adaptive management) are triggered should the results of monitoring demonstrate impacts that are significantly greater than predicted and/or incorrect assumptions were made following review of the conclusions of the environmental statement and supporting documents. We advise that the potential for certain monitoring to trigger the development of countermeasures (with associated monitoring of those measures) should be clearly stated in relevant tables of the IPMP and incorporated into the DCO conditions where relevant.	The Applicant does not see the appropriateness of securing a mechanism for adaptive monitoring with regards to unforeseen impacts. Appropriate measures have already been put in place to monitor sensitive habitats, particularly in the benthic environment, where if biogenic and geogenic reef features are identified during the pre-construction surveys, a post construction survey targeting that feature will be undertaken to determine any change in the location, extent and composition of such feature. Additionally, if cable protection is installed in the Margate and Long Sands SAC, post construction monitoring will be carried out in line with methods agreed in pre-construction monitoring in the first year following installation of cable protection. The results of this survey will be used to inform the timing of subsequent surveys, if required, in consultation with the MMO and NE. This is outlined in Section 4.6 of 9.32 Offshore In-Principle Monitoring Plan – Revision D. Additionally, the monitoring of any counter measures which are put in place would add another layer of monitoring which is unlikely to highlight sufficient change and thus encourages monitoring of no real value.
NE64	**Nature conservation thematic advice - Engineering and design related monitoring** It is unclear to Natural England if this also encompasses monitoring surveys to inform final project design including those required to inform mitigation measures such as avoidance of certain sensitive receptors particularly environmental ones. If so, it would be useful if the Applicant could specify the purpose of each aspect of the engineering and design related monitoring in full. We highlight that geotechnical investigations will be critical to inform the cable burial risk assessment and in relation to reducing down the direct or indirect impacts to environmental receptors. We request that further details are provided to answer the questions posed in our overarching comments.	As noted in the 9.32 Offshore IPMP – Revision D in Section 4.2 the Applicant will undertake surveys at the pre-construction phase such as Geophysical and Geotechnical which may comprise of multibeam sonar, side-scan sonar, sub-bottom profiling, cone penetration tests and vibrocoring. Such surveys conducted will look to gather the following information: - Debris; - Boulders; - Archaeological features; - UXO presence; - Seabed Features; - Sediment Depths; and - The nature of the seabed. This information will aid engineering and design decisions to be able to commence construction activities and final survey proposals will be determined post-consent. The Geophysical and Geotechnical data that is collected from those surveys will inform pre-construction identification and mapping of features of importance to archaeology and benthic ecology.

Ref	Summary of Deadline 4 submission OR Excerpt of Deadline 4 submission	Applicant's comments
NE65	Marine Processes Evidence is needed to validate predictions of impacts to, and recovery of, sandbanks, sandwaves and designated areas of seabed following seabed preparation and sandwave clearance. Natural England advises that sandwave/sandbank pre- and post- construction monitoring should be carried out to ensure no unexpected changes occur to seabed morphology, as predicted in the EIA. And that hypothesis on sandbank recovery have been met.	As highlighted above in Response NE63, appropriate measures have already been put in place to monitor sensitive habitats, particularly in the Benthic Environment.
NE66	Coastal Processes The Applicant has stated [REP1-051] that they intend to use Environment Agency LiDAR data and Anglian Coastal Monitoring Programme data to monitor coastal change. This should be secured either in the In Principle Monitoring Plan (IPMP) or elsewhere.	The Applicant has submitted an updated version of the IPMP (Revision D) at Deadline 6 to include this.
NE67	Offshore Ornithology The IPMP proposes that ornithological monitoring is focused solely on the compensatory measures that are implemented for the project. No further monitoring is proposed. Natural England highlights that compensation monitoring is undertaken to observe the success of the compensation measures and not to test the predictions of the ES. Therefore, we advise that further monitoring is required of residual concerns and to test agreed hypothesis. We advise that post-consent monitoring of the offshore wind farm could help clarify the key risks, such as those posed to LBBG from collision, and as such be included within the IPMP.	The Applicant's position is that site specific ornithological monitoring has provided little value at operational projects and should not be undertaken as a matter of course, particularly not for non-significant impacts. There is no requirement to undertake monitoring to test ES predictions and given the highly precautionary nature of the assessment and the conclusion of no significant effects, there is, in the Applicant's view, no justification for post-construction monitoring beyond what is set out in the IPMP (Revision D). Where there are perceived data gaps which further data may allow reduced precaution in future EIAs, this is best done at an industry level.
NE68	Benthic Ecology Natural England advises that Section 41 habitats (which includes piddocks) have now been appropriately included within the Margate and Long Sands Special Area of Conservation Benthic Mitigation Plan [REP2- 021], however, it is unclear if biogenic reef monitoring within the Principle Monitoring Plan Revision B (Tracked) (Doc 9.32) [REP1-046] also relates to priority reef habitat. Natural England reiterates that all Section 41 Habitats should be included within the In Principal Monitoring Plan so that impacts on these habitats, particularly those that are irreplaceable (i.e. boring Piddock communities), can be avoided and reduced. We also advise that a commitment should be made to carry out specific pre-construction surveys to inform the benthic mitigation.	The Applicant notes that 'biogenic reef' as stated within the 9.32 Offshore In-Principle Monitoring Plan - Revision B [REP1-045] (noted Revision D has been submitted at Deadline 6) does relate to priority reef habitat. Prior to any construction works commencing, geophysical and geotechnical surveys will be carried out to further understand the seabed characteristics. Following these surveys, should there be any identification of potential Annex I reef habitats, further surveys will be undertaken as set out in the 9.32 Offshore IPMP – Revision D, which aim to determine if the reef is classified as Annex I reef. Piddock communities are found in one discrete section of the offshore ECC. There is a commitment to not dispose of any dredge material within this area identified to contain piddock communities. Information is provided in 10.30 Outline Sediment Disposal Management Plan [REP4-041] Section 3.6). Due to the scarcity of other NERC habitats identified within the site, no other specific pre-construction surveys are planned to inform benthic mitigation.
NE69	Benthic Ecology It remains unclear if all surface laid infrastructure within MLS SAC will be monitored post construction and for how long. Or will any monitoring only be along a subsection. Again, as with Ornithology, we highlight that compensation monitoring is undertaken to observe the success of the compensation measures and not to test the predictions of the ES. Therefore, we advise that further monitoring is required of residual concerns and to test agreed hypothesis. Natural England advises that all infrastructure within MLS SAC should be monitored post installation to test particular hypotheses relating to significance and duration of impacts	The Applicant notes that the only infrastructure that is intended to be placed within MLS SAC is the cables, which will be buried wherever possible and where required, cable protection will be installed where it is not possible to burry to a sufficient depth. The Applicant reiterates that they are confident the cables can be buried without the need for cable protection. Nevertheless, if cable protection is used within MLS SAC there is a commitment to monitor all areas where cable protection is placed (see 9.32 Offshore IPMP – Revision D) within the SAC. If it is noted that the details of this post-construction monitoring will be submitted for approval to the MMO for written approval at least six months prior to the commencement. The Applicant would like to note that this is not compensation monitoring as this is not considered a compensatory measure, it is monitoring of a potential impact within the SAC.
NE70	Marine Mammals	This is noted by the Applicant an updated IPMP has been submitted at Deadline 6.

Ref	Summary of Deadline 4 submission OR Excerpt of Deadline 4 submission	Applicant's comments
	We note that Section 4.8 of the IPMP now includes 4.8.5 "VE will consider the advice of the SNCBs regarding additional monitoring that may be required for marine mammals." We welcome this comment and will engage with the Applicant on the monitoring plan for marine mammals. It would be helpful if some hypothesis could be agreed and secured during the examination within the IPMP.	
NE71	<u>Migrating Bats</u> Currently there is a lack of evidence regarding potential impacts to migrating bats due to the presence of the Five Estuaries arrays. Natural England advises that pre, during and post construction acoustic monitoring (possibly radiotracking) within the proposed development zone should be considered to increase the baseline knowledge of bat species migrating across the development area and inform the requirement for mitigation measures (including monitoring the success of any mitigation measures implemented.	Please see 10.34.1 Applicant's Comments on Natural England's Deadline 4 Submissions [REP5-074], reference NE80 where further detail is provided with regards the Applicant's position on migratory bats.

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