NORTH FALLS

Offshore Wind Farm

9.1 Applicant's Responses to Relevant Representations Received from Natural England

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1. INTRODUCTIONS

1.1 Introduction

1.1.1 This document has been prepared on behalf of North Falls Offshore Wind Farm Limited (the 'Applicant') to accompany a Development Consent Order (DCO) application for the North Falls Offshore Wind Farm project (hereafter 'North Falls' or the 'Project') to be located off the East Anglia coastline. North Falls is a proposed western extension to the existing southern array area of Greater Gabbard Offshore Wind Farm.

1.2 Purpose of Document

1.2.1 The DCO Application was accepted for Examination by the Planning Inspectorate on 22 August 2024 and Examination opened on 28 January 2025.

1.2.2 Registration of Interested Parties, through the submission of a Relevant Representation (RR) commenced on 11 September 2024 and closed on 18 October 2024.

1.2.3 During this period a total of 351 Relevant Representations were received by the Planning Inspectorate, from the following Interested Parties:

- Local Authorities;
- parish and town councils;
- statutory consultees and non-prescribed consultees; and
- parties with land interests; and
- members of the public and business.

1.2.4 All the RRs have been reviewed and considered by the Applicant. This document specifically sets out responses from the Applicant to the matters raised in the RRs made by **Natural England**.

1.2.5 The Applicant has responded to each RR received individually in section 2 of this document however some common themes in the representations were identified and have been responded to thematically in Section 2 of the Applicant's Response to Relevant Representations from members of the public **[9.5 (Rev 0]** in order to avoid repetition. These have been referred to in the following format as **Applicant's Common Response – 001** to **009**.

1.2.6 In providing these responses, this report provides appropriate cross-referencing to where the issues have been addressed within the DCO Application.

2. APPLICANT'S RESPONSE TO RELEVANT REPRESENTATIONS RECEIVED FROM NATURAL ENGLAND [RR-243]

2.1 Natural England [RR-243] - Applicant's Comments – Main Letter

Applicant's Ref	NE Ref	Issue	Issue raised	Applicant's Response
	PART I – OVERVIEW OF REPRESENTATIONS - **1. Scope of Natural England's Advice**			
	1.1	Scope of Natural England's Advice	Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.	Noted.
	1.2	Scope of Natural England's Advice	Natural England's remit extends to the territorial sea adjacent to England, up to the 12 nautical mile limit from the coastline. The Examining Authority should note that pursuant to an authorisation made by the JNCC under the Natural Environment and Rural Communities Act 2006, Natural England is authorised to exercise the JNCC's functions as a statutory consultee in respect of applications for offshore renewable energy installations in offshore waters (0-200nm) adjacent to England.	Noted.
	1.3	Scope of Natural England's Advice	This application is included in that authorisation and, therefore, Natural England will be providing statutory advice in respect of that delegated authority. However, JNCC retains responsibility as the statutory advisors for European offshore marine sites that are located outside the territorial sea and UK internal waters (i.e. more than 12nm offshore) and continues to provide Natural England advice on the significance of any potential impacts on interest features of those sites.	Noted.
	PART I – OVERVIEW OF REPRESENTATIONS - **2. Approach to Relevant Representations**			
	2.1	Approach to Relevant Representations	These representations contain a summary of what Natural England considers to be the main nature conservation, landscape and related issues with regards the Development Consent Order (DCO) application, as well as the Deemed Marine Licences (DML) contained therein and indicate the principal submissions that it wishes to make at this point.	Noted.
	2.2	Approach to Relevant Representations	In the interests of issue resolution Natural England has combined Relevant Representation and Written Representations within this response. This is to provide the detail on all issues as early as possible to allow more time for discussion and resolution. If required and appropriate, Natural England will develop these points through further Written Representations or in response to Examiner's questions.	Noted.

Applicant's Ref	NE Ref	Issue	Issue raised	Applicant's Response
	2.3	Approach to Relevant Representations	Owing to the relatively short consultation period to review the Applicant's submission documents, coupled with the complexity of the project development scenarios, Natural England may wish to revise our advice or add additional points. This may also arise if further information about the project becomes available. Therefore, we reserve the right to bring such matters to the Examining Authority's attention	Noted.
	2.4	Approach to Relevant Representations	Please note that at Deadline 1 Natural England will submit a Risk and Issues log which will incorporate the comments we have made in this representation and track their resolution throughout the examination process. It is anticipated that this will continue to be submitted alongside our submissions during Examination and will reflect any progress in issue resolution following the Relevant Representations.	Noted.
	2.5	Approach to Relevant Representations	Natural England are keen to continuously improve our input into Examinations and would therefore welcome any feedback on our approach.	Noted.
	PART I – OVERVIEW OF REPRESENTATIONS – **3. Engagement with the Applicant**			
	3.1	Engagement with the Applicant	Natural England has been working with the Applicant to provide pre-application advice and guidance on North Falls OWF since 2019. To assist developers, Natural England has produced a series of documents to provide 'Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards' for developments in English inshore and offshore waters. During the pre-application process we have advised that developers follow our Best Practice Advice and other guidance through the application and consenting process. The Evidence Plan Process (EPP) has included monthly project progress meetings and several expert topic group (ETG) meetings. Recently, we have been engaged in discussions relating to the merit of proposed offshore ornithology compensatory measures and opportunities for minimising environmental impacts through collaboration with Five Estuaries Offshore Wind Farm (VE OWF) project (onshore).	Noted.
	3.2	Engagement with the Applicant	Project Design Changes to Date - Natural England welcomes the efforts and changes that have been made to date to reduce environmental impacts through major refinements of the project layout and red line boundary, including removal of the array from Kentish Knock East Marine Conservation Zone (KKE MCZ) slightly increasing in the distance to the Outer Thames Estuary Special Protection Area (OTE SPA), removal of the northern array in its entirety, and routing of the offshore export cable corridor (OECC) outside of Margate and Long Sands Special Area of Conservation (MLS SAC). We also recognise the commitment by North Falls and Five Estuaries (VE) to coordinate and	Noted.

Applicant's Ref	NE Ref	Issue	Issue raised	Applicant's Response
			collaborate where practicable to minimise both projects' environmental effects	
	3.3	Engagement with the Applicant	Natural England has also been working with the Marine Management Organisation, and the Centre for the Environment, Fisheries and Aquaculture Science (CEFAS) to provide coordinated advice in relation to each of our remits.	Noted.
	3.4	Engagement with the Applicant	At appropriate points in the Examination, Natural England will undergo discussions with the Applicant to seek to resolve these concerns and agree outstanding matters. We will update on progress via our Risk & Issues Log.	The Applicant welcomes further discussion with Natural England.
	PART I – OVERVIEW OF REPRESENTATIONS – **4. Structure of Natural England's Relevant Representations**			
	4.1	Structure of Natural England's Relevant Representations	The representations in Part II provide Natural England's statutory advice. They are set out as follows: • Section 5 identifies the designated sites and natural features potentially affected by this application. • Section 6 sets out the key outstanding environmental concerns which Natural England would like the Examining Authority to consider, through a colour-coded version of the Principal Areas of Disagreement Summary Statement (PADSS) • Section 7 – Detailed Advice Appendices - Natural England's detailed technical advice, where more detailed explanation of issues has been considered relevant, can be found in the technical Appendices A to J. These will include additional considerations beyond those raised in the PADSS that warrant consideration in the Examination.	Noted.
	4.1	Structure of Natural England's Relevant Representations	Table 4.1 Natural England's risk rating colour coding [Table 4.1 not copied here]	Noted.
	4.2	Structure of Natural England's Relevant Representations	Natural England advises that the matters set out in Part II of our relevant representations will require consideration by the Examining Authority as part of the examination process. The Examining Authority may wish to ensure that the matters set out in these relevant representations are addressed as part of the Examining Authority's first set of questions to ensure the provision of information early in the examination process. Natural England highlights that more	Noted.

<table>
<tr><th>Applicant's Ref</th><th>NE Ref</th><th>Issue</th><th>Issue raised</th><th>Applicant's Response</th></tr>
<tr><td></td><td></td><td></td><td>detailed explanation of issues relating to Appendix I Seascape will be submitted at Deadline 1.</td><td></td></tr>
<tr><td></td><td>4.3</td><td>Structure of Natural England's Relevant Representations</td><td>Throughout our advice, Natural England will be using colour coding to denote the level of potential risk or significance of impact associated with our comments. Full details of this are provided in Table 4.1 below.</td><td>Noted.</td></tr>
<tr><td></td><td>4.4</td><td>Structure of Natural England's Relevant Representations</td><td>Within Section 6 of these Relevant Representations we have assigned a broad risk rating to each row of the PADSS to indicate the level of our concern. For each of the Appendices in Section 7 we provide a summary of the main concerns associated with the thematic area in question, followed by a table of detailed advice setting out all the salient issues we have identified. In both tables we have used the colour coding to give an indication of the level of risk associated with each of the points we raise.</td><td>Noted.</td></tr>
<tr><td></td><td colspan="3">PART II – NATURAL ENGLAND'S ADVICE - 5. The Natural Features Potentially Affected by this Application</td><td></td></tr>
<tr><td>NE-01</td><td>5.1</td><td>The Natural Features Potentially Affected by this Application</td><td>The designated sites and interest features included within Tables 5.1 and 5.2 are those which may be significantly affected by the proposed project, based on the information provided to date. It should be noted that this list may change if new evidence emerges during the Examination. Gov.uk links have been provided to Natural England's Designated Site View system where the citation, conservation objectives and supplementary advice for designated nature conservation sites can be located. We have provided links, as these are large and live documents which are updated on a regular basis to incorporate the most up to date evidence. To avoid potentially out of date or inaccurate documents being referred to during the Examination we recommend that the links are utilised.</td><td>Noted, the Applicant's response to specific comments on Project impacts are provided below.</td></tr>
<tr><td>NE-02</td><td>5.2</td><td>The Natural Features Potentially Affected by this Application</td><td>In relation to SPAs, SACs and Ramsar sites, on the basis of the information submitted, Natural England is not satisfied that it can be excluded beyond reasonable scientific doubt that the project would have an adverse effect alone or in-combination on the integrity of the sites in Table 5.1. In relation to the MCZs in Table 5.1, Natural England is concerned that the conservation objectives of the site could be hindered. In relation to the SSSIs listed, Natural England is concerned that the protected features of the above SSSIs may be damaged or destroyed.

Table 5.1 - Designated Nature Conservation Sites
<table>
<tr><th>Site Name</th><th>Conservation Advice</th><th>Features for which Outstanding Concerns Remain</th></tr>
</table>
</td><td>
<table>
<tr><th>Site Name</th><th>Applicant's Response</th></tr>
<tr><td>Margate and Long Sands SAC</td><td>The Applicant maintains its position that there would be no adverse effect on the MLS SAC as presented in the RIAA Part 2 [APP-175], however in response to Natural England's comments, the Applicant is committing to additional mitigation. There will be a buffer of 150m between the MLS SAC and the installation of the offshore export cables and any associated cable protection to further ensure there will be no AEOI of the SAC. This additional mitigation is secured in the draft DCO submitted at Deadline 1.</td></tr>
<tr><td>Orfordness – Shingle Street SAC</td><td>The Applicant wishes to clarify that this SAC relates to the location of lesser black backed gull compensatory measures and not the Order limits for the Project. Potential effects of the compensatory measure on other designated features are</td></tr>
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<table>
<tr><th>Applicant's Ref</th><th>NE Ref</th><th>Issue</th><th>Issue raised</th><th>Applicant's Response</th></tr>
<tr><td></td><td></td><td></td><td>
<table>
<tr><td>Margate and Long Sands SAC</td><td>Margate and Long Sands SAC - UK0030371</td><td>Sandbanks which are slightly covered by sea water all of the time.</td></tr>
<tr><td>Orfordness – Shingle Street SAC</td><td>Orfordness - Shingle Street SAC - UK0014780</td><td>Coastal lagoons, Perennial vegetation of stony banks.</td></tr>
<tr><td>Southern North Sea SAC</td><td>Southern North Sea SAC - UK0030395</td><td>Harbour Porpoise (Phocoena phocoena).</td></tr>
<tr><td>Alde-Ore Estuary SPA & Ramsar</td><td>Alde-Ore Estuary SPA - UK9009112, Alde-Ore Estuary Ramsar - UK11002</td><td>Lesser black backed gull (Larus fuscus) breeding, Wetland invertebrate assemblage, Wetland plant assemblage.</td></tr>
<tr><td>Farne Islands SPA</td><td>Farne Islands SPA - UK9006021</td><td>Guillemot, breeding, Seabird assemblage (including razorbill)</td></tr>
<tr><td>Flamborough and Filey Coast SPA</td><td>Flamborough and Filey Coast SPA - UK9006101</td><td>Guillemot (Uria aalge), breeding, Kittiwake (Rissa tridactyla), breeding, Razorbill (Alca torda), breeding, Seabird assemblage (above species)</td></tr>
<tr><td>Outer Thames Estuary SPA</td><td>Outer Thames Estuary SPA - UK9020309</td><td>Red-throated diver (Gavia stellata), non-breeding</td></tr>
<tr><td>Stour and Orwell SPA</td><td>Stour and Orwell Estuaries SPA – UK9009121</td><td>Unknown as yet to be assessed.</td></tr>
<tr><td>Kentish Knock East MCZ</td><td>Kentish Knock East MCZ - UKMCZ0080</td><td>Subtidal coarse sediment, Subtidal mixed sediments, Subtidal sand</td></tr>
<tr><td>Alde-Ore Estuary SSSI</td><td>Alde-Ore Estuary SSSI - 1003208</td><td>As per SPA and Orfordness – Shingle Street SAC above, plus; Invertebrate assemblage, Vascular plant assemblage</td></tr>
<tr><td>Flamborough Head SSSI</td><td>Flamborough Head SSSI - 1002289</td><td>As per SPA above</td></tr>
<tr><td>Farne Islands SSSI</td><td>Farne Islands SSSI - 1000660</td><td>As per SPA above</td></tr>
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<tr><td></td><td>a key consideration in the site selection process, discussed in the Lesser Black-Backed Gull Compensation Document [7.2.2, Rev 1]. The Applicant's position is that there is no risk of adverse effect on integrity.</td></tr>
<tr><td>Southern North Sea SAC</td><td>The Applicant has committed to a Site Integrity Plan which will deliver mitigation to ensure there will be no adverse effect on the integrity of the Southern North Sea SAC, in accordance with the outline Southern North Sea SAC Site Integrity Plan [APP-243]. See response to comment NE-199.</td></tr>
<tr><td>Alde-Ore Estuary SPA & Ramsar</td><td>Alde-Ore Estuary (AOE) SPA and Ramsar (and underpinning SSSI): with regards to lesser black backed gull see responses to comments NE35, NE220, NE224, NE225, NE228, NE238, NE279-295 below.

Potential effects of the compensatory measure on other designated features are a key consideration in the site selection process, discussed in the Lesser Black-Backed Gull Compensation Document [7.2.2, Rev 1].</td></tr>
<tr><td>Farne Islands SPA</td><td>Farne Islands SPA (and underpinning SSSI): see responses to comments NE31, NE203, NE226. The Applicant maintains that at an AEoI can be ruled out for this site.</td></tr>
<tr><td>Flamborough and Filey Coast SPA</td><td>Flamborough and Filey Coast (FFC) SPA (and underpinning SSSI): see responses to comments NE11, NE30, NE34, NE44, NE58, NE202, NE214, NE231, NE232, NE239-NE241, NE243-250, NE254, NE260 and NE263-265. The Applicant maintains that at an AEoI can be ruled out for this site.</td></tr>
<tr><td>Outer Thames Estuary SPA</td><td>Outer Thames Estuary (OTE) SPA: see responses to comments NE22, NE29, NE32, NE36, NE201, NE204, NE210, NE216, NE223, NE229, NE234-237, NE300 and NE208. The Applicant maintains that at an AEoI can be ruled out for this site.</td></tr>
<tr><td>Stour and Orwell SPA</td><td>Stour and Orwell SPA is assessed in the Report to Inform Appropriate Assessment Part 4 (Document Reference: 7.1.4), Section 4.5 and Part 5 (Document Reference: 7.1.5), Section 5.4.3. The Applicant maintains that at an AEoI can be ruled out for this site.</td></tr>
<tr><td>Kentish Knock East MCZ</td><td>The Applicant maintains its position that there would be no adverse effect on the KKE MCZ as presented in the Marine Conservation Zone Assessment Report [APP-0237], however in response to Natural England's comments, the Applicant is committing to additional mitigation. Gravity base system foundations have been removed from the design envelope, reducing the volumes of sandwave levelling required and the footprint on the seabed. This additional</td></tr>
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<table>
<tr><th>Applicant's Ref</th><th>NE Ref</th><th>Issue</th><th>Issue raised</th><th>Applicant's Response</th></tr>
<tr><td></td><td></td><td></td><td>
<table>
<tr><td>Holland Haven Marshes SSSI</td><td>Holland Haven Marshes SSSI - 1006349</td><td>Ditches, Vascular plant assemblage</td></tr>
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<tr><td></td><td>mitigation is secured in the draft DCO submitted at Deadline 1 and will further ensure there will be no hinderance of the conservation objectives.</td></tr>
<tr><td>Alde-Ore Estuary SSSI</td><td>The Applicant wishes to clarify that this SSSI relates to the location of lesser black backed gull compensatory measures and not the Order limits for the Project. Potential effects of the lesser black backed gull compensatory measure on other designated features are a key consideration in the site selection process, discussed in the Lesser Black-Backed Gull Compensation Document [7.2.2, Rev 1].
The Applicant's position is that there is no risk of a significant effect on the SSSI.</td></tr>
<tr><td>Flamborough Head SSSI</td><td>As per Flamborough and Filey Coast SPA above</td></tr>
<tr><td>Farne Islands SSSI</td><td>As per Flamborough and Filey Coast SPA above</td></tr>
<tr><td>Holland Haven Marshes SSSI</td><td>Holland Haven Marshes SSSI is assessed in ES Chapter 23 Onshore Ecology [APP-037]. It should be noted that the Applicant has taken extensive steps to avoid the Holland Haven Marshes SSSI through the use of horizontal directional drilling (HDD), and has worked with Natural England, as detailed in Table 23.1 of ES Chapter 23 Onshore Ecology [APP-037], to commit to mitigation. See response to NE-340 to NE-246.</td></tr>
</table>
</td></tr>
<tr><td>NE-03</td><td>5.3</td><td>The Natural Features Potentially Affected by this Application</td><td>In relation to the designated landscapes listed in Table 5.2., Natural England is concerned that the proposal will impact upon the statutory purposes of the National Parks and the special qualities of the National Landscapes/AONBs.
Table 5.2 Designated Landscapes
<table>
<tr><th>Site Name</th><th>Conservation Advice</th><th>Features for which Outstanding Concerns Remain</th></tr>
<tr><td>Suffolk Coast & Heaths AONB, including Suffolk Heritage Coast</td><td>SCHAONB Management Plan</td><td>The seascape component of the AONB setting and the special character of the SHC including the coastal edge most sensitive to the potential seascape and visual effects of the North Falls Project.</td></tr>
</table>
</td><td>Section 29.6 of ES Chapter 29 Seascape, Landscape and Visual Impact Assessment [APP-043] sets out the receptors considered within the SLVIA.
Effects on the Suffolk and Essex Coast and Heaths National Landscape (formerly AONB) and Suffolk Heritage Coast and their assessment in the SLVIA are discussed in the response to NE-40, which in summary concludes that:
Overall, the magnitude of impact to the special qualities of the SECHNL will be locally low along the coast, and negligible further inland.
This is not judged to translate into significant effects on the special qualities of the SECHNL.
Please see the response to NE-40 for further details.</td></tr>
<tr><td>NE-04</td><td>5.4</td><td>The Natural Features Potentially</td><td>Protected Species - An application for a European Protected Species and/or wildlife licence may be required if the application will have impacts on the following species:</td><td>Section 12.7 of ES Chapter 12 Marine Mammals [APP-026] confirms the approach to EPS licencing for harbour porpoise.</td></tr>
</table>

Applicant's Ref	NE Ref	Issue	Issue raised	Applicant's Response
		Affected by this Application	• Harbour Porpoise • Great Crested Newt (GCN) • Bats • Breeding birds • Badger • Dormice • Otter • Reptiles • Water Vole	Section 23.7 of ES Chapter 23 Onshore Ecology **[APP-037]** confirms the approach to EPS/wildlife licensing for great crested newts, bats, breeding birds, badgers, dormice, otter, reptiles and water vole.
NE-05	5.5	The Natural Features Potentially Affected by this Application	North Falls has been approved by Natural England to use District Level Licence (DLL) prior to construction to ensure compliance with the legal status of GCN and mitigate for potential impacts on this species. A provisional DLL certificate for GCN was provided by Natural England on 23 September 2024.	On 30 January 2025 the Applicant received a counter-signed Impact Assessment Conservation Payment Certificate (IACPC) from Natural England. The Applicant will submit this to the Planning Inspectorate at Examination Deadline 1, as confirmation that the application has joined the scheme. No further action is required with regards great crested newt licensing prior to consent.
NE-06	5.6	The Natural Features Potentially Affected by this Application	Should the DCO be granted, Natural England advises the Applicant progresses with a licence application at the earliest opportunity. For reference, Natural England has adopted standing advice for protected species which includes links to guidance on survey and mitigation.	Noted.
NE-07	5.7	The Natural Features Potentially Affected by this Application	Other matters relating to Natural England's remit - the following features are those which may be significantly affected by the proposed North Falls project based on the information provided to date: • Biodiversity net gain – predicted net loss of watercourse module biodiversity	Noted.
NE-08	5.7	The Natural Features Potentially Affected by this Application	• Connecting people with nature (National Trails, open access land and England Coast Path) - King Charles III England Coast Path (ECP)	Noted.
NE-09	5.8	National Grid Connection Options	National Grid Connection Options – There are two build options which cover three onshore delivery scenarios (i.e. North Falls only constructs works for North Falls; or North Falls and Five Estuaries consent ducts for both projects) and a third option which is an offshore connection with array infrastructure only. No export cables would be required to shore. Whilst Option 3 represents the least impactful option for the marine physical environment and processes, Options 1 and 2 include export cables to shore along with array infrastructure and, therefore, represent worst-case scenarios. However, we note that the viability of this option has been under review, and because it does not represent the WCS option, it has not been fully assessed in the EIA/HRA.	The Applicant agrees with Natural England's understanding but notes that reference to ducts relates to onshore cables only. The Applicant has taken an industry standard approach of assessing the worst-case scenario, determined on a topic specific basis in each ES chapter.

Applicant's Ref	NE Ref	Issue	Issue raised	Applicant's Response
NE-10	5.9	Cooperation with Other Projects	Cooperation with Other Projects – Currently, there are three build out scenarios with Five Estuaries based on whether North Falls undertakes works for its project alone, or both projects construct with a 1-3 year gap, or VE does not construct or constructs with a gap > 3 years. The implications for consideration of the worst-case scenario and cumulative effects for the different receptor groups has not been clearly laid out. Furthermore, there is a mismatch between the different project design lives. For example, for North Falls the project lifespan is 30 years, for VE it is 20-40 years, whilst for the National Grid Electricity Transmission (NGET) it is 40 years. What would this mismatch mean to the cumulative impact assessments? For example, if decommissioning at landfall is carried out for one Project's infrastructure whilst the other remains operational.	The cumulative decommissioning impacts are assessed in ES Chapter 8 Marine Geology, Oceanography and Physical Processes **[APP-022],** Section 8.8. The worst case scenario for this topic is based on temporal overlap of decommissioning and therefore if decommissioning is undertaken for one project while the other remains operational, the impacts would be less than assessed.
NE-11	5.10	Applicant's Response to Advice Provided under section 51 of the PA2008 (Document Ref. No. 8.1) – Accepted by the Examining Authority on 16 October 2024	Applicant's Response to Advice Provided under section 51 of the PA2008 (Document Ref. No. 8.1) – Accepted by the Examining Authority on 16 October 2024 – We note that the Examining Authority has accepted a submission by the Applicant which include a set of updated documents for the North Falls application. We advise that due to the late nature of this submission, Natural England has not been able to review these additional documents. Therefore, the advice provided in our Relevant/Written Representations, is based on the original application documents and we reserve the right to amend or update this advice at a later stage once we have had sufficient time to review the additional information submitted by the Applicant.	Noted

2.2 Applicant's Response to Part 6 Principal Areas of Disagreement Summary Statement (PADSS)

Applicant Ref	NE Ref	Issue	Issue Raised	Natural England's recommendation to resolve issues	Applicant's Response
	Development Consent Order – Appendix A				
NE-12	P1	During construction monitoring conditions	The during construction monitoring conditions within the deemed Marine Licences (dML) Schedules 8, 9 and 10 do not secure the cessation of piling if noise impact significantly exceeds predicted impacts.	Natural England has provided example wording in Table 2 (Appendix A) and would recommend it is included in Schedules 8, 9 and 10.	The Applicant has updated the draft DCO [6.1.1, Rev 2] at Deadline 1 to include provision in relation to this, please see DMLs Condition 26/27.
NE-13	P2	Schedule 15 compensation only covers impacts to Lesser Black Backed Gull (LBBG).	We have concerns that we cannot rule out an Adverse Effect on Integrity (AEoI) on the Flamborough and Filey Coast (FFC) Special Protection Area (SPA).	Natural England requests that draft compensation provisions are provided for all features on a without prejudice basis where there is disagreement that an AEoI can be ruled out.	The draft DCO provides the form of consent which the Applicant is seeking to be granted. The Applicant has concluded no risk of AEoI from North Falls (alone or in-combination) on the FFC SPA and therefore it is not appropriate for the draft DCO to secure compensatory measures.

Applicant Ref	NE Ref	Issue	Issue Raised	Natural England's recommendation to resolve issues	Applicant's Response
NE-14	P3	Additional mitigation measures.	We highlight that throughout our Relevant Representations/Written Representations (RR/WR) appendices we have identified further mitigation measures which could be adopted by the Applicant to minimise the project's environmental impacts, including reducing the Rochdale envelope.	Natural England advises that further mitigation measures are committed to be the Applicant and ES chapters/named plans/technical notes are updated	Responses to comments from Natural England's Relevant Representation regarding mitigation are provided throughout this document.
	Marine Geology, Oceanography and Physical Processes – Appendix B				
NE-15	P4	Success of subtidal Horizontal Direction Drilling (HDD).	Natural England is concerned that there is uncertainty regarding the likely success of a subtidal HDD at the landfall point.	Natural England advises that further detail and evidence is presented to support the use of HDD.	Document 7.15 [**APP-250**] has been provided to outline the proposed HDD methodology. That information is based upon initial feasibility work carried out by a technically competent consultant for example they generated the profiles shown in figure 3-2. These were based on details obtained to date e.g. borehole information from Landfall SI (carried out between 25th April and 11th May 2022) and seawall details provided by the Environment Agency. Therefore, the information provided is the best information available at the time of submission. Further to this, the intertidal area was revised by Ordnance Survey in March 2024, with MLWS being brought closer to MHWS. Given the uncertainty of the seawall defences (see RR EA-08 of Statutory and Non-statuary consultation), any design needs to consider a sufficient margin when passing under the sea defences. Therefore, it may be unfeasible to exit in the intertidal area whilst passing under the sea defences at sufficient depth to not interfere with the sea defence. The Applicant therefore considers a subtidal exit the most feasible option at this stage. Based on this an intertidal exit has not been considered.
NE-16	P5	Uncertainty around Worst Case Scenario (WCS) parameters, modelling, and information used to inform assessments	Natural England highlights that uncertainty remains in relation to assessment conclusions regarding sediment deposition during construction, seabed mobility and erosion, and sandwave recovery.	Natural England advises that further detail and updated assessments are provided by the Applicant.	The Project-specific geophysical survey data is being reviewed to further define the location, geometry, and potential mobility of the sand waves across the Project. This is anticipated to further refine the locations where sand wave levelling is likely to be required and provide a basis for the predictions of sand wave recovery. This information will be presented at Deadline 3.
	Marine Geology, Oceanography and Physical Processes and Benthic – Appendices B and C				
NE-17	P6	Insufficient information on anticipated location and extent of cable protection and	Natural England is concerned that there is insufficient information on the anticipated location and extent of cable protection measures placed near Margate and Long Sands Special Area of Conservation (MLS	Natural England advises that, if available, the Applicant should provide an indication of the areas where cable protection is anticipated to be needed.	The potential operational impacts of cable protection along the export cable are assessed in ES Chapter 8 Marine Geology, Oceanography and Physical Processes **[APP-022],** Section 8.6.3.6 - Impact 6: Morphological and sediment transport effects due to cable protection measures within the offshore cable

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		additional cable protection during operation and maintenance phase.	SAC) to rule out negative impacts to the SAC due to disruption of sediment transport pathways operating around the northern boundary.		corridor. The conclusions will be unaffected by the position of the protection because the process of 'ramping' as described in the Environmental Statement would occur. Sediment would first accumulate one side or both sides of the obstacle (depending on the gross and net transport at that location) to the height of the protrusion. With the continued build-up, sediment transport would eventually occur by bedload processes, thereby bypassing the protection. The gross patterns of bedload transport across the export cables would therefore not be significantly impacted, and therefore there would be no AEOI of the MLS SAC. The Applicant's response regarding the location of cable protection is provided in response to B13 and B14 (Applicant's Ref NE-89 and NE-90 (Section 2.4).
	Benthic and Intertidal Ecology – Appendix C				
NE-18	P7	Insufficient evidence – Indirect benthic impacts.	Following on from point P5 due to the highlighted uncertainty (reasonable scientific doubt), we cannot advise the exclusion of an Adverse Effect on Integrity (AEoI).	Natural England requires further work by the Applicant to provide a robust assessment of the potential Worst-Case area of impact on benthic communities within MLS SAC. A more robust consideration of the worst-case is also required to provide confidence in potential requirements for compensation	In addition to the significant commitments made by the Applicant during site selection by avoiding the MLS SAC, the Applicant has now refined the worst case scenario to ensure there will be no AEoI of the MLS SAC. The area within which cables and cable protection can be laid within the offshore cable corridor will be at least 150m from the edge of the MLS SAC.
NE-19	P8	Impacts on SPAs.	Natural England is concerned with the lack of robustness in the Applicant's current assessment of pressures/impacts on supporting benthic habitats and prey availability for SPA features.	Natural England advises that full consideration of the likely nature, extent, duration, and significance of impacts upon SPA supporting habitats and prey availability is required	In line with the Conservation of Habitats and Species Regulations 2017 (as amended), the impacts on supporting benthic habitats in the Outer Thames Estuary SPA have been assessed in Section 2.5.3 of the RIAA Part 2 Benthic Ecology Annex I Habitat in SACs and SPA Supporting Habitat **[APP-175].** Impacts on benthic habitats have been assessed within ES Chapter 10 Benthic and Intertidal Ecology **[APP-024]** as present in the offshore cable corridor/offshore project area. ES Chapter 13 Offshore Ornithology **[APP-027],** Sections 13.6.1.2, 13.6.2.4 and 13.6.2.6 assesses the indirect effects of changes to habitats and prey species on offshore ornithology receptors.
NE-20	P9	Mitigation measures for Section 41 Natural Environment and Rural Communities (NERC) Act 2006 Habitats.	Natural England advises that mitigation measures currently fail to consider all relevant NERC habitats.	Natural England advises that, mitigation commitments are made to where possible avoid impacts to all Section 41 NERC Habitats	The ES Appendix 10.1 Benthic and Intertidal Ecology Survey Report **[APP-094]** identified two habitats present on the Section 41 NERC Act 2006 Habitats list; *Sabellaria spinulosa* reefs and Peat and clay exposures with Piddocks. Both habitats have been included in the Offshore In-Principle Monitoring Plan **[APP-245]** however the Applicant notes that Peat and clay exposures

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					with Piddocks was not listed in the Schedule of Mitigation and this has now been amended [**Document reference 2.9, Rev 1].**
NE-21	P10	Marine Conservation Zone Assessment (MCZA) – Insufficient consideration/evidence.	Natural England is concerned that indirect impacts upon benthic features within Kentish Knock East MCZ (KKE MCZ) has not been adequately assessed.	Natural England advises that a more robust assessment is needed regarding the anticipated worst-case sediment deposition parameters due to sandwave levelling/ seabed preparation activities in the vicinity of KKE MCZ.	In addition to the significant commitments made by the Applicant during site selection by avoiding the KKE MCZ, the Applicant has now refined the worst case scenario to ensure there will be no hinderance of the MCZ conservation objective. Gravity Base foundations have now been removed from the design envelope which will mitigate impacts on marine physical processes and the associated indirect effects on the MCZ. The option of gravity based foundations has been removed from the design envelope in the draft DCO at Deadline 1. In addition, due to the need to ensure there is no over-sail of WTG rotors beyond the order limits, turbine foundations and associated scour protection will be a minimum of 50m from the order limits (and therefore 50m from the KKE MCZ). This is based on the smallest WTGs (i.e. minimum parameters) using suction bucket jackets as the worst case scenario (118m WTG rotor radius minus the following foundation parameters): • Suction bucket jackets max diameter of 15m (75m with scour protection); and • Leg spacing 'radius' of 30m (60m spacing between jacket legs to the centre point of the legs). The Project-specific geophysical survey data is being reviewed to define the location, geometry, and potential mobility of the sand waves across the Project. This will further refine the locations where sand wave levelling is likely to be required and provide a basis for the predictions of sand wave recovery. This will be submitted at Deadline 3.
NE-22	P11	MCZ Buffer.	Following on from P10 directly above Natural England queries whether a buffer has been applied /should be applied around the infrastructure and associated activities closest to the KKE MCZ boundary as mitigation.	Natural England advises that a suitable buffer between the array infrastructure and the KKE MCZ should be applied to ensure that avoidance mitigation is effective.	As discussed above, in response to P10, WTG foundations will be a minimum of 50m from the KKE MCZ and gravity base system foundations have been removed from the design envelope, reducing the volumes of sandwave levelling required and the footprint on the seabed. In light of the mitigation described above, the Applicant considers that the existing 50m buffer from the KKE MCZ is appropriate to ensure there will be no hinderance of the conservation objectives.
NE-23	P12	Reduction/Mitigation of Impacts through Selection of Cable Protection Measures.	Natural England advises that the use of other external cable protection options to that of rock protection could reduce/mitigate the impacts	We advise that further consideration is given to other cable protection options which are more readily removeable and that an Outline Decommissioning Plan is provided at the time of consent	Cable protection options are set out in Chapter 5 Project Description [APP-019] Rev 0 which states in paragraph 68 *"the final choice may include one or more of the following: concrete 'mattresses'; rock placement; geotextile bags filled with stone, rock, or gravel; polyethylene or steel pipe half shells, or*

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					sheathes; and bags of grout, concrete, or another substance that cures hard over time." The Applicant considers it unnecessary and inappropriate for an Outline Decommissioning Plan to be provided for offshore works as part of the DCO application. Decommissioning of offshore renewable energy installations is heavily regulated by the Energy Act 2004. As such, as is standard practice for offshore wind farm DCOs, Requirement 25 of the draft DCO secures that no offshore works can commence until a written decommissioning programme is provided to the Secretary of State pursuant to the requirements of the Energy Act 2004 (and an advance notice from the Secretary of State under that Act).
	Fish and Shellfish Ecology – Appendix D				
NE-24	P13	Overlapping spawning grounds.	We note from the Chapter 11 Fish and Shellfish Ecology Figures (volume II) that there is overlap with spawning grounds and nursery grounds for herring (Figure 11.2), and spawning grounds and nursery grounds for sand eel (Figure 11.4).	Whilst these species are not designated features of the Marine Protected Area (MPA) network sites in proximity of the works, herring are a Section 41 species under NERC, and both provide prey resources for other receptors such as red-throated diver designated within the Outer Thames Estuary (OTE) SPA.	The Applicant notes that due consideration has been given to the location of known herring and sandeel spawning and nursery grounds relative to the location of the Project throughout Chapter 11 Fish and Shellfish Ecology APP-025 with this accounted for in the impact assessment. Reference to sandeels and herring being species of principal importance under the NERC Act is included in Table 6.11 of Appendix 11.1 Fish and Shellfish Ecology Technical Report [**APP-095**]. In addition, the importance of these two species as prey for other fish species, marine mammals and birds is noted in Appendix 11.1 Technical report (section 6.1.5.4) [**APP-095**] and in section 11.5.6. of Chapter 11 Fish and Shellfish Ecology [**APP-025**]. Reference to the location of marine protected areas (MPAs) around the Project, including Special Protection Areas (SPAs) and designated features is included in Appendix 11.1 Technical report (section 5.1 and Figure 5.1) [**APP-095**]. This makes specific reference the Outer Thames Estuary SPA and the designation of red-throated diver and other Anex I bird species.
NE-25	P14	Sensitivity of identified species.	Natural England defers to the view of Cefas in determining the sensitivity of the species identified.	We advise the Project seeks the advice of Cefas on the sensitivity of particular species and the appropriateness of the sensitivity assigned in the assessment.	Noted. Due consideration has been given to feedback provided by the MMO and Cefas with regards to the PEIR and via detailed discussions during fish and shellfish ecology expert topic group meetings, including aspects related to the sensitivity of fish and shellfish receptors (see Table 11-1 Chapter 11 Fish and Shellfish Ecology **[APP-025]**). The Applicant notes that no specific comments with regards to the sensitivity of fish and shellfish species have been made by the MMO (or their advisors) in their Relevant Representations. The Applicant's response to the MMO relevant representations is provided in the Applicant's Responses to Relevant Representations Received from Statutory Consultees and Non Prescribed Consultees **[Document Reference 9.2].**

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	Marine Mammals – Appendix E				
NE-26	P15	Interim Population Consequences of Disturbance (iPCoD) modelling/	Natural England does not agree with the project-alone assessment of disturbance impacts from piling as we have concerns with how the results of the iPCoD modelling are presented.	Natural England recommends that the Applicant update how the iPCoD modelling results are presented in line with our comments and present impact significance for all approaches used to assess impact.	The iPCoD modelling results, presented in the ES Chapter 12 Marine Mammals **[APP-026]** and RIAA Part 3 Marine Mammals **[APP-176],** considered the median of the ratio of impacted:unimpacted population sizes for the relevant marine mammal populations as the key metric to determine effect significance using the iPCoD method. This is due to the fact that the median of the ratio of impacted:unimpacted population sizes is considered more robust to the effects of extreme outliers than the mean value, particularly with lower sample sizes. In addition, this metric is considered least sensitive to misspecification of demographic parameters, therefore enabling more robust assessment of offshore renewable effects (Jital *et al.,* 2017; Sinclair *et al*., 2019). This rationale, developed by the authors of the iPCoD code, has resulted in this metric being used and accepted for other recent OWF EIAs as the primary metric for assessing significance using iPCoD. In line with other recent OWF projects, the median of the ratio of impacted:unimpacted population sizes has been presented, as these match with the graphical outputs produced by the iPCoD code. Further metrics (including the mean of the ratio of impacted:unimpacted population sizes), explanation and clarification are provided in Further Information Regarding Marine Mammals **[Document Reference 9.14, submitted at Deadline 1)]**.
NE-27	P16	Habitats Regulations Assessment (HRA) conclusions.	We have significant outstanding concerns on the Environmental Statement (ES) assessment meaning we cannot currently agree with the outcomes of the RIAA as written.	We advise that the Applicant should address concerns on the ES and cascade the changes/commitments to the RIAA.	With regards to benthic ecology, the Applicant maintains its position that there would be no adverse effect on the MLS SAC as presented in the RIAA Part 2 [**APP-175**], however in response to Natural England's comments, the Applicant is committing to additional mitigation. There will be a buffer of 150m between the MLS SAC and the installation of the offshore export cables and any associated cable protection to further ensure there will be no AEOI of the SAC. With regards to marine mammals, Natural England's outstanding concerns on the ES Chapter 12 Marine Mammals **[APP-026]** and RIAA Part 3 [**APP-176**] have been considered and a response is provided within Further Information Regarding Marine Mammals **[Document Reference 9.14, submitted at Deadline 1].** With regards to offshore ornithology, Natural England comments on the ES (Chapter 13 Offshore Ornithology **[APP- 027]**) conclusions have been addressed below: NE212 (scoping out

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					collision for species with <2 collisions per annum), NE213 (updates to CEA), NE214 (reference to GU compensation), NE217 (CEA effect significance GU, RA, GX), NE218 (GB cumulative), NE219 (KI cumulative), NE220 (LB cumulative). There is no implication for the RIAA which deals with potential effects on SPA populations whereas the ES Chapter 13 considers potential effects on the relevant biogeographic populations.
NE-28	P17	Current approach to Site Integrity Plans (SIPs).	Natural England is concerned that the current approach to implementing SIPs for piling impacts to the Southern North Sea (SNS) SAC from offshore wind development does not allow sufficient time for mitigation, therefore increasing the risk that an AEoI cannot be avoided.	We strongly advise that the Applicant commit to the use of specific mitigation measures at this stage, which may be removed at a later date if the revised SIP demonstrates they are not required.	The finalisation of the Site Integrity Plan for the Southern North Sea Special Area of Conservation (in accordance with the Outline SIP **[APP-243])** for piling will consider the latest policy on mitigation, such as Noise Abatement Systems (NAS) at the time. The Applicant notes that potential mitigation options, including NAS, are listed within the Outline Site Integrity Plan for the Southern North Sea Special Area of Conservation **[APP-243]** which would be finalised post-consent in line with the final design of the Project. It is recognised that upon further assessment of the final design information, any requirement for the implementation of NAS will be decided in consultation with the licencing authority. The Applicant is planning appropriately for the potential requirement for NAS but maintains the position that the effects will be suitably mitigated through further design refinement and embedded mitigation. The Applicant has already committed to only pile at one monopile location in any one day during the winter season, unless NAS is utilised. The Applicant has also included the mitigation option of no piling during the winter season, as detailed in the Outline Site Integrity Plan for the Southern North Sea Special Area of Conservation **[APP-243]**
NE-29	P18	No commitment to using Noise Abatement Systems (NAS).	Natural England strongly advises the Applicant to commit to using noise abatement as mitigation should driven or part-driven piles be used during construction.	The Applicant should commit to noise abatement in the Draft Marine Mammal Mitigation Plan (MMMP) and SIP.	As per comment NE-26 above.
NE-30	P19	Incorrect approach for the in-combination assessment.	We note that the dose response method was applied to calculate the number of animals disturbed instead of using the Effective Deterrent Radius (EDR) approach as outlined in the Natural England Best Practice Guidelines.	Natural England recommends that the Applicant revises the in-combination assessment and applies the EDR approach as per the Best Practice Guidelines.	Taking into account Natural England's comment, the Applicant has adapted the in-combination accordingly in Further Information Regarding Marine Mammals submitted at Deadline 1 **[Document Reference 9.14]**, taking into account the 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 porpoise SACs.
	Offshore Ornithology – Appendix F				

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NE-31	P20	Adverse Effect on Integrity for red-throated diver at the OTE SPA	The Applicant has concluded that there will be no AEoI RTD at the OTE SPA. Natural England does not agree with this conclusion.	We consider that the Applicant should demonstrate to the Examination that no further reduction in impact is possible whilst retaining a viable project	The Applicant maintains the position that North Falls will have no AEoI alone and make no meaningful contribution to AEoI to in-combination effects for RTD at the OTE SPA. See also responses to comments NE22, NE29, NE32, NE36, NE201, NE204, NE210, NE216, NE223, NE229, NE234-237, NE300, NE208.
NE-32	P21	Conclusion of no AEoI for kittiwake, guillemot, or razorbill at the Flamborough and FFC SPA for the project alone or in-combination with other plans and projects.	Natural England agrees that the project-alone impacts arising for kittiwake, guillemot and razorbill are relatively small. Nonetheless, we consider that in each case, AEoI in-combination cannot be ruled out.	Natural England welcomes the provision of without-prejudice derogations cases for these species.	The Applicant welcomes this feedback from Natural England, while maintaining the position of no AEoI for the listed SPAs and qualifying species. See also responses to comments NE11, NE34, NE44, NE58, NE202, NE214, NE231, NE232, NE239-NE241, NE243-250, NE254, NE260, NE263-265.
NE-33	P22	No in-combination assessment for guillemot for the Farne Islands SPA.	There is the potential for effects from North Falls to combine with those from Berwick Bank and other North Sea projects.	The Applicant should carry out a full in-combination assessment of impacts for guillemot at the Farne Islands SPA, to allow Natural England to advise further regarding the risks of adverse effects in-combination.	An in-combination assessment for guillemot at the Farne Islands SPA is provided at Deadline 1 **[Document reference 9.13].** See also comments NE203 and NE226.
NE-34	P23	The proposed cable route partially falls within the OTE SPA.	The timing of cable 23installation has not been confirmed, but due to the disturbance risk to RTDs posed by vessel movements Natural England considers that mitigation by seasonal restriction is appropriate.	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.	The Applicant considers 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 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). It is also noted that a seasonal restriction within 2km of the SPA boundary would affect works within the export cable corridor in areas where it does not pass through the SPA, but close to the SPA.
	Ornithology Compensation Appendix G				
NE-35	P24	Uncertainty regarding the current state of anthropogenic disturbance at southwest auk colonies FFC SPA guillemot and razorbill and its relative importance compared to other causal factors such	The lack of evidence presented on recreational disturbance at the southwest auk colonies referred to is of concern. We note the project may collaborate with other developments with similar compensation plans and are aware of some limited evidence gathering.	We urge collaboration, and a general scaling up of such evidence gathering with respect to both the existing breeding birds and any disturbing activities that may impact them.	Discussions are being held with Five Estuaries, Rampion 2 and Outer Dowsing over potential collaboration. Further information on recreational disturbance is provided in the Guillemot and Razorbill Compensation Document **[7.2.5, Rev 1],** Section 7. See also comments NE243-246

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		as food availability and predation.			
NE-36	P25	Flamborough and Filey Coast SPA: Kittiwake – Artificial Nesting Structure (ANS).	Uncertainty remains regarding the successful colonisation of the proposed ANS, and the mechanism for assigning benefits arising at the ANS between the partnership OWF projects.	We recommend that a compensation ratio of 3:1 be adopted to address the range of uncertainties. We would also welcome confirmation as to whether a colour-ringing scheme could be undertaken at the "Kittiwakery" to track natal philopatry there (and recruitment elsewhere) for the purposes of establishing site connectivity with, and overall coherence of, the national site network.	The Applicant maintains that given the small scale of effect predicted for North Falls (mean collision risk of <1 adult kittiwake per annum), there is no meaningful contribution to an AEoI for this species at the FFC SPA and therefore no requirement for compensation, although a without prejudice compensation case has been provided. A range of compensation ratios up to 3:1 will be provided in an update to the Kittiwake Compensation Document to be submitted at Deadline 2. Monitoring will be developed in consultation with the Kittiwake Compensation Steering Group post consent. Consideration will also be given to colour-ringing of chicks, as requested by Natural England. See also comments NE263-266 below.
NE-37	P26	Alde-Ore Estuary SPA: Lesser Black Backed Gull – Breeding enhancement via predator exclusion/control/disturbance management/habitat management	None of the sites under consideration have been secured yet, and further work is needed around defining success according to the ratio of impact to observed productivity and assumed level of consequent recruitment.	We consider further work is required around defining success according to the ratio of impact (which may be subject to change within the impact assessment) to observed productivity and assumed level of consequent recruitment.	North Falls is in discussions with landowners / land-managers for the sites identified as having potential for LBBG compensation with the aim of securing agreement in principle. It is noted that measures cannot be fully secured until such time as a consent is issued and the scale of compensation required is agreed. The shadow appropriate assessment for LBBG at the AOE SPA and level of predicted impact is under review based on Natural England comments (see responses to NE224 and NE225 below).
NE-38	P27	OTE SPA: RTD - Installation of nesting rafts and/or habitat management to improve breeding success (or data collection to support development of sanctuary areas in the OTE SPA).	There is an acknowledged mismatch between the expected benefits (increased productivity) and the impact (habitat loss/degradation). We are not persuaded that the Applicant is proposing implementation of the measure at an appropriate scale	We recommend that a more ambitious approach to the compensatory measure is adopted. The potential for significant benefits to accrue in support of the coherence of the NSN should be demonstrated.	The Applicant acknowledges, and indeed has discussed throughout their submissions, that it is not feasible to provide like for like compensation for the potential impact of effective habitat loss for red-throated diver. Hence it has been necessary to develop compensation that will deliver conservation benefits to the NSN population of the species. Given there is no obvious means to translate between the purported impact and the benefits of improving breeding success it is therefore unclear on what basis Natural England consider the proposals to lack ambition. The Applicant considers that their existing proposals will already deliver significant benefits to the NSN population, and this will be evidenced through comparison of the productivity at control and intervention sites.
	Onshore Ecology – Appendix H				
NE-39	P28	Timing of onshore surveys.	Where the timing of the characterisation surveys hasn't been optimum Natural England's	Natural England advises that pre-construction surveys should be undertaken	See response to this point under Applicant Ref NE-322 (NE Ref H1) below.

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			overall confidence in mitigation proposals for protected species has been reduced	at the optimum time of year as per the relevant guidelines for each species, to ensure that mitigation measures remain fit for purpose.	
NE-40	P29	LBBG Compensation HRA.	Natural England highlights that the LBBG Compensation HRA document is relatively high level, and we have concerns around the timing of characterisation surveys to support conclusions	Natural England advises that there will need to be a further HRA that is location specific, once the final location is selected post consent. Additional environmental information will also be required to support characterisation surveys which have been carried out in the correct period.	Further site selection has been undertaken since the submission of the DCO application, supported by site visits. An updated Lesser Black-Backed Gull Compensation Document [**7.22, Rev 1**] and LBBG Implementation and Monitoring Plan [**7.2.2.1, Rev 1**] are provided. This includes further assessment of the effects of the compensation. Additional data has been received from National Trust and RSPB which will be considered during development of the monitoring strategy. See also responses to NE323 and NE326 below.
NE-41	P30	Disturbance associated with users of King Charles III England Coast Path (ECP).	Natural England advises that there are possible disturbance and visual impacts for users of ECP depending on timing of opening of ECP.	We require information relating to any impacts, in addition to any restrictions required and impacts on the line of the path.	The King Charles III England Coast Path (ECP) is noted as part of the existing environment within Section 32.5 of ES Chapter 32 Tourism and Recreation **[APP-046]** and is considered in the assessment within Section 32.6 and Section 32.11. The assessment assumes that the King Charles III ECP will be opened along this part of the Essex coast by the time onshore construction works begin. The Applicant notes that this could be by summer 2025. ES Chapter 32 Tourism and Recreation **[APP-046]** sets out that the receptor (users of King Charles III ECP) has low sensitivity. This is justified by reference to the exposure of the path to construction works being transient as users of the path progress along their route, and the likelihood that the national status of the path will add to the motivation for visitors including tourists to continue to use the route. The offshore export cable would be installed under the path using Horizontal Directional Drilling (HDD). The proposed route of the King Charles III ECP will not be physically affected via cable installation, owing to the commitment by the Applicant to use HDD, that will feed the cables through ducts underground. The landfall compound and transition joint bay is planned circa 200 m to the west of the King Charles III ECP. The visual effects from onshore activity on users of the path will be limited by the distance of visible works from the King Charles III England Coast Path, the relatively small scale and low level of construction, the limited duration of the construction period (18 – 27 months) and the ease with which the land will be reinstated. The magnitude of impact on users of the King Charles III England Coast Path (the receptor) is therefore assessed as low for these reasons. Core to this assessment is the Applicant's commitment to use a trenchless solution as the construction methodology at landfall, which will

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					limit visual impacts and disturbance. In addition, the Outline Public Rights of Way Management Plan **[APP-252],** sets out several mitigation strategies to reduce impacts on users of footpaths.
	Seascape, Landscape and Visual Impact Assessment – Appendix I				
NE-42	P31	Alone and in-combination impacts.	Natural England is concerned that North Falls Offshore Wind Farm (OWF) has the potential to significantly impact the special qualities of the Suffolk Coast and Heaths Area of Outstanding Natural Beauty (SCHAONB) and Suffolk Heritage Coast (SHC), in particular when acting cumulatively with other existing, consenting and proposed OWF projects.	Natural England will provide further detail at Deadline 1.	Table 29.21 of the ES Chapter 29 Seascape, Landscape and Visual Impact Assessment **[APP-043]** provides an assessment of effects for the offshore components (array area) of the project on the Suffolk and Essex Coast and Heaths National Landscape (SECHNL) and outlines the following findings: • Taking a precautionary approach to the assessment, the scale of change on certain perceptual aspects of the SECHNL special qualities is judged to be medium, although other special qualities will be entirely unchanged. • The geographical extent of the change will be small, limited to coastal areas within around 40km of the Offshore Above-sea Development, between Bawdsey Manor and Orford Ness. • This will affect a very localised area of the coastal edge, in the context of this large-scale designation. • Effects will also be limited to days with clear weather. • For the vast majority of the SECHNL which is largely beyond 40km from the Offshore Above-sea Development, and due to the increased distance and the reduced visibility from inland areas, the scale of change will be small or negligible. • On clear days, operational wind farms including East Anglia One, Greater Gabbard and Galloper will also be visible. The Offshore Above-sea Development will be seen in the context of these offshore wind farms. • The Offshore Above-sea Development will intensify the effects associated with offshore wind farm development that influence certain perceptual special qualities of the SECHNL. • The contribution of offshore turbines to the seascape horizon is acknowledged in the special qualities of the SECHNL, where it is acknowledged that they divide opinion. • The Offshore Above-sea Development will not greatly extend the spread of turbines across the horizon. It will introduce turbines into an area of the skyline which has already been altered by offshore wind farm development. • The project will also contribute to the "developing story of the Suffolk's Energy Coast".

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					• Overall, the magnitude of impact to the special qualities of the SECHNL will be locally low along the coast, and negligible further inland. • This is not judged to translate into significant effects on the special qualities of the SECHNL. These findings are in accordance with the recommendations set out in the Suffolk Seascape Sensitivity to Offshore Wind farms (2023 Updated Addendum) Report (White Consultants, 2023), which states at paragraph 5.4: *"Wind farms with turbines over 400m high should be at least 40km away from the coast and preferably more as set out in the buffers in 4.17. If the nearest turbines of any given array are around 40km away from the AONB coast it is highly desirable for the number around this distance to be minimised in order to avoid significant adverse effects on the AONB and curtaining effects on the skyline in excellent visibility conditions."* With this in mind, and with reference to the Suffolk County Council Representation (SCC, 17th October 2024), at paragraph 9 SCC also concludes: *"In light of this assessment, the project's maximum turbine height of 377m at a distance of 40km from the coast means that SCC finds that there is not likely to be a significant effect on seascape and landscape or the Suffolk Coast and Heaths National Landscape Area."* With regard to cumulative effects, the ES Chapter 29 Seascape, Landscape and Visual Impact Assessment **[APP-043]** concludes: *"Cumulative effects on special qualities of the National Landscape will be indirect, as changes to the cumulative baseline considered in this assessment all relate to offshore wind farms.* *In open seaward views and on clear days, East Anglia Two (consented) will extend and intensify the influence of offshore wind turbines seen in offshore waters in large scale and long distance views to the east and north-east, from the National Landscape. In addition, Five Estuaries will intensify the influence of offshore wind turbines, seen behind operational turbines to the south-east.* *The Offshore Above-sea Development will extend and intensify the influence of offshore wind turbines, seen in large scale and long distance views to the south-east, from the National Landscape. This intensification will be a matter of degree rather*

Applicant Ref	NE Ref	Issue	Issue Raised	Natural England's recommendation to resolve issues	Applicant's Response
					than a change in influence, and the effects will not be materially different in relation to the special qualities of the SECHNL. Taking a precautionary approach, the cumulative magnitude of change arising from the contribution of the Offshore Above-sea Development is judged to be low. The cumulative effect on the special qualities of the SECHNL is predicted to be moderate-minor, which is not significant in EIA terms."
NE-43	P32	Outer limits of significance for Seascape, Landscape and Visual Impacts (SLVIA) receptors.	Natural England is concerned that the significance of the impacts on receptors might have been underestimated.	Natural England will provide further detail at Deadline 1.	Noted. We await further information to understand which receptors are of concern, although we remain confident on the scope and robustness of our assessment. Effects on the SECHNL are discussed above.
	Landscape and Visual Impact Assessment – Appendix J				
NE-44	P33	Cumulative effects between VE and North Falls substations.	Natural England is concerned that there is a potential for in- combination/cumulative impacts between this project, North Tilbury, and the VE substations.	We advise that potential in-combination/cumulative impacts between North Falls, VE, and Norwich-Tilbury substations should be fully considered and assessed, when/if further evidence is available.	Figure 30.1.4 [**APP-083 – APP-088**] of ES Chapter 30 Landscape and Visual Impact Assessment **[APP-044]** highlights the location of National Landscapes (NL) in relation to the proposed North Falls onshore substation. The southern extent of the Dedham Vale NL is just within 2km of the proposed North Falls onshore substation. The ZTV (Figure 30.1.2 **[APP-083 – APP-088])** highlights the very limited nature of visibility associated with the proposed North Falls onshore substation, from the Dedham Vale NL. Viewpoint 8 (refer to Figure 30.2.8 **[APP-083 – APP-088]**), which is taken from a location on the southern edge of the NL (Essex Way, Dedham Road) represents some of the closest and potentially 'worst case' views from the NL. From this location hedgerow and woodland cover, across the relatively flat intervening landscape between the southern edge of the NL and the North Falls onshore substation, play a notable screening role. As such, the potential for cumulative effects, in which the proposed North Falls onshore substation plays a role, is very limited. The assessment presented in ES Chapter 30 Landscape and Visual Impact Assessment **[APP-044]** concludes a negligible effect upon the Dedham Vale NL as a result. Any visibility of the Norwich to Tilbury East Anglia Connection Node (EACN) substation, in the vicinity of the North Falls and Five Estuaries onshore substations, would therefore give rise to stand-alone effects associated with the Norwich to Tilbury project only. A combined outline landscape strategy for the proposed North Falls and Five Estuaries onshore substations is provided in the **Design Vision [APP-234]** at Figure 20).

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					Section 1.4 of the Design Vision **[APP-234]** identifies the process for design development post-DCO consent. This design process identifies preparation of a Design Guide to inform detailed design proposals.

2.3 Applicant's Comments – Appendix A – Development Consent Order, Deemed Marine Licence

Applicant Ref	NE Ref	Issue	Issue Raised	Natural England's recommendation to resolve issues	Applicant's Response
	Table 1 Summary of Key Issues – Draft DCO				
NE-45	A1		The during construction monitoring conditions within the deemed Marine Licences (dML) Schedules 8, 9 and 10 do not secure that piling must cease in the event the monitoring highlights the noise impact is significantly in excess of the predicted impacts assessed. This is a key mitigation for marine mammals and has been included in previous Development Consent Orders (DCOs) for various offshore wind farms, such as the recent East Anglia One North project or the Sheringham and Dudgeon Extension Project.	Natural England has provided example wording in Table 2 below and would recommend it is included in Schedules 8, 9 and 10.	The Applicant has updated the DMLs within the draft DCO at Deadline 1 to include this provision: […] (2) If the plan or plans submitted to the MMO under this condition contain survey proposals, the construction monitoring plan must include, in outline— (a) vessel traffic monitoring by automatic identification system for the duration of the construction period, with provision for a report to be submitted to the MMO, Trinity House, and the MCA annually during the construction period for the authorised development; and (b) where piled foundations are to be employed, unless otherwise agreed by the MMO in writing, details of proposed monitoring of the noise generated by the installation of the first four piled foundations of each piled foundation type to be constructed collectively under this licence and the deemed marine licences granted under Schedules 9 and 10 of the Order. (3) If, in the reasonable opinion of the MMO in consultation with the SNCB the monitoring carried out pursuant to condition 26(2)(b) above shows impacts significantly in excess to those assessed in the environmental statement and there has been a failure of the mitigations set out in the marine mammal mitigation protocol, all piling activity must cease until either contingency measures approved within the marine management mitigation protocol have been implemented or an update to the marine mammal mitigation protocol and further monitoring requirements have been agreed. " (

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NE-46	A2		Schedule 15 compensation only covers impacts to Lesser Black Backed Gull (LBBG). In Appendix E and Appendix C we have detailed concerns that we cannot advise that an Adverse Effect on Integrity (AEoI) on the Flamborough and Filey Coast (FFC) Special Protection Area (SPA) can be excluded. Provision for the compensation should be included in the draft DCO on a without prejudice basis to provide the Secretary of State (SoS) with detailed and agreed provisions should they determine that compensation is required.	Natural England requests that draft compensation provisions are provided for all features where there is disagreement that an AEoI can be ruled out.	The draft DCO provides the form of consent which the Applicant is seeking to be granted. The Applicant has concluded no risk of AEoI from North Falls (alone or in combination) on the FFC SPA and therefore it is not appropriate for the draft DCO to secure compensatory measures.
NE-47	A3		We highlight that throughout our RR/WR appendices we have identified more mitigation measures which could be adopted by the Applicant to minimise the project's environmental impacts, including reducing the Rochdale envelope.	This document requires updates once all of our comments within the various appendices to our relevant/written representations have been taken into account by the Applicant.	Noted. The Applicant's responses to the individual points raised are provided below.
		Table 2 Natural England's Detailed Advice and Recommendations – Draft DCO			
NE-48	A4	Schedule 1 Part 3 Para 2, Schedule 8 Part 1 Condition 2, and Part 2 Condition 10	Natural England queries why the maximum amount of drill arisings is not included within the design parameters of either the requirements of the dML? Drill arisings often leave mounds with persistent impacts, which are different to other disposal activities and it is, therefore, important to ensure the impact from this disposal is restricted to the maximum amount assessed, as detailed in Table 5.5 of the Environmental Statement (ES) Project Description. The current drafting conflates all types of disposal into one figure.	Natural England recommends that the Applicant considers an amendment to the DCO to include the maximum volumes of drill arisings within the requirements and both dMLs.	The Applicant considers it unnecessary to specify the maximum volume of drill arisings within the DMLs, and that the volume of sediment disposal is the appropriate parameter to secure because this worst case scenario disposal volume encompasses drill arisings.
NE-49	A5	Schedule 1 Part 3 Para 7	The requirement for landscaping does not cover all the aspects we would expect to be captured within the requirement. We would expect this to cover survey methods, monitoring requirements and the requirement to maintain, including the potential for replanting due to plant failures. Further, we would expect to be consulted on these plans prior to their approval by the relevant Local Planning Authority (LPA).	Natural England recommends this requirement be amended.	Requirement 7 provides that the final landscaping scheme must be in accordance with the outline landscape and ecological management strategy, which is a secured document and contains the information sought by Natural England. As such, no amendment to Requirement 7 is required to address this point. The Applicant has amended Requirement 7 at Deadline 1 to include Natural England (as relevant statutory nature conservation body) as a consultee.
NE-50	A6	Schedule 1 Part 3 Para 8	Natural England requests the text be amended to include a requirement to consult the relevant Statutory Nature Conservation Body (SNCB) on the Code of Construction Practice (CoCP). Natural England notes that the interpretations section includes an outline CoCP. Therefore, we would recommend that the requirement should note the final CoCP must accord with the outline CoCP.	Natural England recommends this requirement should be amended.	Requirement 8 already requires the code of construction practice to be in accordance with the outline code of construction practice and so no amendment to Requirement 8 is required to address this point. The Applicant has amended Requirement 8 at Deadline 1 to include Natural England (as relevant statutory nature conservation body) as a consultee.

Applicant Ref	NE Ref	Issue	Issue Raised	Natural England's recommendation to resolve issues	Applicant's Response
NE-51	A7	Schedule 1 Part 3 Para 12	Natural England requests that the relevant SNCB be included as a required consultee on this important ecological document. We also note that based on the wording here, and the interpretation of onshore commencement, clearing works could be conducted prior to the submission and approval of the final Ecological Management Plan (EMP). This provision should be amended to state that no pre commencement clearance works should be undertaken until a written EMP, as relevant to the stage of the works, has been submitted to, and approved by, the LPA following consultation with the relevant SNCB.	Natural England recommends that this requirement should be amended.	Requirement 13(3) suitably controls ecological management in respect of pre-commencement works, which must be in accordance with the OLEMS, submitted with the DCO application and available for review and comment now. There is no need for a further document at some point in the future. Such a provision would be administratively burdensome and unnecessary. The Applicant has amended Requirement 12 at Deadline 1 to include Natural England (as relevant statutory nature conservation body) as a consultee.
NE-52	A8	Schedule 1 Part 3 Para 13	Natural England notes the requirement to provide a soil management plan does not include a requirement to consult the relevant SNCB. We would request that we be consulted upon this important document.	Natural England recommends that this requirement should be amended.	The Applicant has amended Requirement 13 at Deadline 1 to include Natural England (as relevant statutory nature conservation body) as a consultee.
NE-53	A9	Schedule 1 Part 3 Condition 21	This requirement secures the need for a Biodiversity Net Gain (BNG) strategy. We note that the relevant SNCB is not listed as a consultee, given the nature of this plan we would request consultation on this document. Further we note that no time period is given for the duration of which the strategy should be monitored, maintained or when adaptive management measures may be implemented. Natural England advises the requirement should ensure the strategy is enforced for a period of thirty years, or for the lifetime of the development	Natural England recommends that this requirement should be amended.	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 Natural England. As such, no amendment to Requirement 21 is required to address this point. The Applicant has amended Requirement 21 at Deadline 1 to include Natural England (as relevant statutory nature conservation body) as a consultee.
NE-54	A10	Schedule 8 Part 3 Condition 21 (1) (m)	Natural England notes that, due to the need to appropriately consider in-combination impacts of other developments it is important that the Site Integrity Plan (SIP) should not be submitted too early as the plan needs to consider in combination issues and submission too early may mean significant in combination factors are not included.	Natural England advises this condition should be amended to give an individual timing requirement to be submitted no sooner than 9 months and no later than 6 months prior to commencement of piling.	The Applicant considers it inappropriate to include a maximum timescale on submission of plans for approval under DML conditions and the Applicant is not aware of any offshore wind DCO/DML which imposes such a requirement. As Critical National Priority Infrastructure it is imperative that the Project can be delivered without unnecessary and undue delay, to ensure the construction programme can be maintained. Imposing a maximum time period for submission of pre-construction plans will provide less time for the necessary approvals to be obtained (including any amendments to the submitted plan which the MMO might require) and adds unnecessary risk to the construction programme.
NE-55	A11	Schedule 8 Part 2 Condition 25	Natural England notes that the monitoring conditions only cover benthic monitoring. However, we consider that ornithological and marine mammal monitoring should also be requirements due to the potential for impact.	Natural England recommends that this requirement should be amended.	The Applicant considers the scope and drafting of this condition to be well precedented and appropriate. Ornithological and marine mammal monitoring are secured by Condition 21(1)(j) of the DML.

Applicant Ref	NE Ref	Issue	Issue Raised	Natural England's recommendation to resolve issues	Applicant's Response
NE-56	A12	Schedule 8 Part 2 Condition 26	This condition does not include the requirement to pause piling in the event that noise is significantly in excess of that predicted and for potential further monitoring. These requirements are considered a key mitigation for noise impacts to sensitive species and should be included as a standard. Example provision from the recent Sheringham and Dudgeon Extension Project (SADEP) DCO provided below for reference: *(2) In the event that driven or part-driven pile foundations are proposed, such monitoring must include measurements of noise generated by the installation of the first four piled foundations of each piled foundation type to be installed unless the MMO otherwise agrees in writing.* *The undertaker must carry out the surveys approved under sub-paragraph (1), including any further noise monitoring required in writing by the MMO, and provide the agreed reports in the agreed format in accordance with the agreed timetable, unless otherwise agreed in writing with the MMO in consultation with the relevant statutory nature conservation bodies.* *(4) The results of the initial noise measurements monitored in accordance with sub-paragraph (2) must be provided to the MMO within six weeks of the installation of the first four piled foundations. The assessment of this report by the MMO will determine whether any further noise monitoring is required. If, in the reasonable opinion of the MMO in consultation with the relevant statutory nature conservation body, the assessment shows significantly different impacts to those assessed in the environmental statement or failures in mitigation, all piling activity must cease until an update to the marine mammal mitigation protocol and further monitoring requirements have been agreed.*	Natural England advises that the Applicant amends the condition to include the requirement to stop should the noise impacts of the works be significantly in excess of those assessed.	As noted in response to Applicant Ref NE-43, the Applicant has updated the draft DCO at Deadline 1 to include this provision.
NE-57	A13	Schedule 8 Part 2 Condition 27	Natural England notes that this condition does not have provision for marine mammal monitoring. Further, we note the recent SoS decision for SADEP approved the following recommendation from Natural England and the Marine Management Organisation (MMO) for particular impacts requiring remediation or further mitigation works. We have copied and included the condition below for your reference.	Natural England requests that a similar condition is included within all dMLs.	The Applicant considers this wording to be unnecessary and inappropriate and does not agree to its proposed inclusion. 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

Applicant Ref	NE Ref	Issue	Issue Raised	Natural England's recommendation to resolve issues	Applicant's Response
			(7) In the event that the reports provided to the MMO under sub-paragraph (4) identify impacts which are unanticipated and or beyond those predicted within the Environmental Statement and the Habitats Regulations Assessment an adaptive management plan to reduce effects to within what was predicted within the Environmental Statement and the Habitats Regulations Assessment, unless otherwise agreed by the MMO in writing, must be submitted alongside the monitoring reports submitted under subparagraph (4). This plan must be agreed by the MMO in consultation with the relevant statutory nature conservation bodies to reduce effects to an agreed suitable level for this project. Any such agreed and approved adaptive management or mitigation should be implemented and monitored in full to a timetable first agreed in writing with the MMO. In the event that this adaptive management or mitigation requires a separate consent, the undertaker shall apply for such consent. Where a separate consent is required to undertake the agreed adaptive management or mitigation, the undertaker shall only be required to undertake the adaptive management or mitigation once the consent is granted.		process. By their very nature, effects that have not been anticipated cannot be assessed, and in any case to ensure proportionality in the EIA process only "likely significant effects" require assessment. 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 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 effects 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. 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.
NE-58	A14	n/a	All comments provided on Schedule 8 apply to Schedule 9 and 10 where similar provisions apply.	N/A	Noted. The same responses apply.
NE-59	A15	Schedule 8, 9 and 10	Natural England notes that nowhere within these dMLs does there appear to be any requirement to notify the MMO with regard to which build option has been chosen. Further we note from the recommendations that all requirement 19 does require notification. However, there does not appear to be any requirement for the two developments to coordinate their response with regard to the chosen build options. As Five Estuaries is still in examination we would recommend consideration for both projects to capture a requirement to co-ordinate on the onshore cable works.	We recommend consideration of including provisions for co-operation and for notification to the MMO as offshore enforcing body of the build option selected.	The Applicant considers such a requirement to be unnecessary, as the MMO will necessarily be informed of the chosen build option via the submission of pre-commencement plans for prior approval. It is also unnecessary to include an express requirement for the Applicant and Five Estuaries to coordinate as that is a necessary pre-cursor to each party discharging its DCO. Ultimately the responsibility for complying with its DCO lies with the relevant undertaker, and breach of a DCO is a criminal offence pursuant to s161 of the Planning Act 2008. As such, including any further requirement to coordinate would be for no useful purpose.
NE-60	A16	Schedule 15 General point	Natural England notes that compensation provisions have been provided for LBBG only. We have advised in Appendix G that compensation is required for other ornithological and benthic features, specifically kittiwake, guillemot and razorbill at Flamborough & Filey Coast Special Protection Area (SPA). Compensation provisions should be provided for these features on a without prejudice basis to ensure that, should the SoS find that compensation is required,	The compensation schedule should be updated to cover all sites where there is currently disagreement regarding an adverse effect on site integrity	The draft DCO provides the form of consent which the Applicant is seeking to be granted. The Applicant has concluded no risk of AEoI from North Falls (alone or in combination) on the FFC SPA and therefore it is not appropriate for the draft DCO to secure compensatory measures.

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			appropriate and, wherever possible, agreed provisions are available.		
NE-61	A17	Schedule 15	All references to Natural England within this schedule should be amended to the *'relevant SNCB'* to ensure consistency with the rest of the DCO.	Natural England recommends that any references to Natural England are amended.	The Applicant has updated Schedule 15 of the draft DCO **[6.1.1, Rev 2]** at Deadline 1 so that all references to Natural England are now to the relevant SNCB.
NE-62	A18	Schedule 15, Para 2	Natural England notes that the Offshore Ornithology Engagement Group appears similar to the steering groups used on other compensation provisions. However, the condition does not include the need to provide and consult upon; terms of reference for the group, details of proposed meetings, timetable for the preparation and delivery of the LBBG Compensation Implementation and Monitoring Plan (CIMP), or a dispute resolution mechanism. We consider these vital requirements to ensure a smooth compensation delivery process and would note that they have been included in many compensation schedules for LBBG.	Natural England suggest that this provision should be amended.	The Applicant considers that the proposed role of the OOEG is sufficiently clear from paragraph 2(2) of Schedule 15 and the OOEG will be consulted on the LBBG CIMP prior to it being submitted to the Secretary of State for approval. As such, the Applicant considers no change to be required.
NE-63	A19	Schedule 15 Para 3 (1)	Natural England notes the wording here is confusing as it implies that compensation may be delivered through some other unknown, or undetailed, mechanism and thus the compensation within this provision may not be required. We further note that there is ongoing work on strategic compensation and would support the inclusion of appropriate provisions to allow use of agreed strategic compensation. However, the wording here is insufficient, if that is its purpose. We have included details in Annex A1 below of some draft wording we proposed for a strategic benthic provision which could be extrapolated into an appropriate provision for LBBG.	Recommend amending this provision and consideration of how to appropriately implement a provision allowing strategic compensation options. This could also be applied to other compensation schedules provided on a without prejudice basis.	As Natural England will be aware, the HRA regime is subject to ongoing review including potential changes implemented under the broad ranging powers of the Energy Act 2023. As such, the Applicant considers the wording to be appropriate to ensure the Secretary of State has sufficient flexibility with regards to the appropriate compensation to be delivered by the Applicant.
NE-64	A20	Schedule 15 Para 4	We consider that the list of requirements to include in the CIMP is lacking in detail when compared to similar provisions used to secure compensation. Within (d) we would expect to see survey methodologies, timetables for the monitoring to be conducted and reports delivered and success criteria. Within (g) we would expect to include a detailed mechanism to determine the need for any alternative compensation or adaptive management measures, along with potential further monitoring and maintenance of such measures. We refer to the East Anglia Two DCO which has such provisions within their LBBG compensation schedule.	Natural England suggests the Applicant considers amendment to this provision.	The Applicant considers that the list of requirements to include in the CIMP, listed in paragraph 3 of Schedule 15 of the draft DCO [**APP-005**] is comparable to the requirements listed in the East Anglia TWO DCO (Schedule 18, Part 2).
NE-65	A21	Schedule 15 para 5	We note this requirement ensures that LBBG compensation must be provided three full breeding seasons prior to operation. However, on other	Natural England recommends the Applicant amends the condition to reflect four full	The Applicant maintains the position regarding three breeding seasons.

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			developments a period of four full breeding seasons was deemed appropriate and considers this should therefore be amended.	breeding seasons in line with compensation requirements for other projects.	A difference of one year would result in a mortality debt of 2.3 (mean) collisions (see Updated Apportioning for Lesser Black-Backed Gull at the Alde Ore Estuary SPA [document reference **9.15**], however as shown in Section 6.3 of the Lesser Black Backed Gull Compensation Document [**7.2.2, Rev 1**] there is sufficient overcompensation in the proposed 4ha, compared to the area required to compensate the predicted collisions per annum and therefore over the life of the Project, a delay of one year would have a de minimis impact on the overall success of the compensatory measure.
NE-66	A22	Schedule 15 Para 8	Natural England notes the provision ensures that the compensation must be maintained as until the end of the operational life of the project. We would advise that the compensation may be required for longer than the lifetime of the project and that the compensation should be maintained until the SoS approves its decommissioning in consultation with the relevant SNCB.	Natural England recommends the Applicant amends the provision to require the approval of the SoS and consultation with the SNCB.	The Applicant considers securing compensation beyond the operational lifetime of the proposed development to be unnecessary and unjustified. The predicted impacts on LBBG for which compensation is provided arise during operation of the project, and therefore will cease following operation. Natural England has not provided any evidence to support its position.
		Environmental Impact Assessment - Document Used: 7.20 Outline Offshore Operations and Maintenance Plan			
NE-67	A23	Appendix A	Natural England notes that under additional cable protection the text implies that this may be deployed for the lifetime of the project. However, our standard position is that cable protection should only be deployed up to ten years following completion of construction. We further note that the dMLs have conditions which ensure the required 10 year restriction and we are grateful for this inclusion. However, to avoid any confusion we would recommend the Outline Offshore Operations and Maintenance Plan should be amended to reflect the condition.	We recommend this document be updated to avoid any confusion post consent.	Noted. This document will be updated in line with the dMLs and submitted at Deadline 3.
NE-68	A24	Appendix A	In Appendix A there is much sign posting to specific locations where O&M details have been included but given some of the ambiguities in and between the ES chapters and supporting documentation.	Natural England advises that it would be helpful if the plan could specifically set out O&M activities so it can be read as a standalone document.	The Outline Offshore Operations and Maintenance Plan (OOMP) follows a standard approach in line with other projects. The Applicant considers that the Outline OOMP including its Appendix A **[APP-255]** can be read as a standalone document. Cross references to the ES show where the operation and maintenance activities are assessed.
NE-69	A25	Appendix A	The replacement or addition of scour protection around foundations for the lifetime of the project (Page 13) doesn't align with comments made in the DCO and/or the Benthic Appendix.	Natural England would advise the plan be updated.	The Applicant has reviewed the Outline OOMP, Chapter 10 Benthic and Intertidal Ecology **APP-024** and the draft DCO [AS-022], and the Applicant considers the documents were consistent. ES Chapter 10 and the Outline OOMP [**APP-255**] show the footprint of the wind turbine foundation (189,144m^2) and the footprint of the scour protection (4,775,118m^2) separately, whereas the dDCO [**APP-005**] has the footprint for

Applicant Ref	NE Ref	Issue	Issue Raised	Natural England's recommendation to resolve issues	Applicant's Response
					wind turbine foundations and scour protection combined (4,964,261.5m^2). In any case, the Applicant has now removed gravity base foundations from the design envelope and this has been updated in the draft DCO at Deadline 1 (Ref. 6.1.1, Rev 2). As a result the values for scour protection. have been updated. The Outline OOMP will be updated and submitted at Deadline 3.
NE-70	A26	General Point	This plan doesn't really align with the Cable statement [APP-262] and we advise that this is addressed by the Applicant.	We advise the plan be updated.	The Applicant has reviewed the Outline OOMP and the cable statement and the Applicant is unclear what Natural England is referring to.
		Environmental Impact Assessment – Document Used: 2.6 Schedule of Mitigation			
NE-71	A27	General Point	Natural England notes Schedule is not a named document on the DCO, Natural England considers this document should be certified under the DCO. Further, Natural England would anticipate that it specifies commitments made by the Applicant to avoid, reduce and mitigate impacts as much as possible; from which determinations can then be made on the sufficiency of the mitigation measures on removing Adverse/Significant impacts. However, the use of terms such as 'where practicable' throughout the document cause concern because listing out mitigation doesn't mean it is achievable and/or that there is commitment to do it. In addition, there is no detail to demonstrate that by undertaking the mitigation it will sufficiently minimise impacts to acceptable levels	We advise that this document is updated to clarify what is/isn't committed to by the Applicant.	The Schedule of Mitigation is a signposting document, provided for the ease of reference of stakeholders and consultees. It identifies the mitigations committed to by the Applicant and signposts to where those mitigations are secured (e.g. in an outline plan secured by a DCO requirement). Adding the Schedule of Mitigation as a certified document in the DCO would therefore serve no useful purpose. The Applicant considers that an appropriate mitigation hierarchy has been followed for the EIA, noting the EIA Regulations do not require all impacts to be mitigated as much as possible. The Planning Statement (Document Reference) provides consideration of the compliance of North Falls with the requirements of relevant legislation and policy and therefore the Applicant considers that impacts are at acceptable levels and that development consent should be granted for the Project. Ultimately it is imperative that the Project remains deliverable, and so there are occasions where commitments can only be made where it is practicable to do so, otherwise the delivery of Critical National Priority Infrastructure would be unnecessarily and unduly hindered, and possibly even prevented. Where mitigation relates to the Habitats Regulations, an Assessment of Alternative Solutions is provided in the HRA Derogation Provision of Evidence **[APP-183]**, where applicable, which demonstrates that there are no alternative solutions (including design solutions) to the Project.
NE-72	A28	General Point	We also note that there is reliance by the Applicant on monitoring as a form of mitigation, which we highlight it is not.	We advise that all references to monitoring other than to test the effectiveness of mitigation measures are removed from the schedule.	The only monitoring referred to under mitigation headers within the Schedule of mitigation is a necessary component of the mitigation, e.g.: • Marine mammals – a monitoring area is required to enable mitigation actions to be undertaken in accordance

Applicant Ref	NE Ref	Issue	Issue Raised	Natural England's recommendation to resolve issues	Applicant's Response
					with the Draft Marine Mammal Mitigation Protocol **[APP-242]**. • Offshore archaeology – monitoring of Archaeological Exclusion Zones is relevant to mitigation and avoiding impacts on archaeological features. • Groundwater - monitoring wells as part of the GI works in order to establish the groundwater regime and to identify, for example, whether contamination is from onsite or offsite sources. Subsequent mitigation would be developed in the event that contamination is found, and this is secured through Requirement 15 (Groundwater monitoring) of the draft DCO **[AS-022].** • HDD breakout – monitoring would enable a mitigation response if required, as detailed in the Outline Horizontal Directional Drill Method Statement and Contingency Plan **[APP-250]**. • Onshore archaeology - monitoring / watching brief including subsequent post-excavation assessment, and analysis, publication and archiving is a recognised form of mitigation, as detailed in the Outline Onshore Written Scheme of Investigation **[APP-247]**. • Climate change - Monitoring of on-site weather conditions and severe weather alert services to account for exposure of site workers and construction plant to extreme weather events and ensure appropriate preparation and response measures are in place to minimise their impacts, as detailed in the outline Code of Construction Practice **[APP-248].**
		Environmental Impact Assessment – Document Used: 2.27 Cable Statement			
NE-73	A29	General Point	If this is to be considered a named plan and updated pre-construction Natural England highlights that it is currently overly simplified and too high level to add any meaningful to any consent decision.	This should be updated in line with comments made in the Appendices.	No document numbered 2.27 was provided in the submission. The Applicant has provided the Cable Statement as document 7.27 to meet APFP Regulation 6(1)(b)(i), and believes it is appropriate for that purpose. .
NE-74	n/a	General Point	Natural England highlights that it is not clear how these plans align with the other named plans and document. For example, they list out mitigation, but not all of it, and is separate to the Schedule of Mitigation. There is also overlap with the Cable Statement [APP-262]. Therefore, reliance on these documents alone as set out in the documents purpose could cause key commitments to not be implemented.	Natural England would welcome further clarification from the Applicant how the plans work together, and further detail being included within the document.	No document numbered 2.27 was provided in the submission. The Applicant is unsure what this refers to. It should be noted that this is a comment made against "2.27 Cable Statement", and this comment refers to overlap with "7.27 Cable Statement" (for which see response above).
		Environmental Impact Assessment – Document Used: n/a			

Applicant Ref	NE Ref	Issue	Issue Raised	Natural England's recommendation to resolve issues	Applicant's Response
NE-75	A30	General Point	Natural England 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.	For note.	Please see response to NE-21 above.
		ANNEX A1 – Suggested Benthic Compensation Wording Provided to Regulators			
NE-76			[Full text not copied see 1-15 of Annex A1]		The Applicant's firm position is that there is no risk of an adverse effect on integrity on any benthic receptor and as such no wording to secure compensation is necessary.

2.4 Applicant's Comments – Appendix B – Marine Geology, Oceanography and Physical Processes

Applicant Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
		1. Natural England's Advice and Recommendations			
NE-77	1.1	Project Design Changes to Date	Natural England welcomes the efforts and changes that have been made to date to reduce environmental impacts through major refinements of the project layout and red line boundary, including removal of the array from Kentish Knock East Marine Conservation Zone (KKE MCZ) slightly increasing in the distance to the Outer Thames Estuary Special Protection Area (OTE SPA), removal of the northern array in its entirety, and routing of the offshore export cable corridor (OECC) outside of Margate and Long Sands Special Area of Conservation (MLS SAC). We also recognise the commitment by North Falls and Five Estuaries (VE) to coordinate and collaborate where practicable to minimise both projects' environmental effects.		Noted.
NE-78	1.2	National Grid Connection Options	There are two build options which cover three onshore delivery scenarios (i.e. North Falls only constructs works for North Falls; or North Falls and VE consent ducts for both projects) and a third build option which includes an offshore connection with array infrastructure only. No export cables would be required to shore within Option 3. Option 3 represents the least impactful option for the marine physical environment and processes, Options 1 and 2 include export cables to shore along with array infrastructure and, therefore, represent Worst-C Scenarios (WCS). However, we note that the viability of Option 3 has been under review, and because it does not		The Applicant agrees with Natural England's understanding but notes that reference to ducts relates to onshore cables only. The Applicant has taken an industry standard approach of assessing the worst-case scenario, determined on a topic specific basis in each ES chapter.

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			represent the WCS option it has not been fully assessed in the Environmental Impact Assessment (EIA)/Habitats Regulations Assessment (HRA).		
NE-79	1.3	Cooperation with Other Projects	Currently, there are three build out scenarios with VE based on whether North Falls undertakes works for its project alone, or both projects construct with a 1-3 year gap, or VE does not construct or constructs with a gap > 3 years. The implications for consideration of the worst-case scenario and cumulative effects for the different receptor groups has not been clearly laid out. Furthermore, there is a mismatch between the different project design lives. For example, for North Falls the project lifespan is 30 years, for VE it is 20-40 years, whilst for the National Grid Electricity Transmission (NGET) it is 40 years. What would this mismatch mean to the cumulative impact assessments? For example, if decommissioning at landfall is carried out for one Project's infrastructure whilst the other remains operational.		The cumulative decommissioning impacts are assessed in ES Chapter 8 Marine Geology, Oceanography and Physical Processes **[APP-022],** Section 8.8. The worst case scenario for this topic is based on temporal overlap of decommissioning and therefore if decommissioning is undertaken for one project while the other remains operational, the impacts would be less than assessed.
NE-80	1.4	Recommended Updates to Documents	We have highlighted in our detailed comments below a number of evidence gaps where the data used to inform impact assessments are old or not site-specific and may not, therefore, accurately represent the present-day environmental conditions at North Falls. We advise that any clarifications on these matters should be provided in updated technical documents/ES chapters/named plans.		Responses are provided to the detailed comments below.
		Table 1 - Summary of Key Issues – Marine Geology, Oceanography and Physical Processes			
NE-81	B1		Natural England is concerned that there is uncertainty regarding the likely success of a subtidal Horizontal Directional Drilling (HDD) at the landfall point.	Natural England advises that the Applicant should seek/provide confirmation from an appropriate specialist, that HDD can be achieved through the geology present to the extent proposed. NB: site specific geotechnical investigations would be needed to support any confirmation. If this is not possible, then we recommend working in the intertidal should be considered as a WCS.	See response to NE-13.
NE-82	B2		Natural England highlights that there is uncertainty with the WCS parameters for seabed level changes during construction from deposition.	Natural England advises that the WCS for seabed level changes due to the different construction activities should be provided, including sediment deposition thickness, extent, and persistence.	The realistic construction worst-case scenarios for changes in seabed level due to seabed preparation for installation of turbine and OSP/OCP foundations (Impact 2a), changes in seabed level due to drill arisings for installation of piled foundations for wind turbines and OSPs/OCP (Impact 2b), changes in seabed level due to export cable installation (Impact 4), and changes in seabed level due to offshore array and platform interconnector

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					cables installation (Impact 6) were presented in Table 8.2 of the Environmental Statement.
NE-83	B3		Natural England highlights uncertainty regarding the wave and current modelling and a lack of information regarding seabed mobility and seabed erosion/deposition. As a result, we are currently unable to support the impact assessment conclusions relating to sediment transport processes and scour development at KKE MCZ and Annex I sandbanks.	Natural England advises that further information is needed to demonstrate the applicability of the Galloper Offshore Wind Farm (GWF), Greater Gabbard Offshore Wind Farm (GGOW) and VE modelling results to the conditions prevailing at North Falls. We also advise that the Applicant should consider and assess bed shear stress changes and the sediment erosion/deposition potential within and adjacent to the array through the different phases for the Project alone and cumulatively with other nearby Offshore Wind Farms (OWFs).	ES Appendix 8.1 North Falls Wave Assessment [**APP-093**] at North Falls provides modelling of effects on wave processes. The Applicant maintains that the methodology used in the EIA (see ES Chapter 8 [**APP-022**], section 8.4) is appropriate and this is supported by the MMO (see section 5.2 of RR-216). In response to Natural England's Section 42 feedback, the Applicant made significant mitigation commitments by reducing the order limits to remove overlap with the KKE MCZ. In addition, due to the need to ensure there is no over-sail of WTG rotors beyond the order limits, turbine foundations will be a minimum of 50m from the KKE MCZ. This is based on the smallest WTGs (i.e. minimum parameters) using suction bucket jackets as the worst case scenario (118m WTG rotor radius minus the following foundation parameters): • Suction bucket jackets max diameter of 15m; and • Leg spacing radius of 30m (60m spacing between jacket legs). Moreover, the Gravity base system foundations have been removed from the design envelope, reducing the footprint on the seabed. This additional mitigation is secured in the draft DCO submitted at Deadline 1 and will further ensure there will be no hinderance of the conservation objectives. In light of the mitigation described above, the Applicant considers that the existing buffer from the KKE MCZ is appropriate to ensure there will be no hinderance of the conservation objectives.
NE-84	B4		Natural England highlights that there is a lack of detailed information regarding bedform mobility, stability and longevity to support the predictions of sandwave recovery.	Natural England advises that the anticipated location(s) of sandwave levelling should be provided and the affected bedforms should be characterised (in terms of their mobility and stability, direction of movement). We also advise that 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	The Project-specific geophysical survey data is being reviewed to further define the location, geometry, and potential mobility of the sand waves across the Project. This will further refine the locations where sand wave levelling is likely to be required and provide a basis for the predictions of sand wave recovery. This information will be presented at Deadline 3. The Offshore In-Principle Monitoring Plan **[APP-245],** Table 5.1 includes monitoring of sandwave recovery.

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				will be undertaken if impacts are found to be greater than predicted.	
NE-85	B5		Natural England is concerned that there is insufficient information on the anticipated location and extent of cable protection measures placed near MLS SAC to rule out negative impacts to the SAC due to disruption of sediment transport pathways operating around the northern boundary	Natural England advises that where cable protection measures are anticipated to be required adjacent to MLS SAC the total amounts of cable protection proposed across the different project phases should be considered. In turn, further consideration should be given to changes to sediment transport processes and seabed morphology due to the placement of cable protection measures at this location.	North Falls' primary means of cable protection is burial. Therefore, surface cable protection e.g. rock placement or other means will be a secondary means of protection where it is not possible to achieve the required depth of burial for a number of reasons. For this reason, the project has included an allowance for surface cable protection (see response to B13 for more details). The potential operational impacts of cable protection along the export cable are assessed in ES Chapter 8 Marine Geology, Oceanography and Physical Processes **[APP-022]**, Section 8.6.3.6 - Impact 6: Morphological and sediment transport effects due to cable protection measures within the offshore cable corridor. The conclusions will be unaffected by the position of the protection because the process of 'ramping' will occur as described in the Environmental Statement. If protection is 1.4m high and (worst case) angle of repose is 30 degrees (water filled sand) then the ramp footprint width away from protection would be about 2.5m. Eventual bypassing of the protection would take place over time and the gross patterns of bedload transport would not be impacted significantly. The Applicant maintains its position that there would be no adverse effect on the MLS SAC as presented in the RIAA Part 2 [APP-175], however in response to Natural England's comments, the Applicant is committing to additional mitigation. There will be a buffer of 150m between the MLS SAC and the installation of the offshore export cables and any associated cable protection to further ensure there will be no AEOI of the MLS SAC. This is secured in the draft DCO.
		Table 2 Natural England's Detailed Advice and Recommendations – Marine Geology, Oceanography and Physical Processes			
			Project Parameters - Document(s) Used: • [APP-015] 3.1.3 Chapter 1 Introduction • [APP-019] 3.1.7 Chapter 5 Project Description • [APP-020] 3.1.8 Chapter 6 EIA Methodology • [APP-022] 3.1.10 Chapter 8 Marine Geology, Oceanography and Physical Processes • [APP-236] 2.5 Co-ordination Report • [APP-245] 7.10 Offshore In-Principle Monitoring Plan		Noted

Applicant Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
			• [APP-250] 7.15 Outline Horizontal Directional Drill Method Statement and Contingency Plan • [APP-255] 7.20 Outline Offshore Operations and Maintenance Plan • [APP-261] 7.26 Site Characterisation Report • [APP-262] 7.2.7 Cable Statement		
NE-86	B6	Project Description	The design parameters in Doc. 3.1.7 [APP- 019] are high level and lack specific detail. From the information supplied, and assuming HDD trenchless technologies are successful and breakouts on the landward side of the seawall do not occur, the parameters are clearly enough defined to determine pathways to impacts to coastal process/designated sites.	N/A	The level of detail provided are appropriate and consistent with that of other consented offshore wind farms. The Applicant agrees that these are sufficiently defined to determine the potential impacts.
NE-87	B7	Project Description	There is sufficient detail to assume that if the HDD trenchless process is successful and breakouts on the landward side of the seawall do not occur, the parameters are clearly enough defined to determine pathways to impacts to coastal process/designated sites.	N/A	Noted.
NE-88	B8	Natural England's Position on Worst Case Scenario or Scenarios	Feasibility of Subtidal HDD The WCS with regards to the coastal zone presented is clear, based on North Falls' commitment to a subtidal exit/entrance point for landfall option only. The scenarios for landfall assume that North Falls will undertake landfall operations themselves and not as a joint operation with VE, and that they will only work in the specified terrestrial landfall area and in a subtidal work envelope area with no interaction with the intertidal and foreshore zones including no cable protection operations. Under this scenario there would be no temporary or long-term impacts on the Shoreline Management Plan (SMP) or coastal process. The mitigation for a failed HDD operation is the provision of a third HDD route. However, we note that VE OWF looked at having to trench in the intertidal as a WCS in the event of HDD failure and in Doc Ref 3.1.10 [APP-022] Para 273., North Falls acknowledge that cable protection on the seabed would represent the WCS. Natural England therefore queries if the evidence around the geology is sufficient to rule out HDD failure for the extent of drilling proposed? We concluded that even if trenching and burying of rock armour in the intertidal was necessary there would be no pathway to impacts on designated sites for VE OWF. However, North	Natural England advises the Applicant to seek/provide confirmation from an appropriate specialist that HDD to the extent proposed through the geology present is a commitment that can be met in this instance. NB: site specific geotechnical investigations would be needed to support any confirmation. If this is not possible, then we recommend working in the intertidal should be considered as a WCS	See response to NE-13. Natural England's statement of not supporting the conclusion of negligible significance seems to be based on a scenario which is no longer included in the North Falls design envelope, regarding an HDD exit point in the intertidal zone. The North Falls HDD exit will be in the subtidal zone. This is secured via Work No. 4A in Schedule 1 of the draft DCO (which is located seaward of MLWS as secured on the Works plans).

Applicant Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
			Falls had previously looked at creating rock berms for cable armouring in the intertidal, that they predicted would act as additional groynes and if that were the case then further investigation of longshore drift is possible which could have the potential to impact overlapping designated sites downdrift. In para 279 (Doc Ref 3.1.10, APP-022) this impact has been deemed of negligible significance, something that Natural England doesn't currently support.		
NE-89	B9		Shoreline Management Plan Changes The potential for managed realignment has been explored (APP-250, Para 32), and consideration to saturation built into the project design. Should saturation be permanent additional alterations are possible using solutions available from offshore elements of the project. Therefore, Shoreline Management Plan (SMP) changes from an environmental perspective have been adequately explored.	N/A	Noted
NE-90	B10		Realistic WCS for Seabed Level Changes During Construction A WCS has been provided for different construction-related activities, however, the realistic WCS (RWCS) for overall seabed level change is unclear. We advise this WCS would be useful for assessing overall levels of deposition, smothering etc. to inform the impact assessment.	Natural England advises that, if possible, the Applicant should provide a RWCS for overall seabed level change due to construction activities.	The realistic construction worst-case scenarios for changes in seabed level due to seabed preparation for installation of turbine and OSP/OCP foundations (Impact 2a), changes in seabed level due to drill arisings for installation of piled foundations for wind turbines and OSPs/OCP (Impact 2b), changes in seabed level due to export cable installation (Impact 4), and changes in seabed level due to offshore array and platform interconnector cables installation (Impact 6) were presented in Table 8.2 of the ES Chapter 8 Marine Geology Oceanography and Physical Processes [**APP-022].**
NE-91	B11		Changes in Seabed Level due to Seabed Preparation It is stated that the "*resulting mound would be a measurable protrusion above the existing seabed (likely to be tens of centimetres to a few metres high)".* There is an order of magnitude difference which could have significant implications for sensitive receptors (such as spawning fish, benthic ecology). It is also stated that over time, the sediment in the mound will gradually be redistributed by prevailing waves and currents. However, the duration for mound persistence has not been estimated. Natural England queries if there is any supporting evidence from the existing adjacent OWFs of mound persistence/redistribution? Natural England	Natural England advises that further consideration should be given to the WCS spoil mound thickness and persistence.	The worst-case scenario height and persistence have been assessed, and regardless of magnitude the mound will be mobile and re-distributed by the prevailing physical processes. As indicated in Section 8.6.2.3 of ES Chapter 8 Marine Geology Oceanography and Physical Processes [**APP-022]** the mound will be mobile and be driven by the physical processes, rather than the physical processes being driven by it. This means that over time the sediment comprising the mound will gradually be re-distributed by the prevailing waves and tidal currents. There is no evidence of the timing of re-distribution from adjacent wind farms as there was no requirement to monitor this, however the Applicant maintains that the assessment based on expert judgement is appropriate and proportionate to the likely effect.

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			advises that further consideration should be given to the WCS spoil mound thickness and persistence.		
NE-92	B12		<u>Drill Spoil Mound Persistence</u> 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. Natural England therefore queries what the estimated WCS is for persistence of these mounds?	Natural England advises that an indication of the anticipated location where foundation installation drilling may be required would help inform the assessment of impacts to sensitive receptors and potential changes to marine processes. A realistic WCS for drill spoil mound persistence should also be provided to help support the impact assessment conclusions.	Based on previous experience of Greater Gabbard, where all monopiles were installed via piling, it is not expected that any locations will need drilling to reach the required depth of installation. Therefore, the 10% is an allowance in case of any installation issues on a suitably precautionary basis, but at this stage is not expected to be required. An assessment of the mounds and their winnowing (gradual disaggregation of the mud clasts into their constituent particle sizes) is provided in Section 8.6.2.4 ES Chapter 8 Marine Geology Oceanography and Physical Processes [**APP-022].** No specific calculations have been undertaken to understand how long it would take for the mounds to fully erode. This is because it is not possible to quantify erosion of the mounds. It is unlikely that the mounds will fully erode given their composition, but gradual winnowing would take place over time. The mounds are likely to be present on the seabed over the long-term. The winnowing of the mud clasts will be almost imperceptible as a process, with individual mud particles stripped off the clasts by tidal currents. There would be no increase in suspended sediment concentrations because the winnowing process is on a particle-by-particle basis. Hence, the worst-case scenario is based on the volume of drill arisings for each foundation installation.
NE-93	B13		<u>Additional Cable Protection</u> We note that an additional cable protection allowance has been included in the project design for both the array and platform interconnector cables (20% of the length) and the offshore export cable length (10% of the length). However, the rationale for these amounts has not been provided. Furthermore, no information has been provided of the likely location for placement of this additional cable protection. This is important for assessing potential impacts on sensitive areas of seabed or receptors.	Natural England advises that further information is needed regarding the rationale for these amounts and their anticipated placement location. We also advise that the standard for quantities of additional scour and/or cable protection replenished outside of benthic SACs is 10% of any scour prevention/cable protection laid during installation within a 10-year period only with a requirement for further marine licence beyond that. Justification will be needed as to why cable protection is needed considering risk and alternatives and every effort made to minimise amounts required to reduce environmental impact. There should be no increase in overall footprint.	North Falls' primary means of cable protection is burial. Therefore, surface cable protection e.g. rock placement or other means will be a secondary means of protection where it is not possible to achieve the required depth of burial for a number of reasons. For this reason, the project has included an allowance for surface cable protection. Reasons that cable may not be able to achieve the required depth of burial are as follows: • Following geophysical surveys to look at the seabed, a few areas have been identified to have Eocene sediments outcropping, which could make cable burial difficult. These are away from the SAC. Where practicable, these will be avoided by routing away from them, however, that may not be possible in all incidences. Therefore, an allowance for crossing some of these has been included. • There are a number of cables currently in planning which, if consented, will need to be crossed, including SeaLink and Neuconnect. Given the installation timeframes of these projects, North Falls is likely to be constructed after them and therefore these cables will need to be surface

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				Please see Benthic Appendix C response in relation to the placement of cable protection.	laid with protection as North Falls crosses them (the exact length of protection will depend on the proximity the installation tool can get to the cable being crossed). • There are also potential issues which are unquantifiable at this moment in time e.g. incidents on the installation vessel, that may cause issues with the depth of burial, for example if an health and safety incident occurred on the vessel, the tool may need to be removed from the water which could cause issues with the burial depth of the cable. Another may be due to proximity to shipping lanes, and if additional cable protection required will not conflict with MCA guidance on maintaining navigable depths. , it may be better to lay additional surface protection rather than spend significant time in a shipping lane to expose then deepen the cable. These issues will need to be considered on a case by case basis, but the allowance for surface cable protection is to allow for this situation. The Applicant is in the process of looking further at the cable installation requirements, which will feed into the amount of cable protection required and will provide a further update during Examination. Should cable protection deployment be required within 10 years of construction and within the parameters included in the DCO and assessed in the ES and RIAA. it is the Applicant's position that this would not require further assessment or consent. Should scour protection deployment be required within the parameters included in the DCO and assessed in the ES over the life of the Project, it is the Applicant's position that this would not require further assessment or consent.
NE-94	B14		Offshore Cable Crossings 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.	Natural England advises that a map should be provided identifying the location of cable crossings offshore, including designated sites and sensitive receptors. And assessments updated accordingly.	A map showing all offshore cable crossings is provide in the Export Cable Crossing Zone Plan (Document Reference 9.17) submitted in Deadline 1.
NE-95	B15		Drill Arising Mound Footprint The calculation of drill arising mound footprint is based on a mound height 'fixed' at the equivalent average height of the naturally occurring sandwaves on the seabed within the site *i.e*. 2m high. However, it is unclear why this has been fixed as the WCS height for the drill arising mound. We believe that this figure could be higher at certain locations.	Natural England advises that clarification and the rationale for the WCS drill arising mound height should be provided and assessments updated.	The method for calculating the footprint of each mound (using a height equivalent to the average height of the naturally occurring sand waves on the seabed within the site) follows that which was developed and agreed with Natural England for earlier major offshore wind farm projects at Dogger Bank Creyke Beck, Dogger Bank Teesside, East Anglia THREE, Norfolk Vanguard and Norfolk Boreas. However, it is accepted that the mound height could be a small amount higher than 2m depending on the spreading of the mud clasts during disposal. If the potential

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					mound is higher than 2m, then using the adopted method, the footprint area on the seabed would be less. This means that the magnitude of impact on the seabed would be less for a higher mound.
NE-96	B16		<u>Interruptions to Bedload Transport due to Sandwave Levelling (Construction)</u> Natural England highlights that while consideration has been given to interruptions to bedload transport due to sandwave levelling; the WCS for changes to bedload transport due to all constructed-related activities (e.g. seabed preparation) has not been assessed. This is important to understanding impacts to seabed morphology (such as Annex I sandbanks and at MLS SAC).	Natural England advises that the Applicant should consider and assess the WCS for changes to seabed morphology due to all construction activities (*e.g.* seabed preparation, sandwave levelling, cable installation etc).	Interruptions to bedload sediment transport due to sand wave levelling for offshore export cable, array cable and platform interconnector cable installation are assessed in Section 8.6.2.9 of ES Chapter 8 (Marine Geology Oceanography and Physical Processes [**APP-022**]) and the overall effect significance of sand wave levelling activities on the Essex coast, Annex I sandbanks and Margate and Long Sands SAC is negligible adverse (no significant effect). Any excavated sediment due to sand wave levelling would be disposed of within the North Falls offshore project area so there will be no net loss of sand from the site. Tidal currents would, over time, re-distribute the sand back over the levelled area (as re-formed sand waves). With respect to other construction activities, gravity base foundations are now excluded from the project, and so minimal seabed preparation would be required for foundation installation. Cable installation requires sand wave levelling (described above) and also trenching for burial, which is covered in Section 8.6.2.6 of ES Chapter 8 (Marine Geology Oceanography and Physical Processes [**APP-022**]).
NE-97	B17		<u>Wake Effect in the Tidal Current Flow</u> It is stated that current speeds will return to baseline conditions with progression downstream of each foundation and generally will not interact with wakes from adjacent foundations. It is also stated that these effects will be relatively small in magnitude and local. However, Natural England highlights that the WCS for spatial extent of these turbulent wakes has not been evaluated.	Natural England advises that the WCS spatial extent of turbulent wakes should be evaluated to inform the impact assessment.	The Applicant maintains its position that there would be no interactions between wakes from adjacent foundations due to the relatively large separation distances. The potential impact of turbulent wakes has been considered as part of the overall conceptual evidence-based assessment of changes to tidal currents in Section 8.6.3.1 of ES Chapter 8 (Marine Geology Oceanography and Physical Processes [**APP-022**]).
			Baseline Characterisation - Document(s) Used: • [APP-019] 3.1.7 Chapter 5 Project Description • [APP-022] 3.1.10 Chapter 8 Marine Geology, Oceanography and Physical Processes • [APP-250] 7.15 Outline Horizontal Directional Drill Method Statement and Contingency Plan • [APP-093] 3.3.3 Appendix 8.1 North Falls Wave Assessment		Noted

Applicant Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
NE-98	B18	Data Gaps	Natural England has identified the following data gaps: • Up to date sediment transport pathways at the array and indication of sediment transport rates • Site-specific wave measurements for model calibration (within or close to the array) • Characterisation of significant bedforms along the OECC and within/adjacent to the array. • Seabed mobility/susceptibility to scour.		The Project-specific geophysical survey data is being reviewed to further define the location, geometry, and potential mobility, sediment transport pathways and susceptibility to scour. This will be submitted at Deadline 3. It is common to calibrate regional wave models using data collected 10's of km away. Also, the focus of this modelling exercise is to investigate potential change due to presence of the wind farm, and the effect of small model anomalies will be largely removed after calculating the difference.
NE-99	B19	Analysis, Modelling and Reporting	<u>Applicability of GWF, GGOW and VE modelling results to North Falls</u> The Applicant has provided justification for using the numerical modelling results from GWF, GGOW, and VE OWFs to inform the impact assessment at North Falls. However, the results of the modelling carried out for GOW and GGOW OWFs are outdated. There is also a lack of information regarding the resolution, quality and age of bathymetric data used to inform the VE model mesh for the North Falls array and export cable corridor (ECC) areas. In addition, there are areas of complex bathymetry (and sensitive receptors) within the North Falls study area where it is important that sufficiently accurate, high-resolution, and up-to-date bathymetric data are used to inform the modelling. Consequently, Natural England is unable to agree that the conceptual approach is appropriate for tidal currents and sediment transport characterisation at North Falls	Natural England advises that further information is needed to demonstrate that the GWF, GGOW and VE modelling results are directly applicable the conditions prevailing at North Falls	The Applicant maintains that the methodology used is appropriate. This is agreed with the MMO (see Applicant's Responses to Relevant Representations Received from Statutory Consultees and Non Prescribed Consultees [9.2], Ref MMO-125). It is understood that differences in bathymetry may incur a small difference in the potential effect on tidal currents and sediment transport at North Falls compared to the analogues used. However, these differences caused by variable bathymetries would be insignificant.
NE-100	B20		<u>Design Basis Justification for Conceptual Approach for Tidal Currents and Sediment</u> Transport Modelling for GGOW and GWF was based on 36m and 35m diameter Gravity Base Structure (GBS) WTGs, respectively, VE modelling was based on 55m diameter GBS WTGs, but the North Falls array may comprise up to 57 GBS WTGs with 65m diameter foundations. Therefore, the GBS foundations proposed for North Falls have a much larger diameter than those modelled at GWF, GGOW and VE. It follows, therefore, that wake effects, including hydrodynamic changes and scour effects would be expected to be larger at North Falls GBS due to the wider diameter of the GBS foundations at the seabed.	Following on from our comment above, Natural England advises further justification is needed for the conceptual approach that has been used.	The Applicant has committed to removing gravity base foundations from the design envelope which will mitigate impacts on marine physical processes. They have been removed from the design envelope for North Falls, with other types of foundation sought providing an equivalent or smaller obstruction to tidal currents and sediment transport than the GBS at GGOW, GWF and VE. From the Project's remaining foundations options, mono suction bucket foundations have the largest diameter of 38m, which is like GGOW and GWF but smaller than the 55m diameter GBS considered in the VE modelling. So, the Applicant maintains its position that the conceptual approach adopted in the ES is appropriate to inform the assessment because the worst-case scenarios for GGOW, GWF and VE are worse than that for North Falls with respect to tidal currents. Hence, the comparison using a conceptual approach is robust.
NE-101	B21		<u>Wave Model Calibration</u> Natural England notes that the data used for calibrating the wave model were collected at West Gabbard 2 and	Further evidence should be provided to demonstrate that the wave model data are	It is common to calibrate regional wave models using data collected 10's of km away. Also, the focus of this modelling exercise is to investigate potential change due to presence of the

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			South Knock wave buoys, which are approx. 30km from the North Falls array. Wave measurements have not been gathered at the North Falls site for model validation. We also note that the model was calibrated against a range of past significant storm events, but some were underpredicted. Natural England is concerned, therefore, that the modelled data may not accurately describe the baseline wave climate used to inform the impact assessment.	representative of the present-day conditions at the project site.	wind farm, and the effect of small model anomalies will be largely removed after calculating the difference. Wave buoy data was used for model calibration only. The extreme wave data that was used for investigating potential change because of the wind farm was derived from 40-year long ERA5 data (not from wave buoy data).
			Environmental Impact Assessment - Documents Used: • [APP-019] 3.1.7 Chapter 5 Project Description • [APP-020] 3.1.8 Chapter 6 EIA Methodology • [APP-022] 3.1.10 Chapter 8 Marine Geology, Oceanography and Physical Processes • [APP-245] 7.10 Offshore In-Principle Monitoring Plan • [APP-250] 7.15 Outline Horizontal Directional Drill Method Statement and Contingency Plan		Noted
NE-102	B22	Identified impacts	<u>Cable protection Measures in the Array</u> 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	Natural England advises that an indication should be provided of the areas where cable protection is considered necessary, if available. 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 B13.	North Falls' primary means of cable protection is burial. Therefore, surface cable protection e.g. rock placement or other means will be a secondary means of protection where it is not possible to achieve the required depth of burial for a number of reasons. For this reason, the project has included an allowance for surface cable protection (see response to B13 for more details). The Project-specific geophysical survey data is being reviewed to define the potential seabed mobility across the array. This will be submitted at Deadline 3. However, the conclusions reached in Section 8.6.3.5 Morphological and sediment transport effects due to cable protection measures within the array area, will be unaffected by the position of the protection. This is because the protection will only have a small effect on the migration of bedforms, since their heights exceed the height of cable protection works. The bedforms would pass over the protection and the gross patterns of bedload transport would not be impacted significantly.
NE-103	B23	Identified impacts	<u>Major Component Replacements</u> An estimated 177 major component replacement activities are proposed per year (using jack-up vessels and/or anchoring). This is a significant number of component replacements, and no rationale has been provided for the WCS. Therefore, we query if it is perhaps an error?	Natural England advises that further justification is needed of this WCS.	This is based on requiring a change of 3 major components on any structure (57 wind turbines and 2 platforms) in any one year. This is proposed as a worst-case scenario for a single year in the event of a latent defect or similar, where a large mobilisation is required, at the same time as the normal replacement of some main components is required. As we cannot predict if and when

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					this will happen, the worst-case scenario is to assume it could be any year throughout the operational life of the Project.
NE-104	B24	Identified impacts	<u>Indentations on the Seabed due to O&M Vessels and UXO Clearance</u> 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?	Natural England advises that 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.	ES Chapter 8, Marine Geology Oceanography and Physical Processes [**APP-022**], assesses the potential for indentations on the seabed due to UXO clearance and vessels that utilise jack-up legs or several anchors to hold station, during construction (Section 8.6.2.10) and during operation (Section 8.6.3.8). The assessment considers the relevant receptors both in the array area and along the offshore cable corridor. 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.
NE-105	B25	Identified impacts	<u>Decommissioning Likely Significant Effects</u> It is suggested that the magnitude of impacts would be comparable to or less than those identified for construction. However, it is worth noting that the baseline at the end of Project life may differ significantly from those at pre-construction and the value of receptors may also have changed over the project lifetime. Therefore, Natural England advises that the following should be used to inform an outline decommissioning plan: • Potential long-term impacts to the marine physical environment and processes of any assets left in situ; and • 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.	Future trends in baseline conditions are covered in Section 8.5.10 of the ES Chapter 8 Marine Geology Oceanography and Physical Processes [**APP-022].** The Applicant has not made a decision regarding decommissioning arrangements in recognition of relevant legislation and best practice changing over time. In any case, as is standard practice for offshore wind farm DCOs, Requirement 25 of the draft DCO **[AS-022]** secures that no offshore works can commence until a written decommissioning programme is provided to the Secretary of State pursuant to the requirements of the Energy Act 2004 (and an advance notice from the Secretary of State under that Act).

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NE-106	B26	Identified impacts	Sandwave Recovery (and Monitoring) It is suggested that any direct changes to the seabed associated with sandwave levelling are likely to recover over a short period of time. However, the conceptual evidence-based assessment has been supported by findings from Race Bank and Haisborough, Hammond and Winterton SAC. The applicability of this evidence to predictions of sandwave recovery at North Falls, is uncertain. Natural England is, therefore, concerned that given the large volumes of sediment that may require removal during construction, there is insufficient site-specific evidence to support the predictions of sandwave recovery at North Falls. More detailed information is needed to identify and characterise the bedforms likely to be affected by sandwave levelling/seabed preparation etc.	Natural England advises that the anticipated location(s) where sandwave levelling is considered necessary should be provided and the bedforms likely to be affected should be characterised. Consideration should be given to their mobility, rate of change, and direction of movement. We also advise that pre- and post-installation/construction surveys should be secured in the DCO and/or IPMP to demonstrate sandwave recovery (as predicted) and ensure remedial measures will be undertaken if impacts are found to be greater than predicted	The Project-specific geophysical survey data is being reviewed to define the location, geometry, and potential mobility of the sand waves across the Project. This will further refine the locations where sand wave levelling is likely to be required and provide a basis for the predictions of sand wave recovery. This will be submitted at Deadline 3. The driving forces (tidal currents) and sediment supply regime at North Falls will be like the sand waves in Race Bank and HHW SAC (as it is for all areas with sand waves). Hence, the same principles of recovery would apply. Monitoring for Race Bank illustrated evidence of partial sandwave recovery in the 5-months after levelling. Modelling for HHW SAC concluded that the estimated time for the seabed levelling to be naturally infilled, and for sand waves to recover would be in the order of a few days to a year (ABPmer, 2018b cited in ES Chapter 8 [**APP-022**]). It was also shown that the governing sediment transport processes within the HHW SAC occur at a much larger scale than the proposed bed levelling works. Therefore, these processes will not be disrupted by the localised bed levelling. The same can be said for the sand waves at North Falls, and so there is no reason to believe that the sand waves would not recover in a similar fashion and at a similar rate, without upsetting the bigger landscape scale processes across the sand waves. The Offshore In-Principle Monitoring Plan **[APP-245],** Table 5.1 includes monitoring of sand wave recovery.
NE-107	B27	Identified impacts	Cumulative Effects: Interactions with Adjacent Wind Farms Impact Significance It is stated that the receptors potentially affected by the cumulative change in sediment transport during operation will not experience a significant cumulative effect. However, we highlight this cumulative change has not been quantified. This is important for understanding the implications of the predicted cumulative change over the lifetime of the Project at KKE MCZ and Annex I sandbanks.	Natural England advises that this cumulative change in sediment transport should be quantified and the implications to KKE MCZ and the Annex I sandbanks over the lifetime of the Project assessed	The Applicant maintains that the methodology used is appropriate. In addition, due to the need to ensure there is no over-sail of WTG rotors beyond the order limits, turbine foundations will be a minimum of 50m from the KKE MCZ. Moreover, the Gravity base system foundations have now been removed from the design envelope, reducing the volumes of sandwave levelling required and the footprint on the seabed. This additional mitigation is secured in the draft DCO at Deadline 1 and will further ensure there will be no hinderance of the conservation objectives.
NE-108	B28	Have the impacts been avoided/reduce d by the use of	Cable Protection Measures within the OECC – Effect Significance We welcome the Applicant's commitment to minimise the need for cable protection works and to use HDD to avoid impacts to the intertidal zone.	Natural England advises that, if available, the Applicant should provide an indication of the areas where cable protection is anticipated to be needed. Where cable protection measures are anticipated to be required adjacent to MLS SAC, on/near	As mentioned in NE-89, the primary means of cable protection is burial. The areas where cable protection may be required are the areas of outcropping, cable crossings and for unforeseen issues.

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		appropriate mitigation ?	However, Natural England is concerned that a rock berm of 1.4m height within shallow water (> 5m) represents a significant protrusion from the seabed, depending on its length, that could affect seabed sediment transport processes and lead to morphological change. It is stated that the locations where cable protection measures are most likely to be needed are areas of cable crossings and in areas of seabed characterised by exposed bedrock. However, these have not been identified. Therefore, Natural England is unable to assess the impacts that these cable protection measures may have to physical processes, particularly within/near areas designated for Annex I sandbank habitats, such as the northern tip of MLS SAC, or within the shallow nearshore area.	areas designated for Annex I sandbank, or within the shallow nearshore area, the total amounts of cable protection proposed across the different project phases should be considered. In turn, further consideration should be given to changes to sediment transport processes and seabed morphology due to the placement of cable protection measures at these locations. In shallow water, Natural England advises that cable protection measures should be avoided. Our standard advice is that cable protection should be avoided landwards of the 10m depth contour. We also refer the Applicant to the joint Natural England & JNCC best practice (Nature Conservation Considerations and Environmental Best Practice for Subsea Cables for English Inshore and UK Offshore Waters, 2022).	The outcropping is generally at depths of -10m LAT or deeper, however, there are some areas in the nearshore area. Generally, the project will try to mitigate these areas by cable routing, so that surface cable protection is not required. No areas of outcropping are present adjacent to the MLS SAC. These areas will require further geotechnical analysis to understand strengths, and routing analysis to confirm that it is possible to avoid them. The cable crossing locations are provided in the Export Cable Crossing Zone Plan (Document Reference 9.17) submitted in Deadline 1. The exact distance of cable protection will be defined in future crossing agreements, which are still being negotiated. The nearest cable crossing to the SAC is the Neuconnect crossing, and this is circa 200m from the SAC to the south east. This crossing is needed given the routing of Neuconnect, whilst minimising the North Falls routing through the major shipping lanes and the Precautionary Area. Whilst by their nature, unforeseen incidents are inherently difficult to quantify, at this stage, it is anticipated that the main risk of cable protection being placed in the vicinity of the SAC is for this reason. This has been assessed in the RIAA and the Applicant concludes no AEOI. The Applicant is now committing to further mitigation by including a buffer of 150m between the MLS SAC and cable installation and cable protection. The Applicant's responses regarding effects of cable protection on sediment transport is provided in NE-81.
NE-109	B29	Assessment Conclusions	Effect Significance of Seabed Level Changes due to Seabed Preparation for Foundations Natural England highlights that tolerance, adaptability, recoverability, and sensitivity to changes in seabed level due to foundation installation, have been assessed as '*negligible*' for KKE MCZ. However, there may be sensitive species unable to adapt to heavy smothering. We also highlight the 'negligible' conclusion is contradictory to Table 8.17 [APP-022] which shows that the near-field magnitude of impact is '*medium*.' However, it is also stated that the sediment deposition due to seabed preparation would form a mound on the seabed (likely to be tens of centimetres to a few metres high) but that the geometry of these mounds would vary across the North Falls array, *"depending on the prevailing physical conditions..."* Given the proximity to KKE MCZ, presence of potentially sensitive species within the array, uncertainty regarding the WCS sediment deposition thickness and insufficient supporting	Natural England advises that clarification and supporting evidence are required regarding the WCS sediment deposition height to inform the impact assessment.	In addition to the significant commitments made by the Applicant during site selection by avoiding the KKE MCZ, the WTG foundations will be at least 50m from the KKE MCZ border to avoid blade oversail. This means that given the distance away from the KKE MCZ, the effects of seabed preparation will not create sediment deposition of a magnitude that will significantly affect species or habitats within KKE MCZ.

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			site-specific evidence, Natural England is unable to agree with the conclusions of the impact assessment.		
NE-110	B30		<u>Changes to the Tidal Current Regime due to the Presence of Foundation Structures on the Seabed</u> Natural England notes that it is concluded that there will be no significant impact on the tidal current regime at North Falls due to the presence of foundation structures, in line with conclusions drawn at GWF. This is based on similarities between GWF and North Falls. However, as stated above (NE Refs B19 and B20), we have concerns regarding the conceptual approach adopted for characterising and assessing changes to tidal currents at North Falls. Given the proximity of KKE MCZ to, and presence of Annex I sandbanks within, the array, potential changes to the tidal current regime over the lifetime of the Project could alter sediment transport patterns and affect seabed morphology. Natural England highlights that this has not been fully considered or addressed. Consequently, Natural England is unable to agree with the assessment of sensitivity, magnitude of impact and effect significance for KKE MCZ and Annex I sandbanks.	Natural England advises that further consideration should be given to the potential spatial extent of changes to the tidal current regime at North Falls, based on the prevailing conditions	The Applicant maintains its position that the conceptual approach adopted in the ES is appropriate to inform the assessment. However, in response to Natural England's comment, the Applicant is committing to remove gravity base foundations from the design envelope which will mitigate impacts on marine physical processes, including effects on Annex I Sandbanks and the KKE MCZ. In addition, the WTG foundations will be at least 50m from the KKE MCZ border to avoid blade oversail.
NE-111	B31		<u>Changes to the Wave Regime due to the Presence of Foundation Structures on the Seabed</u> We note that increases and reductions in significant wave height are predicted to occur to the east and west of the array, respectively. The sensitivity of Annex I sandbank and KKE MCZ have been assessed as '*negligible*.' In turn, the significance of effect has been assessed as '*negligible adverse*'. However, whilst it has been shown that the '*change in wave height would only be a few percent within these zones of encroachment'*, we highlight that there is no consideration of the persistence of these changes over the Project lifetime and their potential long-term impacts to KKE MCZ and Annex I sandbanks.	Natural England advises that the long-term implications of projected changes to the wave regime (and morphological processes) at KKE MCZ and the Annex I sandbanks within/adjacent to the array, need to be considered further within assessments.	The change to the wave regime will be permanent but given the very small percentage change in wave height (less than 2%) and the water depths the effect on bedload sediment transport will be small (ES Chapter 8 Marine Geology Oceanography and Physical Processes, Section 8.6.3.2 **[APP-022]).** Also, the predominant driver of sediment transport across the array and around its periphery is tidal currents, evidenced by the presence of major tidally driven bedforms, including the Annex I sand banks. Waves do not play a significant part in the sustainability of the sand banks.
NE-112	B32		<u>Changes to the Sediment Transport Regime due to the Presence of Foundation Structures on the Seabed</u> Natural England notes the reported concerns about potential changes to the form and function of Outer Gabbard sandbank due to GWF-related changes in bed shear, and Galloper and Inner Gabbard sandbanks due to GGOW-related changes in bed shear stress. The latter resulting in development of an exclusion zone around these sandbanks. The largest changes to bed	Natural England advises that the Applicant should consider and assess bed shear stress changes and the sediment erosion/deposition potential within and adjacent to the array through the different phases for the Project alone and cumulatively with other nearby OWFs. In turn, the implications to seabed morphology	The Applicant maintains its position that the conceptual approach adopted in the ES is appropriate to inform the assessment. The inclusion of bespoke information on bed shear stresses would not alter the conclusions drawn. This is because conceptually the change in tidal currents translate into very small changes in bed shear stress that will have little effect on the capacity of the currents to transport sediment of particular sizes once the foundations are in place. Hence, there will be an

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			shear stress were located at the GBS structures and in the shallow reaches of Outer Gabbard sandbank. We have similar concerns regarding changes to bed shear stress around the Annex I sandbanks within/adjacent to the array and KKE MCZ. Therefore, Natural England is unable to agree with the EIA conclusions for the Annex I sandbanks and KKE MCZ due to a lack of supporting information.	and sensitive receptors within the ZoI should be considered	insignificant effect on sediment transport across sand banks or KKE MCZ.
NE-113	B33		<u>Scour Development</u> Evidence has been presented from GWF demonstrating that predicted sediment volume released due to scour was found to be smaller than that released through seabed preparation. The magnitude of sediment predicted to be released through scour development has been assessed as *negligible* based on the GWF modelling. However, this was based on much smaller 45m GBS structures compared to the 65m GBS structures at North Falls It is worth noting that there is the potential for long-term persistence of flow conditions that lead to seabed scour over the lifetime of the Project, as opposed to seabed preparation which is a one-off activity i.e. they are not directly comparable. Therefore, currently there is insufficient evidence regarding seabed mobility and sediment erosion/deposition for Natural England to be able to agree with the EIA conclusions regarding KKE MCZ and Annex I sandbanks within/adjacent to the array. We highlight that turbid wakes have been observed on remote sensing images at both GGWF and GWF	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.	Scour resulting from the Project is not assessed because scour protection will be used wherever scour is likely to occur, reducing sediment release to negligible quantities and thus resulting in no likely significant effects.

2.5 Applicant's Comments – Appendix C – Benthic and Intertidal Ecology

Applicant Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
		1. Natural England's Advice and Recommendations			
	1		A summary of Natural England's key concerns in relation to Marine Geology, Oceanography and Physical Processes is set out in Table 1. Our detailed		Noted. Responses to specific comments are provided below.

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			advice and recommendations are presented in further detail in Table 2. However, we draw the Examiners attention to the changes to the project design parameters, which already have reduced, and could, if implemented, further reduce impacts to marine physical processes. We would therefore welcome consideration of these options during examination.		
	1.1		Recommended Updates to Documents We have highlighted in our detailed comments below a number of evidence gaps areas where the information used to inform the EIA/HRA/MCZA assessments is insufficient and prevents us from making an informed assessment of the magnitude of impacts and significance of effects to the benthic ecology due to the proposed development. Therefore, we advise that any clarifications of further details on these matters should be provided in updated technical documents/ES chapters/named plans.		Responses are provided to the detailed comments below.
NE-114	C1		**In-sufficient evidence – Cable protection WCS** Natural England has concerns regarding the realistic WCS maximum length of cable protection adjacent to Margate and Long Sands Special Area of Conservation (MLS SAC), including requirements for 'additional' protection over the lifetime of the Project	Natural England advises that further information is required to provide the necessary confidence in the Worst-Case Scenario (WCS) for cable protection requirements adjacent to Margate and Long Sands SAC.	The Applicant maintains its position that there would be no adverse effect on the MLS SAC as presented in the RIAA Part 2 [**APP-175**], however in response to Natural England's comments, the Applicant is committing to additional mitigation. There will be a buffer of 150m between the MLS SAC and the installation of the offshore export cables and any associated cable protection to further ensure there will be no AEOI of the SAC. This additional mitigation is secured in the draft DCO submitted at Deadline 1. The potential operational impacts of cable protection along the export cable are assessed in ES Chapter 8 Marine Geology, Oceanography and Physical Processes **[APP-022]),** Section 8.6.3.6 of the Environmental Statement - Impact 6: Morphological and sediment transport effects due to cable protection measures within the offshore cable corridor. The conclusions will be unaffected by the position of the protection because the process of 'ramping' will occur as described in the Environmental Statement. Eventual bypassing of the protection would take place over time and the gross patterns of bedload transport would not be impacted significantly.

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NE-115	C2		**<u>In-sufficient evidence – Indirect benthic impacts</u>** Natural England is concerned that not all indirect effects have been identified and considered appropriately. For example, changes to bedload transport and 'ecological halo' effects with the potential to alter the physical and/or biological structure and function of Annex I sandbanks. Due to this uncertainty (reasonable scientific doubt), we cannot advise the exclusion of an Adverse Effect on Integrity (AEoI).	Natural England requires further work by the Applicant to provide a robust assessment of the potential Worst-Case area of impact on benthic communities within Margate and Long Sands SAC, including more detailed assessment of the likely nature and scale of impacts as a result of changes to physical and biological process following the placement of infrastructure. A more robust consideration of the worst-case is also required to provide confidence in potential requirements for compensation	The Applicant maintains its position that there would be no adverse effect on the integrity of the Margate and Long Sands SAC and the following indirect effects during construction, O&M and decommissioning are assessed in Section 2.4.3 in RIAA Part 2 Benthic Ecology Annex I Habitat in SACs and SPA Supporting Habitat **[APP-175]** in accordance with the HRA Screening, on which Natural England was consulted on multiple occasions: • Changes to suspended sediment concentrations and bedload transport; • Smothering; and • Re-mobilisation of contaminated sediments. In response to Natural England's comments, the Applicant is committing to additional mitigation. There will be a buffer of 150m between the MLS SAC and the installation of the offshore export cables and any associated cable protection to further ensure there will be no AEOI of the SAC. This additional mitigation is secured in the draft DCO.
NE-116	C3		**<u>Impacts on SPAs</u>** Natural England is concerned with the lack of robustness in the Applicant's current assessment of pressures/impacts on supporting benthic habitats for Special Protection Area (SPA) features and impact assessments on prey availability lack robustness. The assessment of impacts on supporting benthic habitats of mobile features is also absent from the EIA.	Natural England advises that full consideration of the likely nature, extent, duration, and significance of impacts upon SPA supporting habitats and prey availability is required to allow a robust assessment of the likely impacts upon designated ornithological features.	In accordance with the Habitats Regulations, the impacts on supporting benthic habitats in the Outer Thames Estuary SPA have been assessed in Section 2.5.3 of the RIAA Part 2 Benthic Ecology Annex I Habitat in SACs and SPA Supporting Habitat **[APP-175].** Impacts on benthic habitats have been assessed within ES Chapter 10 Benthic and Intertidal Ecology **[APP-024]** as present in the offshore cable corridor/offshore project area. ES Chapter 13 Offshore Ornithology **[APP-027],** Sections 13.6.1.2, 13.6.2.4 and 13.6.2.6 assesses the indirect effects of changes to habitats and prey species on offshore ornithology receptors.
NE-117	C4		**<u>Mitigation Measures for Section 41 Natural Environment and Rural Communities (NERC) Act 2006 Habitats</u>** Natural England advises that mitigation measures currently fail to consider all relevant Section 41 NERC Habitats.	Natural England advises that, where possible impacts to all Section 41 NERC Habitats are avoided and due consideration is demonstrated particularly where such habitats support rare and/or irreplaceable communities.	The ES Appendix 10.1 Benthic and Intertidal Ecology Survey Report **[APP-094]** identified two habitats present on the Section 41 NERC Act 2006 Habitats list; *Sabellaria spinulosa* reefs and Peat and clay exposures with Piddocks. Both habitats have been included in the Offshore In-Principle Monitoring Plan **[APP-245**] however the Applicant notes that Peat and clay exposures with Piddocks is not listed in the Schedule of Mitigation **[APP-012].** This has been updated in the Schedule of Mitigation [**2.6, Rev 1**].

Applicant Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
NE-118	C5		**Marine Conservation Zone Assessment (MCZA) Insufficient consideration/evidence** Natural England is concerned that sediment deposition upon benthic features within Kentish Knock East MCZ (KKE MCZ) has not been adequately assessed	Natural England advises that a more robust assessment is needed regarding the anticipated worst-case sediment deposition parameters due to sandwave levelling/ seabed preparation activities in the vicinity of KKE MCZ. Natural England advises that commitments should also be made and secured to avoid indirect impacts on designated features	The Applicant maintains that a robust assessment is provided in the Marine Conservation Zone Assessment Report [**APP-237**] and that there will be no hinderance of the conservation objectives of the KKE MCZ. However, in response to Natural England's comments the Applicant has now committed to removing gravity base foundations from the design envelope which reduces the volume of sandwave levelling and associated suspended sediment/ deposition. In addition, WTG foundations will be a minimum of 50m from the KKE MCZ to avoid blade oversail beyond the DCO order limits.
NE-119	C6		**MCZ Buffer** Natural England queries whether a buffer has been applied around the infrastructure closest to the KKE MCZ boundary to ensure that direct impacts from wake effect, scour, etc. and in direct effect effects from changes to marine process will not impact on the interest features of the MCZ? Without the application of a suitable buffer, we are concerned that the mitigation does not sufficiently avoid impacts to the MCZ.	Natural England advises that a suitable buffer between the array infrastructure and the KKE MCZ should be applied to ensure that avoidance mitigation is effective	In addition to the significant commitments made by the Applicant during site selection by avoiding the KKE MCZ, the Applicant has now refined the worst case scenario to further ensure there will be no hinderance of the KKE MCZ conservation objectives. The Gravity Base foundations have now been removed from the design envelope which will mitigate impacts on marine physical processes and the associated indirect effects on the MCZ. This is secured in the draft DCO [**6.1, Rev 2**]. In addition, to ensure there will be no over-sail of WTG rotors beyond the order limits, foundations will be at least 50m from the KKE MCZ.
NE-120	C7		**<u>Reduction/Mitigation of Impacts through Selection of Cable Protection Measures</u>** Natural England is concerned that the WCS is based on use of external cable protection in the form of rock protection, but due consideration has not been given to the use of the mitigation hierarchy and reducing/mitigating the impacts through the choice of cable protection especially in regard to removal at the time of decommissioning.	Natural England advises that greater consideration should be given to use of the mitigation hierarchy and reducing impacts as much as possible. We also advise that an Outline Decommissioning Plan is provided at the time of consent to ensure that mitigation measures requiring the removal of cable protection are achievable and secured.	The Applicant has used rock protection as the WCS method for external cable protection at this stage, however the final design of North Falls will be confirmed through detailed engineering design studies that will be undertaken post-consent. These will be carried out with consideration to the mitigation hierarchy, including minimising the use of external cable protection. ES Chapter 5 Project Description **[APP-019]** Rev 0 states in paragraph 68 *"the final choice may include one or more of the following: concrete 'mattresses'; rock placement; geotextile bags filled with stone, rock, or gravel; polyethylene or steel pipe half shells, or sheathes; and bags of grout, concrete, or another substance that cures hard over time."* The Applicant considers it unnecessary and inappropriate for an Outline Decommissioning Plan to be provided for offshore works as part of the DCO application. Decommissioning of offshore renewable energy installations is heavily regulated by the Energy Act 2004. As such, as is

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					standard practice for offshore wind farm DCOs, Requirement 25 of the draft DCO secures that no offshore works can commence until a written decommissioning programme is provided to the Secretary of State pursuant to the requirements of the Energy Act 2004 (and an advance notice from the Secretary of State under that Act).
NE-121	C8		**Mitigation measures** Natural England highlights that further mitigation measures could be adopted by the Applicant to avoid, reduce, and minimise the project's environmental impacts, including reducing the Rochdale envelope to limit the types of cable protection and foundations to be used on the project.	Natural England advises that further consideration should be given by the Applicant to adopting further mitigation measures including reducing the project's Rochdale Envelope	As noted by Natural England (NE Ref 3.2) significant efforts and changes have already been made by the Applicant to date to reduce environmental impacts through site selection, including reducing the array area to remove overlap with the KKE MCZ, removal of the northern array in its entirety, minimising overlap of the offshore cable corridor with the OTE SPA, and routing of the offshore cable corridor outside of the MLS SAC. Mitigation for benthic ecology is described in ES Chapter 10 [**APP-024],** Section 10.3.3. In response to Natural England's comments, the Applicant has now made the following further mitigation commitments: • Introduction of a 150m buffer between the Margate and Long Sands SAC and the installation of offshore export cables and cable protection; and • Removal of gravity based foundations from the design envelope.
		Table 2 Natural England's Detailed Advice and Recommendations – Benthic and Intertidal Ecology			
		Project Parameters - Document(s) Used: • [APP-019] 3.1.7 Chapter 5 Project Description • [APP-024] 3.1.12 Chapter 10 Benthic and Intertidal Ecology • [APP-262] 7.27 Cable Statement			
NE-122	C9	Project Description [APP-019] 3.1.7/ Table 5.25	Natural England notes that the Applicant states that the Horizontal Directional Drilling (HDD) exit location will be in the subtidal zone, c1.5 km from Mean Low Water Springs (MLWS). However, no commitments exist relating to the minimum depth at which the exit location is placed	Recognising that rock protection is usually required at the exit pit location, Natural England advise that a commitment to no rock protection landward of 10m LAT is required to mitigate potential impacts to bedload transport and any associated changes to benthic ecology along the Essex coastline.	It is not possible for the Applicant to make the requested commitment to no cable protection landward of 10m LAT, as 10m LAT extends for the first 22km of the cable route (which is over one third of the overall length). This roughly corresponds to point 11, 12, 13, 14 and 78 on the Offshore Order Limits and Boundary Coordinates Plan [**APP-203**]. For the exit pit, the expectation is that this would be buried. The current geophysical information shows sand to a significant space to avoid areas of outcropping, and hence the ability to bury. Cable protection will only be used if there are any issues experienced during installation.
NE-123	C10	Project Description	Natural England notes that the Applicant has not committed to using any specific type of cable protection, and has not considered the limitations	Natural England advises that due consideration should be given to the nature of the cable protection used and should favour those	See response to NE-115.

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		[APP-019] 3.1.7/ 5.5.3.8.4	of some methods, particularly in respect of successful decommissioning given the potential for pathways of effect to supporting processes within Margate and Long Sands SAC whilst rock protection is in place.	engineering options with the greatest likelihood of successful removal at decommissioning. Natural England advises that where pathways of effect exist, any placement of scour prevention/cable protection constitutes a lasting impact over the lifetime of the project which is potentially irreversible. Unless it can be demonstrated otherwise, the scale of impacts from cable and scour protection that have been described by the Applicant have the potential to hinder the 'maintain' conservation objective.	
NE-124	C11	Project Description [APP-019] 3.1.7 / 5.5.16	Natural England highlights that the Applicant states that 'cables, cable protection and scour protection will likely be left in situ' following decommissioning.	Natural England advises that a decommissioning plan is used to commit to the removal of all surface laid infrastructure at the decommissioning stage. We agree with the Applicant's assessment approach which considers that, in the continued absence of any commitments to remove specified amounts of infrastructure, including cable protection, assessments should be based on a worst-case scenario of lasting/permanent impacts under all infrastructure.	The Applicant considers it unnecessary and inappropriate for an Outline Decommissioning Plan to be provided for offshore works as part of the DCO application. Decommissioning of offshore renewable energy installations is heavily regulated by the Energy Act 2004. As such, as is standard practice for offshore wind farm DCOs, Requirement 25 of the draft DCO secures that no offshore works can commence until a written decommissioning programme is provided to the Secretary of State pursuant to the requirements of the Energy Act 2004 (and an advance notice from the Secretary of State under that Act).
NE-125	C12	Natural England's Position on Worst Case Scenario or Scenarios	Operation and Maintenance (O&M) WCS Scour Prevention/Cable Protection Natural England advises that there is insufficient detail on the proposed activities relating to the potential placement of additional scour prevention/cable protection measures over the operational lifetime of the project. Currently no calculations or rationale have been provided to demonstrate that the figure of 'approximately 4%' for cable/scour replacement represents a realistic WCS for the basis of assessments. We also note that in [APP-019] 3.1.7 it states that up to 4% of the export cable is estimated to require reburial, however, this document does not state the potential requirement for additional rock protection where reburial is not successful/possible. We also note that no calculations have been presented to transparently demonstrate how the total	Natural England welcomes the application of the reburial hierarchy, with external cable protection being a last resort. However, we advise that further detail is required about how total worst case habitat loss and/or disturbance scenarios have been determined, and whether they consider events in which cables cannot be successfully reburied. Natural England advises that further detail should be provided on the parameters for O&M activities including how total amounts have been determined, and where those amounts are likely to be placed relative to sensitive areas of seabed, such as Margate and Long Sands SAC. This is required in order to understand the WCS in relation to impacts on supporting processes within designated sites. Natural England advises that the standard for quantities of additional scour and/or cable protection outside of benthic SACs is for the replenishment of 10% of any scour	We know from anecdotal evidence that the seabed is moving – the project bathymetry data shows shipping lanes being offset from their charted locations, and it has also been mentioned in passing that the MLS SAC is moving north. Therefore, the amount of cable reburial is a challenge to predict, particularly as no project follows a similar cable route (the existing projects of Greater Gabbard and Galloper make landfall at the Suffolk coast). Therefore, we have selected a value of 4% based on experience from other windfarm projects. Should cable protection deployment be required within 10 years of construction and within the parameters included in the DCO and assessed in the ES and RIAA, it is the Applicant's position that this would not require further assessment or consent. Should scour protection deployment be required within the parameters included in the DCO and assessed in the ES over the life of the Project, it is the Applicant's position that this would not require further assessment or consent.

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			worst-case disturbance figures associated with reburial have been concluded.	prevention/cable protection laid during installation within a 10-year period as long as the overall footprint is not increased. However, once construction is completed then a further marine licence would be required for the placement of external protection where this is potential for pathways of effect to priority habitats and features of designated sites, including mobile features. Please refer to our advice in Annex C1 which provides clarity on inclusion of cable protection in marine licences, and the information needed for assessments in support of those licences.	
NE-126	C13	Natural England's Position on Worst Case Scenario or Scenarios [APP-262] & [APP-024] 7.27 & 3.1.12 / 10.6.2.2	Natural England advises that it is not clear what information has been used to determine the maximum length of cable protection required, as arbitrary high level percentage values appear to have been quoted within the Cable Statement. It is also not clear whether the potential for the addition of further cable protection during the operational lifetime of the project has been considered and included within the worst-case calculations, which is of particular significance where cable protection runs parallel with the boundary of Margate and Long Sands SAC.	In order that meaningful Environmental Impact Assessment (EIA) and Report to Inform Appropriate Assessment (RIAA) assessments can be evidenced, Natural England advises that the Applicant provides a transparent justification for the WCS quantification of benthic impacts both within, and outside of, Margate and Long Sands SAC. This justification should draw upon previous experience and available information about the ground type along the Export Cable Corridor route. The WCS should also include any possible post-construction measures such as the placement of additional scour replenishment. Natural England would welcome additional information relating to the WCS volume of cable protection (as well as the total cable length) which will be used adjacent to Margate and Long Sands SAC so that it is clear to all parties what the thresholds and magnitude of potential impacts on supporting processes of benthic features are. Natural England queries how the regulator will be certain that the WCS has not been exceeded? If the Secretary of State (SoS) is minded to consent the project, further DCO/dML restrictions may be appropriate.	As stated in responses NE-89 and NE-120, the amount of cable protection required depends on a number of factors. The primary means of cable protection is burial, minimising the amount of cable protection. The key areas are where we have outcropping, cable crossings and potential areas of surface cable protection from unforeseen incidents e.g. incidents on the vessels. Because of this, 10% of the offshore export cable route having cable protection has been assessed, which is comparable to other offshore wind projects. As a worst case scenario the assessments assume the full quantum of cable protection being installed during the construction phase, thus in place for the longest period. Cable protection deployment must be within 10 years of construction and within the parameters included in the DCO are therefore within the envelope assessed in the ES and RIAA. In addition, the Applicant has included a 150m buffer from the Margate and Long Sands SAC within which there will be no installation of offshore export cables and cable protection. This is secured in the draft DCO [**6.1, Rev 2**] submitted at Deadline 1.
NE-127	C14	Natural England's Position on	The WCS for Export Cable Route (ECR) landfall assume that the ECR construction works will generate	Natural England require the project to confirm that they have the evidence to provide sufficient confidence that the HDD will be successful, and	Please see response to NE-13.

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		Worst Case Scenario or Scenarios [APP-262] & [APP-024] 7.27 & 3.1.12- / 10.6.2.2	pathways of effect only within the subtidal, and that "there will beno direct habitat loss, disturbance or change to intertidal flora and fauna". The mitigation for a failed HDD operation is the provision of a third HDD route. However, it should be noted that Five Estuaries OWF project considered having to trench in the intertidal as a WCS should HDD fail. Natural England therefore questions whether there is sufficient evidence regarding ground conditions to rule out HDD failure potentially requiring trenching and/or rock protection within the intertidal which would alter the significance and nature of predicted impacts on benthic receptors. North Falls had previously proposed to use rock armour thus creating berms in the intertidal that would function as groynes. If this is the case, then changes to coastal processes may occur which in turn could impact designated sites/features. These potential impacts have not been fully assessed.	that the current WCS prediction of impacts from HDD in the ECR on intertidal and subtidal habitats is realistic.	
NE-128	C15	Natural England's Position on Worst Case Scenario or Scenarios [APP-024] 3.1.12 /10.6. 1.2	Natural England advises that in the absence of confirmed dredge disposal locations, or parameters to determine the dredge disposal location criteria, then it is not possible to determine the WCS and, therefore, robustly assess the impacts from sandwave levelling activities.	Natural England advises that sediments from sandwave levelling should be disposed of in areas of similar sediment character, and that commitments should also be made and secured to avoid impacts on priority habitats, designated features, and/or key areas of supporting habitats for mobile interest features of designated sites. Natural England advises that the use of a fall pipe rather than surface release methods should be adopted where this would minimise impacts.	An Outline Sediment Disposal Management Plan, setting out the criteria for dredge disposal locations, will be developed and submitted into Examination as soon as possible.
		Baseline Characterisation - Document(s) Used: • [APP-019] 3.1.7 Project Description			
NE-129	C16	Survey Data Acquisition [APP-019] General	Natural England has no comments to make that would result in a material difference to benthic receptors at this stage of the process. Therefore, unless there is a change in the project design parameters, we will provide no further comment on the data during examination.	N/A	Noted.
NE-130	C17	Data Gaps [APP-019] General	Natural England has no comments to make that would result in a material difference to benthic receptors at this stage of the process. Therefore, unless there is a change in the project design parameters, we will provide no further comment on the data during examination.	N/A	Noted.
NE-131	C18	Analysis, Modelling and Reporting [APP-019] General	Natural England has no comments to make that would result in a material difference to benthic receptors at this stage of the process. Therefore, unless there is a change in the project design parameters, we will provide no further comment on the data during examination.	N/A	Noted.

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		Environmental Impact Assessment - Document Used: • [APP-024] 3.1.12 Chapter 10 Benthic and Intertidal Ecology • [APP-241] 7.6 Outline Project Environmental Management Plan • [APP-250] 7.15 Outline HDD Method statement and contingency plan • [APP-261] 7.26 Site Characterisation • [APP-262] 7.27 Cable Statement			
NE-132	C19	Identified impacts	Natural England welcomes plans to locate the HDD exit pit within the subtidal zone beyond MLWS. However, we note that there appears to be no consideration of the likelihood of requirements for cable protection around the HDD exit pit.	Natural England advises that a commitment to no rock protection landward of 10m LAT is required to mitigate potential impacts to bedload transport and any associated changes to benthic ecology along the sensitive Essex coastline.	It is not possible for the Applicant to make the requested commitment to no cable protection landward of 10m LAT, as 10m LAT extends for the first 22km of the cable route (which is over one third of the overall length). This roughly corresponds to point 11, 12, 13, 14 and 78 on the Offshore Order Limits and Boundary Coordinates Plan [**APP-203**] For the exit pit, the expectation is that this would be buried. The current geophysical information shows sand to a significant space to avoid areas of outcropping, and hence the ability to bury. Cable protection will only be used if there are any issues experienced during installation.
NE-133	C20	Identified impacts [APP-024] 3.1.12 /10.6. 2.2	Natural England advises that appropriate consideration and assessment of potential impacts has not been undertaken in the EIA for Special Protection Areas (SPAs) where the benthic habitats serve as supporting habitats for bird features, including the Outer Thames Estuary SPA (OTE SPA) red-throated diver populations.	Natural England advises that full consideration of the likely nature, extent, duration, and significance of impacts upon SPA supporting habitats is required to inform a robust assessment of the likely impacts upon designated ornithological features.	See response to NE-111.
NE-134	C21	[APP-250] Para 41 [APP-262] Sectio n 4.2 Para 32	Natural England is concerned about the potential loss of backfill material at the subtidal HDD exit pits and therefore recoverability of any remaining trench/depression, which then may warrant the requirement for cable protection. At para. 39 of the Cable Statement engineered backfill is referred to, but no further information is provided on this.	Natural England advises that further detail is required to better understand the likelihood of side cast sediment being lost, the quantities and the potential requirement for permanent cable protection over the lifetime of the project.	This appears to be a misunderstanding. Section 5 of the Cable statement [**APP-262**] relates to the TJB works located onshore (Works No. 4D of the Onshore Works Plans **[APP-202]**), as explained in Paragraph 38. Engineered backfill is used onshore to provide a thermally stable environment for the cables. In terms of the offshore exit pit, see response NE-127. Further to this, paragraph 187 of Chapter 5 Project Description Rev 0 [**APP-019**] states that the cable in the transition zone would be lowered.
NE-135	C22	[APP-250] Para 82 APP-262] Section 4.2 Para 32	Natural England queries how impacts from vessels associated with landfall have been assessed including use of anchor barge and/or jack up barges and whether there will be any requirement for stabilisation pads and/or medium/long term impacts	Natural England advises that further detail is required to better understand potential impacts for cable installation activities at landfall	The use of an anchor barge and spudded/jack-up barges have been considered in terms of the worst case scenario shown in Section 10.3.2 in ES Chapter 10 Benthic and Intertidal Ecology **[APP-024]** and assessed in sections 10.6.1.1 and 10.6.2.1.
NE-136	C23	[APP-261] Para 4	Natural England notes that the Applicant proposes that that whole of the red line boundary becomes a disposal location however, as set out in this appendix we do not currently agree with the impact assessment for	Natural England advises that the site characterisation document is updated once there is further agreement on the MDS and WCS and evidence is provided to support statements.	The Site Characterisation Report will be updated in line with the Outline Sediment Disposal Management Plan to be submitted at an appropriate Deadline.

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			which site characterisation for sediment disposal is reliant upon		
NE-137	C24	[APP-262] Para 37	Natural England notes there is ambiguity between the various Application documents as to the WCS footprint of any rock berm. Based on other OWF project assessments we query if a width of 6m is realistic?	Natural England advises that further clarity is provided by the Applicant on the MDS for rock berms	Please see responses to NE-329. The 6m is an assumption for a worst case scenario. It is based on an indicative design for a worst case scenario of a 1.4m high berm to allow for anchors to pass over it. The reason for this size is due to the potential for cable crossings in the vicinity of the shipping lanes, where the risk of anchor strike is increased and the berm needs to be suitably resistant to the anchors of the large vessels passing in the vicinity. This will be refined as the cable route is refined and more definition of the cable route (of both North Falls and the projects it is crossing) becomes available.
NE-138	C25	Methodology [APP-024] 3.1.12 / 10.8	Natural England highlights that neither of the terms 'temporary' impacts or 'rapid' recovery of benthic habitats have been fully defined for relevant identified pathways of effect. Therefore, the assessment of impacts from physical disturbance, increases in suspended solids, and deposition on benthic receptors either alone, or cumulatively, lacks transparency. This is particularly significant where benthic receptors provide supporting habitat to mobile features of designated sites such as those of the Outer Thames Estuary SPA	Natural England advises that an evaluation of the extent and duration of impacts on benthic habitats should be more explicitly stated in order to provide a transparent understanding of the likely impacts and recovery duration of benthic receptors, both alone and cumulatively, so that effects on designated mobile species in particular can be assessed	The terms 'temporary' and 'rapid' have been assessed in terms of timescales for the duration of effect. Temporary impacts have been assessed in line with the MarESA recoverability criteria provided in Table 10.7 in ES Chapter 10 Benthic and Intertidal Ecology **[APP-024]**. Temporary effects would have full recovery within two years (high recoverability), and long-term would equate to an effect for the project duration (equating to low or very low recoverability).
NE-139	C26	Have the impacts been avoided/reduce d by the use of appropriate mitigation? [APP-024] 3.1.12 /10.6. 1.2	Please see comments C15 and C27 in relation to sandwave clearance mitigation and micrositing around Section 41 Priority Habitats and irreplaceable habitats	See C15 and C27.	Please see responses to NE-123 and NE-112.
NE-140	C27	Have the impacts been avoided/reduce d by the use of	Natural England is pleased that the Applicant has committed to undertaking preconstruction surveys to determine the location and extent of any Sabellaria reef in areas in which it is proposed to carry out construction works, with the aim of mitigating impacts through avoidance where practicable. However, Natural England also notes that the biotope 'A4.231 Piddocks with a sparse associated fauna in sublittoral	Natural England advises that the proposed mitigation within the EIA and subsequent [APP-241] 7.6 Outline Project Environmental Management Plan would benefit from appropriately considering the importance and rarity of peat and clay exposures, and every effort should be made to avoid impact (particularly permanent loss) to these priority habitats where	Please see response to NE-112.

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		appropriate mitigation? [APP-024] 3.1.12 /10.3.3 &7.6	very soft chalk or clay' has been identified in both north and south array areas and the ECR. This biotope and peat and clay exposures more generally) is considered likely to be irreplaceable (Tillin et al., 2022). (naturalengland.org.uk)) and is also a Priority Habitat under Section 41 of the NERC Act 2006.	possible through mitigation measures such as micro-siting. This is particularly the case where habitats support rare and/or irreplaceable communities such as boring piddocks	
NE-141	C28	Have the impacts been avoided/red uce d by the use of appropriate mitigation? [APP-241] Appendix 4	Natural England notes that the Applicant has included a Sabellaria spinulosa management plan at Appendix A of the PEMP. However, we highlight some of the management measures will not be able to be implemented. For example, a 'core reef' approach such as undertaken by Roberts et al. (2016) requires a historical evidence dataset of suitable confidence, which limits its application not least in offshore sites due to the resources required to develop a sufficient evidence base. It has been the SNCB's consistent opinion on offshore casework that a core reef approach is unlikely to be applicable to the assessment of Sabellaria spinulosa reef in MPAs (let alone outside of) because results of the reef index are highly dependent on the number, type and coverage of surveys undertaken in the area of interest.	Natural England therefore advises that use of a core reef approach is excluded from the PEMP.	Reference to the core reef approach is provided in the PEMP [**APP-241**] as part of a hierarchy of considerations, one of which states "*Are there sufficient data to apply the principles of the 'core reef' approach*". Therefore, the Applicant does not consider the inclusion of this text to be contradictory to Natural England's position, however this can be removed from the PEMP.
NE-142	C29	Have the impacts been avoided/red uce d by the use of appropriate mitigation? [APP-261] Section 4	Natural England is concerned that where and how sediment is deposited could cause wider environmental impacts and limit seabed recovery	Natural England advises that criteria for determining relevant disposal locations and methodologies to minimise impacts and facilitate recovery of seabed features should be provided	See response NE-123.
NE-143	C30	Have the impacts been avoided/red uce d by the use of appropriate mitigation? [APP-261] Sectio n 5.3	Natural England highlights that the use of dredge sediment as ballast/coastal protection/aggregates is not preferable from a nature conservation perspective. We advise that sediment should remain within the sediment system it was removed from to best enable seabed to return it to pre-impacted state	Natural England advises that options other than returning the dredge sediment to the system from which it came are removed.	See response NE-123.
NE-144	C31	Have the impacts been avoided/red	Natural England highlights that due consideration has not been given within the cable statement to mitigation measures for seabed preparation especially in relation to boulder relocation close to designated sites and	Natural England advises that further mitigation measures are considered in relation to seabed levelling activities to ensure impacts to designated sites are minimised and where these are secured	Noted. The primary means of boulder mitigation will be via routing. Items stated in Chapter 3 of document 7.27 Cable Statement [**APP-262**] will only be used where routing is not

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		uce d by the use of appropriate mitigation? [APP-262] Para. 3	near shore to ensure that sediment transport is not disrupted	assessment such as the MCZ and RIAA are updated accordingly	a suitable means of mitigation e.g. due to other constraints in the area.
NE-145	C32	Have the impacts been avoided/reduce d by the use of appropriate mitigation?	Natural England notes that within the cable statement all cable protection options have been included rather than reducing down options to those which will minimise impacts to the environment and/or have the greatest likelihood of removal at the time of decommissioning	Natural England advises that only cable protection options that reduce environmental impacts are sought consent for	The final design of North Falls will be confirmed through detailed engineering design studies that will be undertaken post-consent. These will be carried out with consideration to the mitigation hierarchy, including minimising the use of external cable protection.
NE-146	C33	Have the impacts been avoided/reduce d by the use of appropriate mitigation?	Natural England advises that a number of aspects as detailed in our comments above require further consideration before we can agree with all of the assessment conclusions. Of greatest significance are those comments relating to the need to assess indirect benthic impacts, impacts to benthic habitats which support mobile designated species within the Outer Thames Estuary SPA, and those relating to the requirement for mitigation for all Section 41 habitats and species receptors (particularly those which are irreplaceable).	Natural England advises that the EIA is updated to consider these impacts before we can advise on the scale and significance of impacts.	In line with the Habitats Regulations, the impacts on supporting benthic habitats in the Outer Thames Estuary SPA have been assessed in Section 2.5.3 of the RIAA Part 2 Benthic Ecology Annex I Habitat in SACs and SPA Supporting Habitat [**APP-175**]. The ES Appendix 10.1 Benthic and Intertidal Ecology Survey Report [**APP-094**] identified two habitats present on the Section 41 NERC Act 2006 Habitats list; Sabellaria spinulosa reefs and Peat and clay exposures with Piddocks. Both habitats have been included in the Offshore In-Principle Monitoring Plan [**APP-245**] however the Applicant notes that Peat and clay exposures with Piddocks was not listed in the Schedule of Mitigation [**APP-012**]. This has now been amended [2.6, Rev 1].
		HRA - Document Used: • [APP-174] 7.1.1.1 RIAA Appendix 1.1 HRA Screening • [APP-175] 7.1.2 RIAA Part 2 Benthic Ecology Annex I Habitat in SACs and SPA Supporting Habitat			
NE-147	C34	Screening	Natural England advises that all relevant sites have been screened in.	N/A	The Applicant welcomes agreement with Natural England on this point.
NE-148	C35	Screening	Whilst we acknowledge that the Applicant considers it likely that cables adjacent to the Margate and Long Sands SAC would be buried, we advise that as a worst-case scenario, the presence of cable protection adjacent to the northern boundary of the SAC cannot be ruled out. The RIAA acknowledges that should it be required; cable protection has the potential to influence bedload transport within Margate and Long Sands	Natural England is concerned that the Applicant has not fully considered all potential changes to sediment character and/or benthic communities within Margate and Long Sands SAC. Therefore, Natural England advises that the Applicant provides a robust assessment of the potential worst-case impacts on supporting processes and benthic communities within Margate and Long Sands SAC, noting the Supplementary Advice on Conservation Objectives for the site.	The Applicant maintains its position that there would be no adverse effect on the integrity of the Margate and Long Sands SAC, however in response to Natural England's comment, the Applicant is incorporating additional mitigation. The Applicant proposes the introduction of a 150m buffer between the Margate and Long Sands SAC and the installation of offshore export cables and placement of cable protection, further ensuring there would be no adverse effect on the sediment character and/or benthic

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			SAC. However, the Applicant has not considered the ecological significance of changes to bedload transport or any benthic 'ecological halo effect' which can be expected following the placement of structures on the seabed. Owing to localised changes in biological communities colonising hard structures, combined with the changes to the physical processes which are expected, the physical structure and function, and subsequent biological structure and function of the benthos can be altered over an area multiple times that of the original infrastructure footprint[1], [2] [1] De Borger, E., Ivanov E., Capet A., Braeckman, U., Vanaverbeke J., Grégoire M., and Soetaert, K., (2021) Offshore Windfarm Footprint of Sediment Organic Matter Mineralization Processes. Frontiers in Marine Science Volume 8 2021 Reeds, K.A. & Smith, J.A. & Suthers, I.M. & Johnston, E.L.. (2018). An ecological halo surrounding a large offshore artificial reef: Sediments, infauna, and fish foraging. Marine Environmental Research 141. The Margate and Long Sands SAC Conservation Objectives are set to ensure that, subject to natural change, the extent, distribution, community structure and supporting processes are maintained or restored as appropriate.		communities within Margate and Long Sands SAC. This has been updated in the draft DCO at Deadline 1.
NE-149	C36	Screening	The RIAA states as a WCS that cable protection could be required adjacent to the northern boundary of the SAC is assessed, the length of cable protection in this location has not been stated. Only cable protection height (1.4m) and water depth adjacent to the SAC (18m to 30m) have been stated.	Natural England advises that further information from the Applicant is required to confirm what cable protection parameters (length and specific placement location in relation to the SAC) have been used to inform the assessments and what the accurate worst-case scenarios are with appropriate justification provided where relevant. The RIAA and relevant ES should be updated with this information.	The worst case scenario described in Table 2.2 of the RIAA Part 2 [**APP-175**] states that up to 12.5km of cable protection may be required along the export cable route, in the unlikely event that offshore export cables cannot be buried (based on 10% of the length). The Applicant maintains that this cable protection would have no adverse effect on the integrity of the Margate and Long Sands SAC, taking into account the embedded mitigation described in Table 2.3 of the RIAA Part 2 [**APP-175**], in particular the site selection of the offshore cable corridor to avoid direct overlap with the SAC. However, additional mitigation is now provided to ensure cable protection would be at least 150m from the Margate and Long Sands SAC to further ensure there would be no adverse effect on the integrity of the SAC.

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NE-150	C37	Screening	Natural England points to the comments above relating to requests for robust consideration of the potential for changes in benthic communities and their supporting processes as a result of 'ecological halo effects'. We advise due consideration of such effects in light of benthic habitats function as supporting habitat for qualifying features of the OTE SPA.	Natural England advises that full consideration of the likely nature, extent, duration, and significance of impacts upon SPA supporting habitats is required to inform a robust assessment of the likely impacts upon designated ornithological features.	Please see response to NE-110 and NE-143.
NE-151	C38	Assessment	Natural England is concerned that the Application documents do not provide sufficient details regarding the potential requirements for, or subsequent impacts from, cable protection. We cannot, therefore, advise on the sufficiency of the RIAA in assessing the impacts either alone or in-combination.	Natural England advises that further detail is required on the worst-case cable protection requirements adjacent to Margate and Long Sands SAC, and any associated secondary benthic impacts, before we can advise on the scale and significance of impacts. Where possible impacts should be mitigated/minimised through the use of appropriate cable protection.	The worst case scenario is described in Table 2.2 of the RIAA Part 2 [**APP-175**] and is fully assessed in Section 2.4.3. The Applicant maintains that this cable protection would have no adverse effect on the integrity of the Margate and Long Sands SAC, taking into account the embedded mitigation described in Table 2.3 of the RIAA Part 2 [**APP-175**], in particular the site selection of the offshore cable corridor to avoid direct overlap with the SAC. However, additional mitigation is now provided to ensure cable protection would be at least 150m from the Margate and Long Sands SAC to further ensure there would be no adverse effect on the integrity of the SAC.
NE-152	C39	In-combination	We advise that if potential changes are predicted within the SAC following more appropriate consideration (see comment C26 above) then in-combination assessment will be required for other plans and projects (e.g. Five Estuaries OWF).	Natural England advises that the ES and RIAA in-combination assessments may require updating once further information has been provided on the worst cable rock protection requirements and any related secondary impacts within the SAC.	The worst case scenario is described in Table 2.2 of the RIAA Part 2 [**APP-175**] and is fully assessed in Section 2.4.3.
NE-153	C40	Further Receptor Points	Natural England has no comments to make that would result in a material difference to benthic receptors at this stage of the process. Therefore, unless there is a change in the project design parameters, we will provide no further comment on the data during examination.	N/A	Noted.
NE-154	C41	Have the impacts been avoided/reduce d by the use of appropriate mitigation?	Natural England is concerned that the WCS is based on use of external cable protection in the form of rock protection, but due consideration has not been given to the use of the mitigation hierarchy and reducing/mitigating the impacts through the choice of cable protection especially in regard to removal at the time of decommissioning.	Natural England advises that greater consideration should be given to use of the mitigation hierarchy and reduce impacts as much as possible. We also advise that an Outline Decommissioning Plan is provided at the time of consent to ensure that mitigation measures requiring the removal of cable protection are achievable and secured.	The final design of North Falls will be confirmed through detailed engineering design studies that will be undertaken post-consent. These will be carried out with consideration to the mitigation hierarchy, including minimising the use of external cable protection. The Applicant considers it unnecessary and inappropriate for an Outline Decommissioning Plan to be provided for offshore works as part of the DCO application. Decommissioning of offshore renewable energy installations is heavily regulated by the Energy Act 2004. As such, as is

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					standard practice for offshore wind farm DCOs, Requirement 25 of the draft DCO secures that no offshore works can commence until a written decommissioning programme is provided to the Secretary of State pursuant to the requirements of the Energy Act 2004 (and an advance notice from the Secretary of State under that Act).
NE-155	C42	Assessment Conclusions	See comments C37 and C38 above.	See advice above.	See response to comments C37 and C38 above.
NE-156	C43	Compensatory measures	See comment C38 above.	Natural England advises that further detail is required before we can advise on the scale and significance of impacts, and requirement for compensatory measures.	See response to comment C38 above.
		MCZ Assessment - Document Used: • [APP-237] 7.3 Marine Conservation Zone Assessment Report			
NE-157	C44	Overarching	Natural England queries whether a buffer has been applied around the infrastructure closest to the KKE MCZ boundary to ensure that direct impacts from wake effect, scour, etc. and in direct effect effects from changes to marine process will not impact on the interest features of the MCZ? Without the application of a suitable buffer, we are concerned that the mitigation does not sufficiently avoid impacts to the MCZ.	Natural England advises that a suitable buffer between the array infrastructure and the KKE MCZ should be applied to ensure that avoidance mitigation is effective.	Please see response to NE-114.
NE-158	C45	Screening	Natural England notes that the MCZ assessment fails to screen in or appropriately consider the potential for sediment deposition within the benthic features of Kentish Knock East MCZ (KKE MCZ), despite paragraph 72 stating that 'sediment deposition' is predicted as an indirect effect. We advise that in the absence of a confirmed dredge disposal locations, or parameters to determine the dredge disposal location criteria, then it is not possible to determine the WCS and therefore robustly assess the impacts from foundation preparation/sandwave levelling activities upon KKE MCZ benthic features	Natural England advises that robust predictions on the WCS of sediment deposition should be screened into the MCZ assessment as a potential pathway of effect for Kentish Knock East MCZ.	The indirect effects of suspended sediment and deposition on the KKE MCZ are assessed in Section 8.2.1.1 of the Marine Conservation Zone Assessment Report [**APP-237**]. An Outline Sediment Disposal Management Plan will be developed and submitted at an appropriate Deadline, setting out the criteria for dredge disposal locations, including consideration of mitigation for the KKE MCZ.
NE-159	C46	Assessment	Natural England has no comments to make that would result in a material difference to designated benthic features within the MCZ at this stage of the process. Therefore, unless there is a change in the project design parameters, we will provide no further comment on the data during examination.	N/A	Noted.
NE-160	C47	Cumulative / In-	Natural England has no comments to make that would result in a material difference to designated benthic features within the MCZ at this stage of the process.	N/A	Noted.

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		combination Assessment	Therefore, unless there is a change in the project design parameters, we will provide no further comment on the data during examination.		
NE-161	C48	Have the impacts been avoided/reduce d by the use of appropriate mitigation?	Natural England advises that appropriate mitigation should be adopted for seabed preparation/sandwave levelling activities so that impacts upon designated benthic features are avoided and due consideration demonstrated. In addition, foundations which have the greatest likelihood of causing direct and indirect impacts to KKE MCZ and wider marine processes should be removed from the Rochdale Envelope i.e. Gravity based foundations	Natural England advises that sediments from sandwave levelling should be disposed of in areas of similar sediment character. Commitments should also be made and secured to avoid impacts on designated features. Natural England advise that the use of fall pipe rather than surface release methods should be adopted where this would minimise such impacts	The Applicant committed to avoiding direct impacts on the KKE MCZ by reducing the order limits of the array area following Section 42 feedback from Natural England. The Applicant maintains that there would therefore be no hinderance of the conservation objectives of the MCZ, as described in the Marine Conservation Zone Assessment Report [**APP-237**]. However, in response to Natural England's comments, the Applicant has now removed gravity based foundations from the design envelope. This will reduce the volumes of suspended sediments and associated deposition. In addition, there will be a 50m buffer between the KKE MCZ and WTG foundations to ensure there is no over-sail of the rotors outside of the Order limits. The Applicant considers it is disproportionate to the level of impact to require a limitation on the method of disposal and this has not been required of other consented offshore wind farms.
NE-162	C49	MCZ Assessment Conclusion	Natural England agrees with the assessment conclusions for the Blackwater, Crouch, Roach and Colne Estuaries MCZ. However, we advise that sediment deposition within the KKE MCZ requires appropriate consideration and assessment before we can agree with all of the assessment conclusions.	Natural England advises that robust predictions on the WCS of sediment deposition within the MCZ is required before we are able to advise on the scale and significance of impacts within the MCZ.	The indirect effects of suspended sediment and deposition on the KKE MCZ are assessed in Section 8.2.1.1 of the Marine Conservation Zone Assessment Report [**APP-237**]. The assessment the Applicant maintains there would be no hinderance of the conservation objectives of the KKE MCZ. However, in response to Natural England's comments, the Applicant has now removed gravity based foundations from the design envelope which will reduce the volumes of suspended sediment from sandwave levelling. The is secured in the draft DCO [**6.1, Rev 2**]. As discussed above, foundations will be a minimum of 50m from the KKE MCZ to avoid blade oversail.
NE-163	C50	MEEB	Natural England welcomes the exclusion of infrastructure with KKE MCZ and if mitigation measures can be adopted in relation to sediment deposition and use of a buffer, then we do not believe that the conservation objectives for the site will be hindered and thus require Measures of Equivalent Environmental Benefit	Natural England advises that once sediment deposition is adequately mitigated for, and suitable infrastructure buffer implemented, then likely significant impacts to MCZ features can be excluded	Noted. As discussed above, WTG foundations will be at least 50m from the KKE MCZ border to avoid blade oversail. The Applicant has now removed gravity based foundations from the design envelope which will reduce the volumes of suspended sediment from sandwave levelling. The is secured in the draft DCO submitted at Deadline 1.

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					The Applicant considers that the existing buffer from the KKE MCZ is appropriate to ensure there will be no hinderance of the conservation objectives.
		Priority Habitats and Species listed under Section 41 list of the Natural Environmental and Rural Communities (NERC) Act, 2006 - Document Used: [APP-024] 3.1.12 Chapter 10 Benthic and Intertidal Ecology			
NE-164	C51	Potential impact pathways where further info/assessment required	See comment C22 above.	N/A	Please see response to NE-130.
NE-165	C52	Cumulative Impacts Assessment (CIA)	Natural England has no comments to make that would result in a material difference to benthic receptors at this stage of the process. Therefore, unless there is a change in the project design parameters, we will provide no further comment on the data during examination.	N/A	Noted.
		Annex C1. Cable protection paper (see EN010087-001527-DL3 - Natural England - Draft Position Paper.pdf (planninginspectorate.gov.uk) **Natural England advice on cable protection assessment for offshore windfarms and inclusion in marine licenses**			
			[Full text not copied see Annex C1]		
NE-166	1.1	Section 1: Application stage	In the Environmental Statement (ES) for a project there must be a full assessment of the worst-case scenario for cable protection to enable a decision to be made regarding the impacts of a project over the lifetime and in combination with other impacts and activities. In the case of European Marine sites (SACs and SPAs) the assessment must contain sufficient information to allow it to be ascertained (by the process of "appropriate assessment,"1 and beyond reasonable scientific doubt) whether the project will have an adverse effect on the integrity of the site. If an absence of adverse effect on integrity cannot be demonstrated – see footnote 2.		A worst case scenario for surface laid cable protect is assessed in the ES and RIAA. The site selection of the array area and the offshore cable corridor took into account feedback from Natural England and MPAs with seabed habitats as a primary designated feature (e.g. Margate and Long Sands SAC) have been avoided. Indirect effects on SPAs and SACs are assessed in the RIAA [**APP-173 to 182**].
NE-167	1.2		It is acknowledged that the worst-case scenario used for lifetime predictions is not the most desirable environmentally and, as more project specifics and environmental data emerge post-consent, the structure of plans and proposals can be amended to allow for the impacts to be reduced. This is in line with		Noted.

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			the avoid-reduce-mitigate hierarchy, which should be followed in relation to environmental impacts.		
NE-168	1.3		Not everything that is assessed in the Environmental Statement is permitted through the Deemed Marine Licence (DML) for the project, as some aspects require further updating and consultation (i.e. requirement to provide a scour and cable protection installation plan preconstruction, which sets out what is actually permitted). However, provision of the full project lifecycle information in the Environmental Statement at this stage is required to inform and support the decision making for the project and to provide a level of comfort that the lifetime impacts have been considered.		The EIA has assessed the holistic life of the project based on a realistic worst case scenario. The Outline Offshore Operations and Maintenance Plan **[APP-255]** outlines additional licenses that may be needed during the O&M phase.
NE-169	1.4		Where cable protection is proposed within an SAC or SPA it should be assumed that there will be a likely significant effect due to lasting habitat loss from the cable protection and an "appropriate assessment" would need to demonstrate that there would not be an adverse effect from the proposal. This is likely to be challenging in an SAC designated for its benthic habitats, therefore all alternatives will need to be fully explored. If it is not possible to avoid an adverse effect, then the derogations route under Article 6(4) of the Habitats Directive2 could be considered. Similarly, a Marine Conservation Zone (MCZ) assessment would be requirement where cable protection was proposed in an MCZ. For clarity and to fit with subsequent marine licensing requirements, Natural England advise that this information should be presented separately for the following phases with the impacts assessed for each phase and together in total: • Amount of cable protection to be laid during the construction phase3 of the project. • Amount of cable protection required for the maintenance of that laid during construction over the lifetime of the project. • Amount of additional/ new cable protection that may be required to protect assets that become exposed during operation of the windfarm. • Total amount of cable protection to be left in situ at the time of decommissioning (this may be the total of the above).		As discussed in response to 1.1 above, the Order Limits for the North Falls project do not cross the boundaries of any Marine Protected Area designated for seabed features. Indirect effects of cable protection on SPAs and SACs are assessed in the RIAA Part 2 to 4 [**APP-175 to 178**]. Indirect effects on MCZs are assessed in the Marine Conservation Zone Assessment Report [**APP-237**]. See also response to NE-16.
NE-170	1.5		For cable protection to be laid during construction under the DML, an in-principle scour and cable protection plan should be provided as part of the application. This should be updated and resubmitted		The draft Development Consent Order **[AS-022]** requires under Condition 21 (h) in the generation DML (Schedule 8) and Condition 22 (h) in the transmission DML (Schedule 9), a Cable Specification and Installation Plan post consent,

Applicant Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
			pre-construction and should reflect up to date information informed by any new survey data, the cable burial risk assessment and additional information in relation to a navigation risk assessment and alternatives. Use of cable protection which leads to lasting habitat loss should be the final consideration after other alternatives have been exhausted and must be minimised as much as possible to reduce environmental impacts.		including the requested information on cable protection. It is the Applicant's position that an In Principle scour and cable protection plan is not required. This is in line with other consented offshore wind farms where there is no direct effect on MPAs with seabed habitats as a primary designated feature.
NE-171	1.6		Where impacts are within a Marine Protected Area (MPA4), the assessment should consider the total amounts of cable protection proposed to be laid across the phases outlined above as an area and percentage of the MPA feature to be impacted. The significance of the proposal then needs to be considered against the Conservation Objectives for the site. Natural England's position paper on 'Small Scale Losses' sets out what is required by the Applicant to demonstrate that there are no Adverse Effects on site Integrity (AEoI).		Natural England's paper *Small-scale effects: How the scale of effects has been considered in respect of plans and projects affecting European sites - a review of authoritative decisions* has been considered by the Applicant. Site selection of the array area and the offshore cable corridor took into account feedback from Natural England, and MPAs with seabed habitats as a primary designated feature (e.g. Margate and Long Sands SAC and Kentish Knock East) have been avoided. Effects on SPAs and SACs are assessed in the RIAA [**APP-173 to 182**], taking into account the Conservation Objectives, along with Supplementary Advice on Conservation Objectives where available. A worst case scenario for surface laid cable protection is assessed in the ES and RIAA. Please also see response to 1.4.
NE-172	1.7		Natural England will advise that a condition should be applied to all DMLs with wording similar to that outlined below, which will require return of information in relation to the as-built scenario, including the location, volume, area, and coordinates of the cable protection laid. Not more than 4 months following completion of the construction phase of the authorised scheme, the undertaker must provide the MMO and the relevant statutory nature conservation bodies with a report setting out details of the cable protection used for the authorised scheme. (2) The report must include the following information— (a) location of the cable protection. (b) volume and area of cable protection; and (c) any other information relating to the cable protection as agreed between the MMO and the undertaker.		The draft Development Consent Order **[AS-022]** requires under Condition 21 (h) in the generation DML (Schedule 8) and Condition 22 (h) in the transmission DML (Schedule 9), a Cable Specification and Installation Plan post consent, including that the requested information on cable protection is required.

Applicant Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
			(3) For any subsequent deployments of cable protection following the completion of construction, the undertaker will provide an updated report as defined in (1) and (2) not more than 4 months following deployment of the cable protection.		
NE-173	2.1	Section 2: Construction and maintenance	2.1 The period of construction finishes when developers notify the MMO of the end of construction. However, there will need to be agreement on what is considered the construction period given that this could stretch several years. The cable protection laid during the period of construction is permitted under the DML and restricted to total volumes within the DML, although every effort should be made to minimise these volumes going into construction through the avoid-reduce-mitigate hierarchy.		Noted.
NE-174	2.2		As outlined above, the in-principle scour and cable protection plan provided during the application phase should be updated and resubmitted pre-construction and should reflect up to date information informed by any new survey data, the cable burial risk assessment and additional information in relation to a navigation risk assessment and alternatives.		See response 1.5.
NE-175	2.3		Natural England considers it is permissible to maintain cable protection that was placed at time of construction for the lifetime of the project through an Operations and Maintenance plan by adding additional cable protection to that which was laid during construction. We support the MMO's position that under an operations and maintenance plan submitted under the DCO maintenance material placement cannot exceed the seabed footprint of the cable protection laid during construction. As per the MMO's advice various timescales and information requirements will apply to these plans. A condition requiring return of information in relation to the as built scenario including the location, volume, area, and coordinates of the cable protection laid should be secured as part of these plans.		It is the Applicant's position that cable protection deployment within 10 years of construction and within the parameters included in the DCO are within the envelope assessed in the ES and RIAA. This aligns with the draft DCO. The Outline Operations and Maintenance Plan will be updated to reference deployment within 10 years of construction. The Applicant is considering how best to accommodate Natural England's request for a specific condition to be secured regarding the return of information as part of the Operations and Maintenance Plan.
NE-176	3.1	Section 3: Operational phase	Natural England considers that any new/additional cable protection to be laid during the operational lifetime of the windfarm is not permitted under the DML and requires a separate marine licence. We acknowledge that there is a desire for longer term licences and support the MMO's position that 10-year licences can be considered for laying of additional cable protected in areas outside MPAs		The draft DCO secures that any cable protection authorised by the licence must be deployed within 10 years of the date of the Order, unless otherwise agreed in writing with the MMO. This approach is standard in offshore wind DCOs/DMLs.
NE-177	3.2		This is not to say that cable protection will not be permitted over the lifetime of the project (out with		Noted.

Applicant Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
			MPAs); but a separate marine licence process (to that of the DCO/DML) is advised to ensure that proposals can be adequately assessed using up to date information on which to base the assessment (which may be several years after the Environmental Statement data was collected), and enable sufficient transparency of decision making and stakeholder consultation. Data less than 5 years old will be required to support laying of additional cable protection along with descriptions of the seabed habitat and information regarding what cable protection has been laid to date. Justification will need to be made as to why cable protection is necessary considering risk and alternatives and every effort made to minimise amounts required to reduce environmental impact.		
NE-178	3.3		The amount of cable protection proposed in the new licence application should not be more than that assessed overall in the ES and should ideally be reduced to reflect the reduction in parameters from the Rochdale Envelope. Any reduction in design parameter should be reflected in this licence e.g. decreased number of cables installed therefore proportionally less cable protection is permitted to reflect this		The cable protection quantities are sufficient for the Project based on information known at this time. In the unlikely event additional protection is needed for unforeseen circumstances, the relevant quantities and justification of the reasons will be provided in any subsequent future licence application.
NE-179	3.4		Should the volumes proposed be greater than that assessed in the ES at the time of consenting then it will be necessary to redo the assessment for cable protection that was undertaken in the ES with up-to-date information and parameters to inform the licence application.		Noted, see response to 3.3.
NE-180	4.1	Section 4: Cable protection within MPA during the operational phase of a project	Natural England considers that replenishment of cable protection/scour prevention over the lifetime of the projects which does not increase the footprint of existing protection and is outside of benthic designated sites may be considered on a case-by-case basis as part of the DCO/dML		Noted.
NE-181	4.2		Natural England advises that a precautionary approach is taken to cable protection within MPAs with each campaign of cable protection requiring a new marine licence along with a full assessment. This is for a number of reasons including that our understanding of impacts, the habitat that is there and its condition evolves over time as well as changes in law. Therefore, each time new cable protection is to be laid it will require a new assessment and an		The Applicant is not routing cables through an MPA designated for seabed features.

Applicant Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
			Appropriate Assessment or Marine Conservation Zone assessment.		
NE-182	4.3		Where further cable protection is proposed within an SAC or SPA during the operational phase of a project, it should be assumed that there will be a likely significant effect due to lasting habitat loss from the cable protection and an "appropriate assessment" would need to demonstrate that there would not be an adverse effect from the proposal. This is likely to be challenging in an SAC designated for its benthic habitats, therefore all alternatives will need to be fully explored. If it is not possible to avoid an adverse effect, then the derogations route under Article 6(4) of the Habitats Directive (see footnote 2) could be considered. Similarly, a Marine Conservation Zone (MCZ) assessment would be requirement where cable protection was proposed in an MCZ		Due to the Applicant avoiding sites designated for benthic features (e.g. Margate and Long Sands SAC and Kentish Knock East MCZ) during site selection, there will be no cable protection placed in these sites at any stage of the Project.

2.6 Applicant's Comments – Appendix D – Fish and Shellfish Ecology

Applicant Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
NE-183	D1		Natural England defers to the expertise of Cefas in relation to fish and shellfish, where they are not features of designated sites or a prey species associated with the feature of a designated site. The absence of comment on aspects such as underwater noise, adequate baseline characterisation, and the impact assessment etc., should not be assumed to mean the absence of any concerns.	We advise that Natural England's comments are read in conjunction with the advice of Cefas. It should be noted that Natural England's remit differs to that of Cefas. Natural England's role is to advise on features of designated sites in the context of the conservation objectives, to ensure that the sites fulfil their function and make their due contribution to the Marine Protected Areas network. Cefas' role is to advise on how the development might interact with the fish populations as a whole. This context should be considered when reading the advice of both organisations and is likely to be the reason for any perceived differences. Natural England's RAG rating relates to our remit, and this may not fully reflect the severity of an issue when considered under Cefas' remit.	Noted.
NE-184	D2		We note from the Chapter 11 Fish and Shellfish Ecology Figures (volume II) that there is overlap with spawning grounds and nursery grounds for herring (Figure 11.2), and spawning grounds and nursery grounds for sand eel (Figure 11.4). We	We highlight that whilst these species are not designated features of the Marine Protected Area (MPA) network sites in proximity of the works, herring are a Section 41 species under the Natural Environment and Rural Communities Act 2006	The Applicant notes that due consideration has been 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

Applicant Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
			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.	(NERC), and both provide prey resources for other receptors such as RTD designated within the Outer Thames Estuary SPA.	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 spawning grounds located immediately west of the array area and not within it. Reference to sandeels and herring being species of principal importance under the NERC Act is included in Table 6.11 of ES Appendix 11.1 Fish and Shellfish Ecology Technical Report **[APP-095].** In addition, the importance of these two species as prey for other fish species, marine mammals and birds is noted in ES Appendix 11.1 Technical Report **[APP-095**] (section 6.1.5.4) and in section 11.5.6. of Chapter 11 Fish and Shellfish Ecology **[APP-025].**
NE-185	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. This includes aspects such as their lifecycle (and sensitive stages within this, such as spawning, when fish can be in poor body condition), physiology, habitat requirement for spawning etc. It is key to note that both herring and sand eel are substrate specific demersal spawners. This makes them particularly sensitive to temporary or permanent changes in the particular substrate types that they use for spawning. Increased Suspended Sediment Concentration (SSC) and subsequent deposition of sediment on gravid herring and their eggs and larvae, also have the potential to impact negatively on spawning, which particularly needs to be considered in relation to the Downs Herring spawning area as this is potentially in the direct footprint of the works. 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	We advise the Project 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.	Due consideration has been given across Fish and Shellfish Ecology Technical Report **[APP-244]** and ES Chapter 11 Fish and Shellfish Ecology **[APP-025**] to the ecology of all key receptors identified for assessment including sandeel and herring. In the particular case of these two receptors, their dependence on the presence of suitable seabed habitats for burial (sandeels) and for spawning (herring and sandeels) has been accounted for with separate assessments undertaken for these two species as appropriate (i.e. loss of habitat, habitat disturbance, increased SSCs and deposition, etc). The assessment of potential temporary loss of habitat and disturbance during construction on fish and shellfish species (section 11.6.1.1. ES Chapter 11 Fish and Shellfish Ecology **[APP-025]),** including with specific reference to Downs herring, takes account of the outcomes of ES Chapter 10 Benthic and Intertidal Ecology **[APP-024]** and ES Chapter 8 Marine Geology, Oceanography and Physical Processes **[APP-022]** which note that the area of disturbance would be very small and that the seabed is anticipated to recover quickly. The assessment presented in ES Chapter 11 Fish and Shellfish Ecology **[APP-025**] considers this in the context of the wide distribution ranges of fish and shellfish species and the very limited overlap of the proposed works with key fish and shellfish habitats (including Downs herring spawning grounds). The Applicant notes that the change in habitat associated with the introduction of infrastructure is assessed under long-

Applicant Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
			temporary, and the seabed will quickly recover to its original condition where infrastructure has been placed. This is because the habitat type will have changed. In relation to long-term habitat loss, we advise this is permanent rather than long term. This is due to the timeframe of the development remaining in place and the lack of certainty all infrastructure will be removed at decommissioning.		term loss of habitat during the operational phase and not under temporary habitat loss/habitat disturbance. The Applicant is of the view that the reference to long-term loss of habitat referred to in ES Chapter 11 Fish and Shellfish Ecology **[APP-025]** (section 11.6.2.2) is appropriate as it relates to impacts associated with the operational phase of the project. The Applicant notes that impacts from decommissioning activities are assessed separately under section 11.6.3. Due consideration has been given to feedback provided by the MMO and Cefas with regards to the PEIR and via detailed discussions during fish and shellfish ecology 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]**).

2.7 Applicant's Comments – Appendix E – Marine Mammals

Applicants Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
NE-186	E1	Marine Mammals	Natural England does not agree with the project-alone assessment of disturbance impacts from piling as we have concerns with how the results of the interim Population Consequences of Disturbance (iPCoD) modelling are presented. We also advise that the impact significance is presented based on each approach taken to assessing disturbance, not just based on the iPCoD modelling. We cannot agree with the assessment conclusions of the project-alone disturbance effects at this stage.	Natural England recommends that the Applicant update how the iPCoD modelling results are presented in line with our comments and present impact significance for all approaches used to assess impact. We further recommended that they commit to further mitigation of project-alone impacts, should they be significant.	Further details of the iPCoD results are presented in Further Information Regarding Marine Mammals (Document Reference 9.14, submitted at Deadline 1) in response to Natural England's comments. All disturbance impact significance approaches used in the assessments have also been presented in the Further Information Regarding Marine Mammals (Document Reference 9.14, submitted at Deadline 1).
NE-187	E2		As we have significant outstanding concerns on the Environmental Statement (ES) assessment (see detailed comments), where the same approach is applied to Habitats Regulations Assessment (HRA), we cannot agree with the HRA conclusions at this stage.	We advise that the Applicant should address concerns on the ES and cascade the changes/commitments to the HRA.	Natural England's outstanding concerns on the ES Chapter 12 Marine Mammals **[APP-026]** assessments have been considered and amendments to assessments have been included within Further Information Regarding Marine Mammals (Document Reference 9.14, submitted at Deadline 1). These changes have also been considered in relation to the RIAA.
NE-188	E3	Marine Mammals	Natural England is concerned that the current approach to implementing Site Integrity Plans (SIPs) for piling impacts to the Southern North	We strongly advise that the Applicant commit to the use of specific mitigation measures at this	The finalisation of the SIP for piling will consider the latest policy on NAS at the time. The Applicant notes that potential mitigation options, including NAS, are listed within the

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			Sea (SNS) Special Area of Conservation (SAC) from offshore wind development does not allow sufficient time for mitigation methods, such as Noise Abatement Systems (NAS) to be procured by the Applicant prior to construction, should they be required, therefore increasing the risk that an Adverse Effect on Site Integrity cannot be avoided. We strongly advise that the Applicant commit to the use of specific mitigation measures at this stage, which may be removed at a later date if the revised SIP demonstrates they are not required. Further detail regarding our concerns around SIPs can be found in detailed comments below.	stage, which may be removed at a later date if the revised SIP demonstrates they are not required.	Outline Site Integrity Plan for the Southern North Sea Special Area of Conservation **[APP-243]** which will be finalised post-consent in line with the final design of the Project. It is recognised that upon assessment of the design information any need for the implementation of NAS will be decided in consultation with the licencing authority. The Applicant is planning appropriately for the potential requirement for NAS but maintains the position that the effects will be suitably mitigated through further design refinement and embedded mitigation. The Applicant has already committed to only pile at one monopile location in any one day during the winter season, unless NAS is utilised. The Applicant has also included the mitigation option of no piling during the winter season, as detailed in the Outline Site Integrity Plan for the Southern North Sea Special Area of Conservation **[APP-243]** and this would also be determined post consent.
NE-189	E4	Marine Mammals	We note that the Applicant has not committed to using NAS at this stage. Natural England strongly advises the Applicant to commit to using noise abatement as mitigation should driven or part-driven piles be used during construction. Further detail regarding our advice on NAS can be found in the detailed comment below.	The Applicant should commit to noise abatement in the Draft Marine Mammal Mitigation Plan (MMMP) and Site Integrity Plan. The effect of noise abatement systems in reducing noise impacts should be included in the assessment.	See response to NE-164 above. However, if it is determined post-consent that NAS is required, further assessment on the effects of NAS in reducing noise impacts will be included in the final MMMP and SIP.
NE-190	E5	Marine Mammals	Natural England notes that the incorrect approach has been used for the in-combination assessment whereby dose response method was applied to calculate the number of animals disturbed instead of using the Effective Deterrent Radius (EDR) approach as outlined in the Natural England Best Practice Guidelines Phase III and the Guidance for assessing the significance of noise disturbance against Conservation Objectives of harbour porpoise SACs.	Natural England recommends that the Applicant revises the in-combination assessment and applies the 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 porpoise SACs.	Taking into account Natural England's comment, the Applicant has adapted the in-combination accordingly in Further Information Regarding Marine Mammals (Document Reference 9.14, submitted at Deadline 1), taking into account the 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 porpoise SACs.
		Table 2 Natural England's Detailed Advice and Recommendations – Marine Mammals			
		Project Parameters - Document(s) Used: [APP-098] 3.3.8 Environmental Statement Appendix 12.3 Underwater Noise Modelling Report			
NE-191	E6	Natural England's Position on Worst Case Scenario or Scenarios	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 advises that the Applicant should re-calculate the simultaneous piling assessment based on the two locations that produce the WCS.	Since the PEIR there have been changes to the array area, as a result the "northern array area" is no longer being considered. 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 (the West point is now also the most northern point of the

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			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.		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, the calculations used for assessments are based on the WCS.
		Baseline Characterisation - Document(s) Used: [APP-026] 3.1.14 Environmental Statement Chapter 12 Marine Mammals [APP-097] 3.3.7 Environmental Statement Appendix 12.2 Marine Mammal Baseline Information, [APP-098] 3.3.8 Environmental Statement Appendix 12.3 Underwater Noise Modelling Report			
NE-192	E7	Data Gaps	Natural England has concerns with the chosen cut-off date for inclusion of other Offshore Wind Farms (OWFs) into the Cumulative Effect Assessment (CEA) which is currently the end of January 2024. Natural England highlights that this cut-off date is too far back since new data has been produced by other developments in recent months.	We recommend that the Applicant extends the cut-off date to include up-to-date information from other OWFs into the CEA.	In line with the Natural England's comments, the CEA has been reviewed in Further Information Regarding Marine Mammals (Document Reference 9.14, submitted at Deadline 1). The assessment includes information, as of January 2025, from other OWFs for all other project activity that could be occurring at the same time as North Falls.
NE-193	E8	Analysis, Modelling and Reporting	We note that the density of harbour seal used in the assessment has significantly reduced between the Preliminary Environmental Information Report (PEIR) and the Application, from 0.0014 to 0.00048, respectively. The densities in both documents have been calculated from the same source (Carter *et al.,* 2022), so it is unclear why they differ so significantly. Natural England seeks clarification in regard to the change in harbour seal densities. We would like to emphasise that the most precautionary density needs to be taken forward to the assessment. Please refer to our advice in the Best Practice Guidance Phase III, which states:" *The most precautionary density estimate (i.e. highest) should then be selected for use within the assessment. If a density estimate is selected which is not the highest, robust evidence is required to justify why it is the most appropriate option.*"	Natural England advises that the Applicant should revise the assessment so that it uses the agreed harbour seal density as presented in the PEIR or provide a sufficient justification for the change in the densities.	The previous density used within the PEIR was based on when the proposed development included two array areas. At the ES stage there is now only one array area (the northern array area is no longer part of the development) and the red line boundary for the remaining array area being considered has been altered, therefore the new density estimates reflect the new array area.
NE-194	E9	Analysis, Modelling and Reporting	North Falls has assumed that other sources of noise during construction would operate constantly for 24 hours, instead of 12 hours per day as assumed in the PEIR. However, Natural England notes that for a fleeing animal, impact Temporary Threshold Shift (TTS) ranges of activities are now shorter than the ones predicted in the PEIR. For instance, for large vessels, TTS ranges have decreased from 200 m to <100 m	Natural England advises that the Applicant revises the calculations of impact ranges and updates tables as required.	In the ES Chapter 12 Marine Mammals **[APP-026],** 12 hours was modelled for all other construction noise activities, other than vessel noise which was modelled as occurring 24 hours per day, which is the same approach used in the PEIR. The Applicant had identified an error in the PEIR, stating the TTS range for Large Vessels was 200m. In fact, all species TTS ranges for Large Vessels are <100m, and this was

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			(ES Appendix 12.3, table 5-4). It is unclear why an increase in the duration of an impact leads to a decrease in its impact range.		corrected as per ES Appendix 12.3 (Underwater Noise Modelling Report, **[APP-098]**), Table 5-4.
		Environmental Impact Assessment - Document Used: • [APP-026] 3.1.14 Environmental Statement Chapter 12 Marine Mammals • [APP-100] 3.3.10 Environmental Statement Appendix 12.5 Unexploded Ordnance Clearance Information and Assessment • [APP-101] 3.3.11 Environmental Statement Appendix 12.6 Marine Mammal Cumulative Effect Assessment Screening • [APP-242] 7.7 Draft Marine Mammal Mitigation Protocol • [APP-243] 7.8 Outline Site Integrity Plan for the Southern North Sea Special Area of Conservation • [APP-245] 7.10 Offshore In-Principle Monitoring Plan			
NE-195	E10	Identified impacts	Natural England notes the discrepancy in the assigned sensitivity to collision risk i.e. minke whale has been assigned medium compared to low sensitivity for other marine mammals. There is not a sufficient justification for this approach. We advise that sensitivity to collision risk should be medium for all species due to the potential severity of the impact resulting in injury or death of the animal.	We advise that the Applicant changes the sensitivity of all species to collision risk to medium and updates the assessment.	Minke whale was assigned a higher sensitivity to collision risk as they are deemed potentially more susceptible. The sensitivity of marine mammals to collision risk is clarified in Further Information Regarding Marine Mammals (Document Reference 9.14, submitted at Deadline 1).
NE-196	E11	Identified impacts	We consider that it is unclear how the number of marine mammals at risk of collision with North Falls' vessels was calculated.	We request that clarification be provided on how the number of marine mammals at risk due to increase in vessel number has been calculated.	Further clarification on how the number of marine mammals at risk due to increase in vessel number has been calculated is provided in Further Information Regarding Marine Mammals (Document Reference 9.14, submitted at Deadline 1).
NE-197	E12	Identified impacts	Natural England does not agree that sensitivity of seal species to disturbance effects is low. Whilst there may not be as much evidence for this species group, it would be precautionary to consider them as having medium sensitivity. We consider that seals can be disturbed by piling over similar ranges to harbour porpoise (~25km), therefore it is appropriate to assign a similar level of sensitivity i.e. medium.	We advise the Applicant should change the sensitivity of seal species to disturbance to Medium and revise the assessment.	Taking into account Natural England's comments, the sensitivity of seals has been changed from Low to Medium, as a more precautionary approach. A review based on Medium sensitivity of seals to disturbance for Project-alone and for cumulative effects is presented in Further Information Regarding Marine Mammals (Document Reference 9.14, submitted at Deadline 1).
NE-198	E13	Methodology	Natural England has concerns over the values presented in Table 12.99. The values in the median impacted as a percentage of unimpacted column of this table do not correspond to the difference between the un- impacted population mean and the impacted population mean. For example, 334,311 as a percentage of 338,403 is 98.79%, not 99.26%, which is not reflected in Table 12.99.	We advise that the Applicant should present the difference between the two means in each table that presents iPCoD modelling results. The Applicant can provide information to support the value they consider to be most appropriate.	The iPCoD modelling results, presented in the ES Chapter 12 Marine Mammals **[APP-026]** and RIAA Part 3 Marine Mammals Annex II Species **[APP-176**], considered the median of the ratio of impacted:unimpacted population sizes for the relevant marine mammal populations as the key metric to determine effect significance using the iPCoD method. This is due to the fact that the median of the ratio of impacted:unimpacted population sizes is considered more robust to the effects of extreme outliers than the mean value, particularly with lower sample sizes. In addition, this

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			We advise that the difference between the two presented means is included in the table, alongside the median values. The Applicant should provide information to support the value they consider to be most appropriate. Note this comment applies to all tables which present the iPCoD modelling results.		metric is considered least sensitive to misspecification of demographic parameters, therefore enabling more robust assessment of offshore renewable effects (Jital *et al.,* 2017[1]; Sinclair *et al.,* 2019[2]). This rationale, developed by the authors of the iPCoD code, has resulted in this metric being used and accepted for other recent OWF EIAs as the primary metric for assessing significance using iPCoD. In line with other recent OWF projects, the median of the ratio of impacted:unimpacted population sizes has been presented as these match with the graphical outputs produced by the iPCoD code. Further metrics (including the mean of the ratio of impacted:unimpacted population sizes), explanation and clarification are provided in Further Information Regarding Marine Mammals (Document Reference 9.14, submitted at Deadline 1).
NE-199	E14	Methodology	Natural England advises that the significance of the disturbance impact must be presented for each of the approaches used to determine cumulative disturbance, dose-response, and population modelling (iPCoD) in this case. Each approach and subsequent assessment of impact significance provides necessary information for Natural England to inform its advice. For example, the magnitude of impact to harbour porpoise using the dose-response approach is Medium, which when combined with a Medium sensitivity, leads to a Moderate impact significance (Table 12.10) which is significant in EIA terms. Information such as this is currently missing in the table. It is not appropriate, nor it is in line with EIA assessment methodology principles to only present the significance of the disturbance impact after population modelling has been undertaken i.e. less precautionary outcomes. We advise that the Applicant should not present the iPCoD modelling results alone, and that an assessment of cumulative impacts to cetacean	We recommend that that the Applicant present the cumulative impact significant for each species using the worst-case numbers disturbed i.e. not only the iPCoD modelling results.	The Applicant has taken different approaches to assess disturbance, including the use of known disturbance ranges for marine mammals and a dose-response curve assessment. These methods have been used to determine the worst-case disturbance effect from piling. Currently, there is no standardised or agreed method for quantifying disturbance. Therefore, the highest or worst-case numbers from these different approaches were incorporated into the population iPCoD modelling, forming the basis of the assessment. As a result, the cumulative impact significant for each species is based on the worst-case numbers that could be disturbed. The iPCoD model is an appropriate tool to assess the potential impacts of disturbance as it considers the consequences of disturbance or injury that might result from the construction or operation of OWFs. Further Information Regarding Marine Mammals (Document Reference 9.14, submitted at Deadline 1) provides further information on the significance of disturbance for each assessment method, as well as further supporting text for the assessment conclusions.

[1] Jitlal, M., Burthe, S., Freeman S. and Daunt, F. (2017) Testing and Validating Metrics of Change Produced by Population Viability Analysis (PVA) Final report to Marine Scotland Science September 2017 Scottish Marine and Freshwater Science Vol 8 No 23

[2] Sinclair, R., Booth, C., Harwood, J. & Sparling, C. (2019). Helpfile for the interim PCoD v5 model. March 2019.

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			species is presented using the approach that generates the worst-case numbers disturbed.		
NE-200	E15	Methodology	Natural England notes that it is stated here that sequential piling causes negligible increases compared to single piling. Whilst it is only minor, we do note that for pin pile installation at the East location (the WCS), sequential piling leads to an impact range of 3.4 km for VHF cetacean, compared to 3.3 km for single pile installation. The maximum impact range should be used in the assessment, and it is noted that this does relate to sequential piling.	We advise that the maximum impact ranges should be used in the assessment, which in some instances are from sequential piling predicted to generate slightly greater values than for single piling.	The Applicant notes Natural England's comment, the PTS impact range for harbour porpoise is slightly higher for cumulative exposure of sequential (six piles in a 24-hour period) jacket pin-piling (3.4km) compared to the single piling range (3.3km). This is seen in Table 12.20 in the ES **[APP-026]** and in Table 3.12 in the SNS SAC assessment in the RIAA Part 3 Marine Mammals **[APP-176].** The significance of effect assessment for the potential for PTS due to cumulative exposure of piling has already been based on the worst-case of 3.4km for the cumulative exposure of six pin-piles in a 24-hour period, as seen in Table 12.21 and Table 12.24 **[APP-026**], and Table 3.13 **[APP-176]**. Therefore, no further updates are required for the ES assessment **[APP-026]** or RIAA **[APP-176].** The PTS impact ranges for sequential piling of multiple monopiles and pin-piles in a 24-hour period will be applied to the MMMP and SIP when finalised post-consent. The TTS impact range for seals is slightly higher for cumulative exposure of sequential (six piles in a 24-hour period) jacket pin-piling (9.5km) compared to the single piling range (9.3km). This is seen in Table 12.27 in the ES **[APP-026].** The significance of effect assessment for the potential for TTS due to cumulative exposure of piling has already been based on the worst-case of 9.5km for the cumulative exposure of six pin-piles in a 24-hour period, as seen in Table 12.28 and Table 12.31 **[APP-026].** Therefore, no further updates are required for the ES assessment **[APP-026].**
NE-201	E16	Methodology	Natural England observes that there are small discrepancies between the Tiers. Natural England's suggested Tiers has 6 levels, not 7. Please refer to our Best Practice Advice document, Phase III.	We recommend that the Applicant amends Paragraph 4 and Table 1.1 so that the presented Natural England tiers align with our suggested approach.	The 7 Tier system listed in Table 1-1 of ES Appendix 12.6 Marine Mammal CEA Project Screening **[APP-101]** was extracted from the NE and Defra (2022): Best Practice Advice for Evidence and Data Standards (Phase III) as per Table 11.1 which includes 7 Tiers.
NE-202	E17	Methodology	Natural England does not agree that all projects with unknown construction timelines should be screened out. We consider that it would be conservative to assume that construction for consented projects could overlap with the project if an operational date is known (as presented in Table 1.2 and is similar to the North Falls project's operational date).	Natural England advises that the Applicant should include the projects with similar operational dates in the CEA.	As outlined in the response to NE-168, the CEA has been updated in Further Information Regarding Marine Mammals (Document Reference 9.14, submitted at Deadline 1). The assessment has been reviewed to include information, as of January 2025, from other OWFs for all other project activity that could be occurring at the same time as North Falls.

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NE-203	E18	Methodology	Natural England does not agree that Permanent Threshold Shift (PTS) should be screened out of the CEA. The Project has identified a major adverse effect from piling (APP-026, Table 12.24) that the Applicant has not committed to fully mitigate at this stage. It is not sufficient to say that mitigation for the Project would be put in place post-consent, as this is not guaranteed or secured. If the Project can take the approach of not mitigating the full PTS zone, then it follows that other projects can take the same approach, hence other projects' PTS risk should be assessed in the CEA too.	We advise that the Applicant should assess cumulative PTS impact in the CEA or fully commit to sufficient mitigation to reduce the risk of a residual PTS impact.	The Applicant acknowledges the need to have effective and appropriate mitigation measures in place for auditory injury (PTS). The Applicant is committed to this requirement which will be secured in the final MMMP. This is a commitment that has also been made by all neighbouring projects, which have also proposed to secure adequate mitigation measures through Outline MMMPs submitted with their DCO applications. As such there would be no potential cumulative effects for PTS. As a precautionary approach, PTS numbers were included in the population modelling for the cumulative assessment, in Cumulative impact 1a, Section 12.9.3.1.1 of ES Chapter 12 Marine Mammals **[APP-026].** However, the Applicant maintains the position that PTS effects will be suitably mitigated through further design refinement and embedded mitigation.
NE-204	E19	Methodology	Natural England defers to CEFAS as the underwater noise specialists to comment on the Underwater Noise Modelling Report.	To note.	Noted.
NE-205	E20	Have the impacts been avoided/reduced by the use of appropriate mitigation?	We note that in the mitigation hierarchy, avoidance, and relocation of Unexploded Ordnance (UXO) should be above implementing any other mitigation measures to reduce the impacts of the noise.	We suggest the Applicant should update the mitigation hierarchy for UXO detonations.	The Applicant agrees with Natural England, that in the mitigation hierarchy for UXO detonations, avoidance and relocation should be above all other mitigation measures. This has been detailed within the Draft Marine Mammal Mitigation Protocol (DMMMP) **[APP-242].** To make this clearer, the paragraph order will be amended in the Draft MMMP to ensure this mitigation approach is clear and submitted at an appropriate deadline.
NE-206	E21	Have the impacts been avoided/reduced by the use of appropriate mitigation?	It is our view that a SIP will be required given the amount of work planned within/adjacent to the SNS SAC in order to reduce the disturbance to harbour porpoise.	We advise that the Applicant should revise the conclusion on the requirement of SIP.	Any offshore UXO clearance required for North Falls will be consented and mitigation determined as part of a separate Marine Licence application at the pre-construction stage. Therefore, disturbance from underwater noise during UXO clearance at the North Falls site has not been included in the Outline Site Integrity Plan for the Southern North Sea Special Area of Conservation **[APP-243]** for piling as it will not be authorised under the Development Consent Order (DCO) application for North Falls. The requirement for a SIP for the UXO clearance for North Falls will be confirmed through the separate UXO marine licencing process. If it is deemed a SIP is required to manage underwater noise relating to the North Falls UXO clearance campaign (either alone or in-combination), this would be provided as part of that separate process.
NE-207	E22	Have the impacts been	Natural England disagrees with the conclusion that no mitigation measures will be required to minimise any potential disturbance due to UXO clearance especially as this assessment does	We advise that the Applicant should revise the conclusion that no mitigation measures will be	The Applicant agrees that UXO clearance requires appropriate mitigation measures to be applied, details of

Applicant s Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
		avoided/reduced by the use of appropriate mitigation?	not include in-combination effect. Appropriate measures should be considered within the SIP when final project and UXO details are known.	required to mitigate the disturbance due to UXO clearance.	potential mitigation measures for UXO clearance are described in the Draft MMMP **[APP-242]**. In the ES Appendix 12.5 Unexploded Ordnance Clearance Information and Assessment **[APP-100],** the conclusion that 'no mitigation measures will be required to minimise any potential disturbance due to UXO clearance' was based on the assessment outcomes. However, this paragraph should read 'mitigation measures, as described in the Draft MMMP, will be undertaken for UXO clearance to minimise any potential disturbance'. As outlined in response to NE-182 above, any offshore UXO clearance required for North Falls will be consented and mitigation determined as part of a separate Marine Licence application at the pre-construction stage. Therefore, disturbance from underwater noise during UXO clearance at the North Falls site has not been included in the Outline Site Integrity Plan for the Southern North Sea Special Area of Conservation **[APP-243]** for piling. The requirement for a SIP for the UXO clearance for North Falls will be confirmed through the separate UXO marine licencing process. If it is deemed a SIP is required to manage underwater noise relating to the North Falls UXO clearance campaign (either alone or in-combination), this would be provided as part of that separate process.
NE-208	E23	Have the impacts been avoided/reduced by the use of appropriate mitigation?	Natural England notes that the Applicant established a Monitoring Area with a minimum 700m radius, and that this area will be monitored both visually and acoustically. However, there are limitations of both methods for detecting harbour porpoises i.e. Passive Acoustic Monitoring (PAM) can detect their vocalisation only within 300m while visual detections are limited by the environmental conditions. Thus, we advise that the Applicant considers ways to improve detectability of harbour porpoises in order to guarantee their detections within the chosen range i.e. minimum 700m. One option is to position the Marine Mammal Mitigation Team onboard a small vessel circling the piling barge at the distance of 350m thus covering the entire 700m monitoring area effectively. Natural England is happy to discuss any other options at a later stage so they can be incorporated within the Final MMMP.	We advise further consideration of options for effective monitoring of harbour porpoise within the Monitoring Array of minimum 700m and an updated MMMP be submitted prior to the end of examination	Alternative monitoring strategies will be considered in the final MMMP post-consent. MMO and PAM techniques are developing and changing, and technologies are already available including night vision binoculars and cameras that are already regularly used for research and mitigation purposes, and alternative visual strategies could be considered. All options will be considered, and this will be developed in consultation with relevant stakeholders, including Natural England, post-consent.
NE-209	E24	Have the impacts been	Natural England advises that, for clarity and completeness, a separate section on the	We advise that the Applicant includes a separate section within the MMMP on the procedures that	The Applicant notes Natural England's comment and will create a separate section in the MMMP as requested. This

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		avoided/reduced by the use of appropriate mitigation?	procedures in the case of marine mammal detections should be included in the MMMP for all possible scenarios. Currently, this information is included under the section '1.3.2.1.1 Marine Mammal Observers'	should be followed when marine mammals are detected within the Monitoring Area.	change will be included in the Final MMMP to be submitted post consent.
NE-210	E25	Have the impacts been avoided/reduced by the use of appropriate mitigation?	We note that, for clarity and completeness, it should be clearly stated that "*for any breaks in piling of less than 10 minutes, piling may continue as required (i.e. as if there was no break)"* as long as no marine mammals have been detected within the Monitoring Area during this time.	We advise that the Applicant should add the mention of no marine mammal detections during the breaks in piling within this section.	The Applicant notes Natural England's comment and will add, for clarity and completeness, that 'for any breaks in piling of less than 10 minutes, piling may continue as required (i.e. as if there was no break), as long as no marine mammals have been detected within the Monitoring Area during this time'. This will be included in the Final MMMP post consent.
NE-211	E26	Have the impacts been avoided/reduced by the use of appropriate mitigation?	Natural England notes that the draft MMMP provides a summary of potential mitigation measures and is not intended to identify specific mitigation measures that will be implemented during pile-driving operations. However, Natural England strongly advises that the Applicant commits to using NAS as mitigation, should driven or part-driven piles be used during construction. NAS are proven to reduce the level of noise generated by piling and its propagation through the marine environment. As the noise levels are reduced at or close to the source, the range and area over which noise-related impacts occur will be reduced significantly. We are aware that Defra will be publishing a marine noise policy paper in October 2024 which will include the expectation from the Marine Management Organisation (MMO) that all OWF pile driving activity in English waters should demonstrate that they have utilised best endeavours to deliver noise reductions through the use of primary and/or secondary noise mitigation methods in the first instance from January 2025. We expect that the majority of piling from 2025 onwards will not be able to go ahead without NAS in place, for the following reasons: The overall level of noise in the SNS SAC is increasing due to increasing levels of offshore wind construction and other noisy marine	We expect noise abatement to be committed to in the draft MMMP and Site Integrity Plan submitted at the DCO Application stage. The effect of noise abatement systems in reducing noise impacts should be included in the assessment.	The finalisation of the MMMP for piling will consider the latest policy on NAS at the time. The Applicant notes that potential mitigation options, including NAS, are listed within the Outline Site Integrity Plan for the Southern North Sea Special Area of Conservation **[APP-243]** which would be finalised post-consent in line with the final design of the Project and the MMMP. It is recognised that upon assessment of more developed design information, any need for the implementation of NAS will be decided in consultation with the licencing authority. The Applicant is planning appropriately for the potential requirement for NAS but maintains the position that the effects may be suitably mitigated through further design refinement and other embedded mitigation. The Applicant has already committed to only pile at one monopile location in any one day during the winter season, unless NAS is utilised. The Applicant has also included the mitigation option of no piling during the winter season, as detailed in the Outline Site Integrity Plan for the Southern North Sea Special Area of Conservation **[APP-243]**.

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			activities taking place. Therefore, it will be increasingly difficult to determine no Adverse Effect on Integrity (AEoI) from cumulative noise disturbance. Projects that do not use NAS risk contributing to cumulative noise disturbance that could exceed the daily and seasonal thresholds for significant disturbance leading to AEoI, and therefore may not be able to construct as planned. The large-scale piling campaigns for offshore wind projects risk causing injury and disturbance offences to marine mammals of European Protected Species (EPS), therefore developers typically apply for a wildlife licence to exempt them from an offence under the regulations. A licence can only be granted where the regulator is satisfied that the required legislative tests are met, such as that there is no other satisfactory alternative. We expect it to be increasingly difficult for projects to demonstrate that noise abatement is not a satisfactory alternative. Projects that do not use noise abatement therefore risk not meeting the legislative test needed in order to be granted a wildlife licence.		
NE-212	E27	Have the impacts been avoided/reduced by the use of appropriate mitigation?	Natural England notes that there is a lack of commitment to some of the mitigation measures listed for the UXO clearance. For instance, in paragraph 102 the developer does not commit to the use of PAM, and states PAM will be conducted if equipment can be safely deployed and retrieved. We would like to emphasize that the UXO clearance should be performed during suitable conditions for both MMObs and PAM operators. In paragraph 104 it is stated that bubble curtains might be used for high ordnance UXO detonation if the environmental conditions are suitable. This is not in line with the MMO advise stating: "If high order clearance is required, noise abatement systems must be utilised ". Thus, the Applicant must commit to using NAS (i.e. bubble curtains) for high order UXO detonations within the MMMP.	We advise that the Applicant should refer to the 'JNCC guidance for the use of Passive Acoustic Monitoring in UK waters for minimising the risk of injury to marine mammals from offshore activities' and commit to using PAM as a standard mitigation tool as well as commit to using NAS if high order UXO detonation are required.	For UXO clearance the Applicant has committed to the use of PAM in instances when there are not favourable conditions with good visibility (sea state 3 or less). In line with Natural England's comment, paragraph 102 in Section 1.4.2 of the Draft MMMP **[APP-242]** will be amended to make clear the Applicant's commitments that 'UXO clearance would be performed during suitable conditions for both MMObs and PAM operators'. This change will be included in the Final MMMP post consent. In line with Natural England's comment, paragraph 104 in Section 1.4.2 of the Draft MMMP **[APP-242**] will be amended to make clear that 'if High-order clearance is required then NAS must be used'. This change will be included in the Final MMMP to be submitted post consent.

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NE-213	E28	Have the impacts been avoided/reduced by the use of appropriate mitigation?	We note that, it is stated that the ramp up would be a minimum of 30 minutes. This is not in line with the worst-case scenarios outlined in Chapter 12 (Table 12.1) where it is stated that ramp up would be a minimum of 80 minutes. Consistency is required to implement mitigation measures.	Natural England suggests that the MMMP should be consistent regarding the chosen duration of ramp up.	The Applicant notes Natural England's comment and will correct the ramp-up times in the Final MMMP post consent so that they are in line with the ES Chapter 12 Marine Mammals **[APP-026].**
NE-214	E29	Have the impacts been avoided/reduced by the use of appropriate mitigation?	We note that, when assessing the impacts due to vessel presence, North Falls cites several papers that did not find significant disturbance from operational windfarms, and only one paper that found significant disturbance from vessels. Natural England highlights that the negative effect of vessels on marine mammals has been proven in numerous peer-reviewed papers, including highly cited reviews (Dyndo et al. 2015, Wisniewska et al. 2018, Frankish et al. 2023, Oakley et al. 2017. Erbe et al 2019, Rojano-Donate et al 2023). Further, Natural England does not agree with the statement made in paragraph 829 that marine mammals "get accustomed" to the presence of vessels. In fact, a recent paper by Pigeault et al. (2024) found that harbour porpoises avoid areas with frequent traffic up to distances of 9 km. Also, paragraph 830 states that vessels, once on-site, would be stationary or slow moving, and therefore the potential for disturbance would be minimal. However, this is not the case for maintenance vessels which use maximum power to keep their position next to a turbine. This manoeuvre produces high levels of noise, and therefore, has the potential to disturb animals up to greater distances than stationary vessels. Natural England suggests that the impact of vessel presence is re-assessed following up-to-date scientific evidence.	Natural England advises that the Applicant re-assesses the effect of vessel presence on marine mammals following evidence-based findings.	The Applicant has noted Natural England's comment regarding the assessment of the effect of vessel presence on marine mammals. The Applicant will review the assessment and provide any necessary clarifications at Deadline 3.
NE-215	E30	Have the impacts been avoided/reduced by the use of appropriate mitigation?	Natural England notes, the In-Principle Monitoring Plan (IPMP) should examine the assumptions made within the marine mammal assessment and identify monitoring that seeks to validate one or more of these. Consideration should be given to the areas of the assessment where assumptions have been	Applicant to engage with Natural England to agree on the details for monitoring of marine mammals.	The Applicant acknowledges this comment and agrees to engage with Natural England in relation to the monitoring of marine mammals.

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			made and where the project could contribute to filling knowledge gaps that would inform validate the project's assessment conclusions, such as areas of high uncertainty or low confidence. Detailed requirements for In-Principal monitoring, can be found in Parker et al. (2022d). This document outlines Natural England's recommendations for an effective IPMP and should be considered when planning monitoring post-consent. Natural England notes that the Applicant proposed to conduct additional monitoring besides the standard requirement for noise measurements for the first four piled foundations. Natural England will engage with the Applicant to agree on the final monitoring plan.		
NE-216	E31	Have the impacts been avoided/reduced by the use of appropriate mitigation?	Natural England notes that within the Operation and Maintenance Plan the Applicant states that the use of sub-bottom profilers would not require a further marine licence over the lifetime of the project. However, due to the unknown parameters of these surveys and the potential for cumulative underwater noise impacts we highlight that the MMO should be contacted prior to their use, to ascertain if a marine licence is required or not.	Natural England advises that the Applicant seek further advice from MMO with regard to the requirement to obtain a marine licence for the use of sub-bottom profilers.	The MMO will be required to approve pre-construction monitoring and surveys via a monitoring plan to be submitted post consent, in accordance with the outline offshore in principle monitoring plan [**APP-245**]
		HRA - Document Used: • [APP-176] 7.1.3 RIAA Part 3 Marine Mammals Annex II Species • [APP-243] 7.8 Outline Site Integrity Plan for the Southern North Sea Special Area of Conservation • [APP-177] 7.1.3.1 RIAA Appendix 3.1 Marine Mammal Unexploded Ordnance Clearance Information and Assessment			
NE-217	E32	Assessment	Natural England is not content with the Applicant's response that PAM is considered as a potential mitigation measure for UXO clearance. The acoustic monitoring should be conducted alongside the visual monitoring during the UXO clearance. This needs to be clearly reflected in the MMMP.	We advise that the MMMP should correctly refer to PAM as a standard mitigation tool, not potential mitigation measure. Refer to the "JNCC guidance for the use of Passive Acoustic Monitoring in UK waters for minimising the risk of injury to marine mammals from offshore activities (2023)".	The Draft MMMP **[APP-242]** contains details for how PAM will be used if required, as set out in Section 1.4.3.2.2 in the Draft MMMP. However, it is noted the use of PAM is unlikely to be required for UXO clearance as all clearances will take place in daylight and in favourable conditions with good visibility (sea state 3 or less). This is in line with the guidance in Section 2.2 of the "JNCC guidance for the use of Passive Acoustic Monitoring in UK waters for minimising the risk of injury to marine mammals from offshore activities (2023)". This will be clarified in the Final MMMP post consent.

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NE-218	E33	Assessment	Natural England advises that, for HRA-level assessments of SACs designated for harbour porpoise, an Effective Deterrent Radius (EDR approach should be used to assess behavioural responses. The EDR is the range over which harbour porpoise may be displaced by impulsive noise. Advice on the use of EDRs is set out within the joint Statutory Nature Conservation Body (SNCB) guidance note on assessing the significance of noise disturbance to SACs designated for harbour porpoise. Thus, applying dose response curve is not the correct method for the assessment of disturbance.	We recommend that the assessment should be based solely on the EDR approach to assess disturbance of piling.	The Applicant notes that the dose response curve assessment for project alone effects was presented for information purposes, however the EDR assessment was also presented in the project alone assessment in the RIAA Part 3 Marine Mammals Annex II Species **[APP-176].** For the in-combination assessment the Applicant will review the use of EDR assessments in Further Information Regarding Marine Mammals (Document Reference 9.14, submitted at Deadline 1).
NE-219	E34	Assessment	We note that the Applicant has committed to piling one monopile per day during the winter season due to the exceedance of the 20% seasonal threshold in the case of simultaneous piling scenarios. Alternatively, NAS would be considered for simultaneous piling scenarios. Natural England notes that the assessment was based on using North and East locations which result in less area overlap than the true WCS scenarios when North and South locations are used. Thus, the threshold would potentially be exceeded even more than currently presented. In order to increase the confidence that the proposed mitigation options would be sufficient in reducing the area disturbed under the seasonal thresholds the assessment needs to be revisited using the true WCS at North and South locations.	We request that the Applicant revises the assessment using North and South piling locations for simulating piling scenarios and revisit the potential mitigation measures.	The assessments are based on the worst-case locations, i.e. the locations with the maximum potential impact range. When simulating the piling scenarios, the Applicant used the maximum area of disturbance in the assessments based on simultaneous piles at maximum potential separation from each other. Therefore, the assessments and areas of potential disturbance represent the worst-case scenarios.
NE-220	E35	In-combination	The Applicant predicts that both the 20% spatial daily threshold and the 10% seasonal threshold could be exceeded in almost all scenarios. However, it is suggested that this scenario is unlikely thanks to other OWF SIPs, concluding that the adverse effect on the integrity of the SNS SAC will be avoided with appropriate SIPs. Since these SIPs have not yet been developed, it is not sufficient to conclude that adverse effects on the integrity of the SNS SAC will be avoided. At this stage, Natural England cannot agree that the integrity of the SNS	The Applicant should commit to the use of noise abatement systems and incorporate this into the draft MMMP and SIP and incorporate this into the assessment.	The finalisation of the Site Integrity Plan for the Southern North Sea Special Area of Conservation (in accordance with the Outline SIP **[APP-243])**. for piling will consider the latest policy on Noise Abatement Systems (NAS) at the time. The Applicant notes that potential mitigation options, including NAS, are listed within the Outline Site Integrity Plan for the Southern North Sea Special Area of Conservation **[APP-243]** which would be finalised post-consent in line with the final design of the Project. It is recognised that upon further assessment of the final design information, any requirement for the implementation of NAS will be decided in consultation with the licencing authority. The Applicant is planning appropriately for the potential requirement for NAS

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			SAC will be preserved especially as there was no commitment on using the NAS.		but maintains the position that the effects will be suitably mitigated through further design refinement and embedded mitigation. The Applicant has already committed to only pile at one monopile location in any one day during the winter season, unless NAS is utilised. The Applicant has also included the mitigation option of no piling during the winter season, as detailed in the Outline Site Integrity Plan for the Southern North Sea Special Area of Conservation **[APP-243]**.
NE-221	E36	In-combination	Natural England advises that, in relation to assessments of SACs designated for harbour porpoise, it is advised that the EDRs are used when assessing the area of disturbance impact from other projects as a means of standardising the assessment. Thus, we do not agree with the approach to use dose response as the most realistic estimate of disturbance. This is against our advice (Best Practice Guidelines, Phase III) and the advice provided within the (Guidance for assessing the significance of noise disturbance against Conservation Objectives of harbour porpoise SACs). Consequently, we do not agree with the outcomes of the in-combination assessment.	We recommend that the Applicant revises the assessment using solely the EDR approach as advised within the Best Practice Guidelines, Phase III, and the Guidance for assessing the significance of noise disturbance against Conservation Objectives of harbour porpoise SACs.	The Applicant has reviewed the in-combination assessment using the EDR approach in Further Information Regarding Marine Mammals (Document Reference **9.14**, submitted at Deadline 1).
NE-222	E37	In-combination	We note that it is not clear why SNS SAC summer area has been mentioned in the table title, while the table itself only refers to winter area. Also, the paragraph below refers to the seasonal threshold of 10% for winter area as relevant to this project given the location in the SNS SAC. Natural England notes that his happens in other tables too (see Table 3.43).	We request that clarification or correction is provided	The Applicant has noted the minor corrections required as per Natural England's comment. The table titles should only refer to the winter SNS SAC area and not the summer area. A list of minor corrections for the RIAA Part 3 **[APP-176**] are provided in Further Information Regarding Marine Mammals (Document Reference **9.14**, submitted at Deadline 1).
NE-223	E38	In-combination	Natural England advises that the submission of an In-Principle SIP offers the opportunity for developers to demonstrate to the ExA/Competent Authority that avoiding AEoI will be possible through appropriate management and mitigation but deferring the ultimate determination to the MMO in the pre-construction phase of the project. It is then anticipated that the SIP will be updated and finalised close to the time (at least 6 months before) of construction when the extent of noisy activities impacting the designated site in any given season is better known and therefore able to be assessed. This enables the MMO to review the impact of a much- refined, much	We strongly advise that the Applicant commits to specific mitigation measures at this stage, particularly the implementation of NAS, rather than relying on the SIP identifying the requirement for them. Taking this approach would minimise the risk of an Adverse Effect on Site Integrity as far as possible, with the outcome of the revised SIP determining pre-construction if the mitigation measures are still necessary or can be removed. We consider that relevant mitigation options are available to the Applicant and would be happy to engage further with them on the merits of this approach.	Based on the relevant projects' Maximum Design Parameters, the mitigation measures listed in the Outline Site Integrity Plan for the Southern North Sea Special Area of Conservation **[APP-243]** are sufficient to keep the in-combination assessment under the spatial thresholds. The Applicant acknowledges that there needs to be effective and appropriate mitigation measures in place and is committed to this requirement. All mitigation methods will be confirmed in the final SIP post-consent to ensure the SNS SAC thresholds are not exceeded. As the relevant licensing authority, the Examining Authority and the Secretary of State can have

Applicant s Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
			more realistic WCS and confirm that the applied for works will not result in an AEoI on the SNS SAC in-combination with other plans and projects. Whilst this approach carries risk and uncertainty for all parties, it has been accepted as the most pragmatic way forward at this time. Whilst recognising the potential utility of SIPs to manage in-combination noise impacts, Natural England is not confident that the current approach to SIP implementation will prevent impact thresholds for significant disturbance from being exceeded in the SNS SAC. Our concerns are as follows: The SIP approach inevitably defers detailed HRA questions to subsequent decisions. To be a robust approach going forward, it is essential that a comprehensive review be conducted by MMO once the revised piling SIP is submitted to ensure any potential AEoI of the SAC can be confidently ruled out. There have been instances recently where SIPs have been signed off contrary to Natural England's advice regarding uncertainty in the assessment conclusions. The final SIP may identify necessary mitigation measures at a time that final project design and financial investment decisions have already been made. As a result, certain mitigation options may no longer be feasible on financial or design grounds e.g. use of alternatives to impact piling; use of pin piles instead of monopiles; use of noise abatement systems; seasonal or other timing restrictions. In particular, feedback from developers is that by the time that revised SIPs are submitted to MMO for consideration, it is too late to procure NAS should they be required. The consequence of this is that piling for offshore wind developments can account for substantial parts of the daily and/or seasonal thresholds which SIPs operate to, which in turn may constrain the ability of subsequent projects to not exceed the thresholds. Other industries and activities typically have shorter lead-in times for their licences, meaning their applications are submitted closer to or during		confidence in the ability of the MMO to manage SIPs for multiple offshore wind projects.

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			the SNS SAC season (summer/winter) they will impact. This means that offshore wind piling SIPs may therefore be signed off in advance of up-to-date information on other projects that may act in-combination being available. An inaccurate revised in-combination assessment may lead to the need for mitigation not being identified at the time of the offshore wind piling SIP and a risk of AEoI being identified too late for appropriate mitigation to then be put in place. The management measures implemented through SIPs thus far have been limited to coordination measures to ensure that activities on a given day do not exceed the daily thresholds. This measure does not reduce the risk of exceeding the seasonal thresholds. Indeed, the seasonal threshold in the Southern North Sea SAC was almost exceeded in summer 2022 and 2023, and there have been considerable concern around 2024. The most robust measure to reduce the contribution to the seasonal disturbance is to reduce the impact to the SAC from the project; however, such measures have not yet been implemented through SIPs. Accordingly Natural England has low confidence in appropriate measures being secured to ensure the seasonal threshold is not exceeded. In any event, the number of offshore wind projects due to undertake piling in the SNS SAC from now to 2030 means that the disturbance impact thresholds are likely to be exceeded by offshore wind piling alone without further mitigation and management. Other industries or activities will only increase this risk, particularly given the aspirations for a range of developments in the southern North Sea (oil and gas, carbon capture and storage etc.).Given the concerns raised above, we strongly advise that the Applicant commits to specific mitigation measures at this stage, particularly the implementation of NAS, rather than relying on the SIP identifying the requirement for them. Taking this approach would minimise the risk of an AEoI as far as		

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			possible, with the outcome of the revised SIP determining pre- construction if the mitigation measures are still necessary or can be removed. We note that a wide range of potential mitigation measures have been considered within the Outline SIP and would be happy to engage further with the Applicant on the merits of this approach		
NE-224	E39	Assessment Conclusions	We note that Table 4.8 indicates that the average overlap with seasonal area of the SNS SAC is 15.14% for high order clearance thus the conclusion in paragraph 51 stating: "*The assessment indicates that for both high and low-order UXO clearance, less than 10% of the winter area of the SNS SAC would be affected.*" is incorrect.	We advise that the Applicant corrects the statement in the named paragraph and correctly present the outcome of the assessment for the high order clearance.	The Applicant maintains its position regarding the seasonal average assessment used in the RIAA. Table 4.8 in Section 4.3.2.1 RIAA Appendix 3.1 **[APP-177]** presents the seasonal average assessment, the seasonal average for high-order clearance is 0.33% as presented, therefore less than the threshold of 10%. In order to calculate the seasonal average, the spatial assessment figures were used which is what the 15.14% represents, which falls below the threshold of 20% for the spatial assessment. The value of 15.14% was gained for the spatial assessment based on the average spatial overlap, using the maximum and minimum spatial overlaps as presented in Table 4.7 **[APP-177]**.

2.8 Applicant's Comments – Appendix F – Offshore Ornithology

Applicants Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
		1. Natural England's Advice and Recommendations			
NE-225		1. Natural England's Advice and Recommendations	A summary of Natural England's key concerns in relation to Offshore Ornithology is set out in Table 1. Our detailed advice and recommendations are presented in further detail in Table 2. 1,1 Quality of Submissions Natural England would highlight that overall, the Applicant has submitted a comprehensive, clear, and well considered assessment of ornithological impacts at the proposed North Falls Offshore Wind Farm (OWF). While we consider there are significant risks to some sensitive species, our major concerns are well represented by the Applicant's submission.		The Applicant welcomes this feedback.

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			We welcome the consideration and incorporation of our advice supplied through the pre application process into the submitted assessment. Furthermore, the Applicant has generally followed Statutory Nature Conservation Body (SNCB) guidance, with any alternative approaches being clearly presented alongside. This has greatly aided our ability to review, and draw conclusions from, the assessment.		
		Table 1 Summary of Key Issues – Offshore Ornithology			
NE-226	F1		The Applicant has concluded that there will be no adverse effect on integrity (AEOI) for red-throated diver (RTD) at the Outer Thames Estuary Special Protection Area (OTE SPA). Natural England do not agree with this conclusion. We consider the key impact to be the disturbance and displacement of RTDs over an area of 108.7km2 (equivalent to 2.8% of the SPA area). We accept that the area of 'novel' impact is approximately 54.5km2 if areas of the SPA that are currently impacted by other OWFs are not considered. However, the Applicant does not appear to have calculated the proportion of this area over which impacts from North Falls OWF are likely to exceed those currently felt from more distant OWFs. Furthermore, Natural England highlight that in areas of the projects 12km buffer that are closer to other OWFs, displacement will not be total. Thus, it should be borne in mind that North Falls could also be exacerbating the level of existing impacts in these areas. Natural England conclude that AEOI cannot be ruled out for the project-alone. We also consider that the project clearly makes a meaningful contribution to the acknowledged AEOI when considered in-combination with other plans and projects.	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 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. We welcome the provision of a without-prejudice derogations case. 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.	As stated in the Habitats Regulations Derogation: Provision of Evidence [**APP-183**]**,** Section 5.4.3) and acknowledged elsewhere by Natural England, a 37% reduction to the North Falls array area has been made from the boundary at PEIR in response to stakeholder feedback, which has resulted in reduction in the potential displacement effect. The Applicant is considering Natural England's request regarding calculating the additional proportion of the potential disturbance area (see also NE-234). The Applicant maintains that there would be no adverse effect on the integrity of red-throated diver from the OTE SPA, as discussed in the RIAA Part 4 [**APP-178**], Section 4.4.1.4.
NE-227	F2		The Applicant has concluded that there will be no AEOI for kittiwake, guillemot, or razorbill at the Flamborough and Filey Coast SPA (FFC SPA) for the project alone or in-combination with other plans and projects. Natural England agree that the project-alone impacts arising for kittiwake,	Natural England welcome the provision of without-prejudice derogations cases for these species.	The Applicant welcomes this feedback from Natural England, while maintaining the position of no AEoI for project alone and in-combination for the listed SPAs and qualifying species for the reasons described in the RIAA Part 4 Offshore Ornithology Birds Directive Annex 1 and Migratory Species **[APP-178]**.

Applicants Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
			guillemot and razorbill are relatively small. Nonetheless, we consider that in each case, AEOI in-combination cannot be ruled out.		
NE-228	F3		The Applicant has not carried out an in-combination assessment for guillemot for the Farne Islands SPA. Natural England has advised Marine Scotland that adverse effects on the Farne Islands SPA could not be ruled out at Berwick Bank OWF due to impacts on guillemot from that project alone, and other consented/proposed projects could also impact the site. Therefore, there is the potential for effects from North Falls to combine with those from Berwick Bank and other North Sea projects. This should be properly considered, rather than assuming the contribution is not material.	The Applicant should carry out a full in-combination assessment of impacts for guillemot at the Farne Islands SPA, to allow Natural England to advise further regarding the risks of adverse effects in-combination.	A full in combination assessment for guillemot at the Farne Islands SPA is provided at Deadline 1 (Document Reference 9.13). See also response to NE 226 [F26] below.
NE-229	F4		The proposed cable route partially falls within the OTE SPA. The timing of cable installation has not been confirmed, but due to the disturbance risk to RTDs posed by vessel movements Natural England consider that mitigation by seasonal restriction is appropriate.	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.	The Applicant considers 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 Export Cable corridor. See also NE32, NE216, and NE235.
		Table 2 Natural England's Detailed Advice and Recommendations – Offshore Ornithology			
		Project Parameters - Document(s) Used: [APP-027] 3.1.15 Chapter 13 Offshore Ornithology			
NE-230	F5	Project Description	Natural England are satisfied that the project description is adequate for assessing ornithological impacts		The Applicant welcomes this comment.
NE-231	F6	Natural England's Position on Worst Case Scenario or Scenarios	The worst-case scenario (WCS) for disturbance and displacement from construction activities details 2 cable laying vessels operating simultaneously. It is not clear if those vessels will also have guard vessels in attendance. Furthermore, the period of installation for offshore cables is given as 6 months, but the timing of installation activities with respect to a WCS is not detailed.	If guard vessels are required, please detail how many, operating distance from the cable laying vessels, etc. If guard vessels are present, the area of potential displacement impact around cable laying will be greater than that estimated from the cable laying vessel alone and therefore the assessment may need updating.	The WCS for installation of cables would be during the winter period that RTDs are present, which is assessed in ES Chapter 13 [**APP-027**] and RIAA Part 4 [**APP-178**]. The 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

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					considered that the use of a 2km buffer for displacement is sufficient and the assessment does not require updating.
NE-232	F7	Natural England's Position on Worst Case Scenario or Scenarios	An average of 3 vessel trips per day are predicted over the two-year construction period. It is stated that up to 35 vessels could be operating at any one time. Assuming that many of these vessels could be smaller support vessels, the daily number of trips to port appears to be low.	An updated assessment should clarify the expected number of vessels that require daily mobilisation to the construction site from a local port. Similar should also be provided for Operation and Maintenance activities	The assessment is based on 1,266 vessel round trips per year, with the average provided to put this into context. From the Applicant's experience this value is appropriate.
		Baseline Characterisation - Document(s) Used: • ES Chapter 13 Offshore Ornithology (Document Reference 3.1.15) • ES Appendix 13.2 (Document Reference: 3.3.13)			
NE-233	F8	Survey Data Acquisition	Natural England are satisfied that appropriate baseline data has been gathered for the purposes of ornithological impact assessment.	N/A	The Applicant welcomes this comment.
NE-234	F9	Analysis, Modelling and Reporting	Following pre-application engagement through the Evidence Plan Process (EPP), Natural England are content that the baseline has been appropriately characterised.	N/A	The Applicant welcomes this comment.
		Environmental Impact Assessment - Document Used: • [APP-027] 3.1.15 Chapter 13 Offshore Ornithology • [APP-020] 3.1.8 Chapter 6 EIA Methodology • [APP-103] 3.3.13 Appendix 13.2 Offshore Ornithology Technical Report • [APP-104] 3.3.14 Appendix 13.3 Supplementary Information for the Offshore Ornithology Cumulative Effects Assessment • [APP- 245] 7.10 Offshore In-Principle Monitoring Plan			
NE-235	F10	Identified impacts	Natural England consider that the Applicant has identified the key pressures, impacts, and receptors. We note that the potential for UXO clearance along the cable route has not been identified as a potential source of disturbance and displacement impact for RTD.	Natural England advise that UXO clearance at the OTE SPA should not be undertaken in the sensitive over-winter period for RTD. A suitable buffer should be considered of at least 2km to account for vessel impacts. However, it is unclear if this buffer is sufficient for any potential impacts from noise. This impact pathway should be investigated.	The Applicant welcomes the feedback from Natural England that key pressures, impacts and receptors have been identified. UXO clearance will be subject to a separate marine licence which will be submitted post-consent, once further information on the locations and extent of UXO required to be cleared is known. This application will also secure relevant mitigation. UXO clearance may be required in winter as it could have potential safety implications to have to delay clearance operations.
NE-236	F11	Methodology	In March 2024, Natural England supplied all Round 4 and extension projects interim guidance on Environmental Impact Assessment (EIA) reference populations and average mortality rates. We note that the Applicant has not adopted these populations (in cases where the guidance updated them) as "the underpinning calculations for the	While Natural England note that some of the reference populations and mortality rates do not align with our latest (interim) guidance, in this specific case we do not consider that updating the assessment would make any material difference to the outcomes. Thus, we are content with the assessments as presented.	The Applicant welcomes this comment.

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			assessment had been completed prior to receiving them." Natural England welcome consideration of the impact that updated populations would have on the outcomes presented. We agree that calculated increases in baseline mortality would either remain the same or decrease.		
NE-237	F12	Methodology	The Applicant has used an arbitrary "very low (<2 birds per annum)" estimate of mean annual collision risk to scope black-headed gull, common gull, common tern, herring gull, little gull, and Sandwich tern out of further assessment. Natural England agree that it is appropriate to consider the estimated project-alone impact before progressing (or not) to a cumulative effects assessment. However, we do not agree that all project alone impacts of <2 birds can be screened out of further assessment. The scale of these impacts should also be considered in light of any existing significant cumulative impacts and AEOI judgements and the potential for any material contribution.	We advise that the Applicant needs to fully justify screening these species out of further assessment. Furthermore, they should consider existing adverse effect rulings and significant impacts, in addition to the potential to contribute to existing impacts. Further assessment may be required if a material contribution to existing impacts is possible.	The predicted collision impacts at North Falls for the species referred to by Natural England have been reviewed in the context of Natural England's final offshore advice for EIA scale impacts for SEP/DEP OWF (Natural England 2023). For black-headed gull, common gull, common tern, herring gull and Sandwich tern, the worst-case scenario mean predicted collision risk at North Falls is less than one bird per annum (ES Chapter 13 [**APP-027**] Table 13.36). For SEP/DEP, Natural England (2023) has advised no significant adverse impact at an EIA scale for herring gull and Sandwich tern. On this basis there would be no contribution to any existing adverse cumulative effect and therefore no requirement for assessment at North Falls. Natural England (2023) does not list black-headed gull and common tern under effects at an EIA scale, and it is understood that there are no concerns about potential adverse impacts at this scale for either species. The predicted collision risk for little gull at North Falls is a mean of 1.5 individuals per annum (ES Chapter 13 [**APP-027**]) Table 13.36). Natural England (2023) does not list little gull under effects at an EIA scale, and it is understood that there are also no concerns about potential adverse impacts at this scale for either species. Therefore, it is considered that there is no potential for a material contribution to any existing cumulative effect and no AEOI for any of the species scoped out for collision risk, and that no further assessment is necessary.

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NE-238	F13	Methodology	The Applicant has not considered information made available after March 2024 in their cumulative effects assessment (CEA). Consequently, the CEA does not include more recent impact estimates (e.g. Five Estuaries, Dogger Bank South, Outer Dowsing OWF projects) which have been updated following their PEIRs.	The cumulative effects assessment should be updated to reflect the latest impact estimates from the Five Estuaries, Dogger Bank South, and Outer Dowsing projects. In order to minimise the number of iterations of the in-combination assessments, we recommend the Applicant collaborate with the above developers to agree how updated impact values (based on SNCB advice) can be efficiently incorporated into each other's assessments as the Examinations of all four projects progress.	Cumulative and in combination values are being updated to reflect the latest publicly available information for Five Estuaries, Dogger Bank South, and Outer Dowsing projects. It is expected that these will be submitted at Deadline 3. Where practicable, the Applicant will collaborate with these developers, however it is noted that values not yet in the public domain may be subject to change.
NE-239	F14	Methodology	The Applicant appears to have misunderstood the requirements and aims of the Hornsea Project Four (HP4) compensation for predicted guillemot displacement mortality, stating, *"The aim of the compensation is to reduce the net effect of an OWF on displacement mortality of guillemot to zero."* Natural England highlight that Hornsea Project Four aims to compensate for the predicted mortality of guillemots **apportioned to the FFC SPA** only. Thus, even if successful, the compensatory measure would not address the total displacement impact arising at an EIA scale.v	Natural England note that the Applicant has retained impacts arising at Hornsea Project Four within the CEA, and we agree that this is appropriate. The text should be updated to clarify the requirements of compensatory measures stipulated by Secretary of State (SoS) under the Habs Regs. Natural England further highlight that we consider the prospects of success for compensatory measures for guillemot impacts at Hornsea Project Four remain highly uncertain. Thus, we advise that all cumulative and in-combination assessments continue to include the impacts arising, i.e., they should not be considered 'compensated' and set to zero. We are content that the Applicant supplies such assessments both with and without 'compensated impacts' and consider this approach provides useful context and is appropriate.	The distinction that Natural England has made with respect to the compensatory measures for guillemot at HP4 – i.e. that the compensation relates to predicted displacement mortality of the species apportioned to the FFC SPA only, rather than all predicted displacement mortality from HP4, is noted and agreed. However, as stated in the ES chapter ([**APP 027**], para 421) on a precautionary basis no reduction to the CEA total for guillemot has been applied in relation to the HP4 compensation. It is however noted that, even though the compensation for HP4 aims to offset the predicted mortality from the FFC SPA only, this would also benefit the EIA scale population (as Natural England has acknowledged for lesser black-backed gull, NE220 below). The Applicant therefore considers no updates are required.
NE-240	F15	Have the impacts been avoided/reduced by the use of appropriate mitigation?	In their in-principle monitoring plan (IPMP) the Applicant proposes to "Install collision risk monitoring system as agreed through consultation with the relevant SNCBs."	Natural England highlight our strong support for the proposal to install a collision risk monitoring system. We agree that this could and should be optimised by alignment or collaboration with other projects, and welcome future engagement on the matter.	The Applicant welcomes this response and will consult Natural England post consent regarding the ornithological monitoring, in accordance with the IPMP [**APP-245**].
NE-241	F16	Have the impacts been avoided/reduced by the use	The proposed cable route partially falls within the OTE SPA. Due to the disturbance risk posed by vessel movements Natural England strongly recommends all vessel activity within the SPA +2km buffer be undertaken outside the seasonal	In addition to best practice vessel protocols, commit to undertaking cable installation and operation and maintenance activities in the OTE	The Applicant considers 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

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		of appropriate mitigation?	restricted period during the Construction and Decommissioning (C&D) of the export cable (EC) and follow Natural England best practice guidelines on vessel movements during all other phases of the development for both the EC and array.	SPA +2km buffer outside of the sensitive period of November-March inclusive for wintering RTD.	the RIAA that there would be no AEoI from construction works in the offshore cable corridor (7.1.4, section 4.4.1.4.3.2). During the O&M period it is also considered that a seasonal restriction on works within the SPA and a 2km buffer is not merited. However, at this time a Protocol for Reducing Disturbance to RTD will apply to vessels operating during the core winter period (1 November to 1 March) as set out in the Outline Project Environmental Management Plan (7.6, section 7.5 and Appendix B, [**APP-241**]). See also responses to NE-32, NE-204, NE-216, NE-235.
NE-242	F17	Have the impacts been avoided/reduced by the use of appropriate mitigation?	The Applicant concludes effect significance for guillemot, razorbill, RTD, and gannet is minor adverse (not significant in EIA terms). **Natural England do not agree with these conclusions.**	Natural England has already identified significant adverse impacts at the EIA scale to gannet, kittiwake, great black-backed gull, guillemot, razorbill, and RTD from OWF in the North Sea, irrespective of the contribution of North Falls to the cumulative impact totals. This position is detailed in the EIA section of our final offshore ornithology advice into the SADEP Examination EN010109-002129-Natural England - Other-EN010109 441148 SEP DEP Appendix B3 - Natural England's Offshore Ornithology Position (Revision 2) Deadline 8.pdf (planninginspectorate.gov.uk) We consider that the project will make an additional contribution to those impacts. We advise that every effort is made to mitigate these impacts.	The Applicant maintains the position presented in ES Chapter 13 [**APP-027**] regarding minor adverse significance for guillemot, razorbill, RTD, and gannet. The Applicant notes that it is unclear from the Secretary of State's decision on Dudgeon and Sheringham Extension Projects, whether there was agreement with Natural England's position regarding the effects on these species for the EIA. As stated in the ES chapter **([APP-027], ** Table 13.2) and acknowledged elsewhere by Natural England, a reduction to the North Falls array area boundary has been made from the boundary at PEIR, which has resulted in a reduction in displacement impacts. Mitigation for collision risk is already built into the Project design: • An air gap of 27m above MHWS, 5m above the minimum of 22m (ES Chapter [**APP-027**], Table 13.2). While it is acknowledged that other OWF projects have set higher air gaps, as stated in the Habitats Regulations Derogation: Provision of Evidence ([**APP-183**], Section 5.51), increasing the air gap beyond 27m would limit the number of available vessels for turbine installation. Given the number of wind farms that are expected to be constructing in the late 2020s, there will be high competition for installation vessels and therefore an increase in turbine height, whilst maintaining the Project programme, is unfeasible. • Following Section 42 feedback the Applicant reduced the number of turbines from 72 to 57 of the smallest turbines in the design envelope (or from 40 to 34 of the largest turbines). Further information on the Assessment of Alternative Solutions to mitigate collision risk is described in Section 5
NE-243	F18	Have the impacts been avoided/reduced by the use of appropriate mitigation?	The Applicant concludes that the predicted cumulative impact on great black-backed gull (GBBG) is potentially significant in EIA terms.	Natural England agree with the Applicant's conclusion. We question whether further increases in the air gap might be possible to further mitigate this impact by reducing collision risk and recommend that the Applicant presents information to demonstrate that an increase is not possible from an engineering perspective.	
NE-244	F19	Have the impacts been avoided/reduc	The Applicant concludes that the predicted cumulative impact on kittiwake is potentially significant in EIA terms	As per F17 above.	

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		ed by the use of appropriate mitigation?			of the Habitats Regulations Derogation: Provision of Evidence [**APP-183**].
NE-245	F20	Have the impacts been avoided/reduced by the use of appropriate mitigation?	The Applicant concludes that the predicted cumulative impact on lesser black-backed gull (LBBG) is potentially significant in EIA terms.	Natural England consider that this conclusion further supports the need to investigate any additional mitigation that could be implemented to reduce collision risk impacts. We note that compensatory measures to address impacts to this species at the AOE SPA will also benefit the EIA scale population.	Response in relation to mitigation as above. The Applicant welcomes the acknowledgement from Natural England that compensatory measures at the AOE SPA will also benefit the EIA scale population of LBBG.
		HRA - Documents Used: • [APP-173] 7.1.1 Report to Inform Appropriate Assessment Part 1 Introduction (Document Reference 7.1.1) • [APP-174] 7.1.1.1 Report to Inform Appropriate Assessment Appendix 1.1 Habitats Regulations Assessment Screening • [APP-178] 7.1.4 Report to Inform Appropriate Assessment Part 4 Offshore Ornithology (Birds Directive Annex 1 and Migratory Species) • [APP-179] 7.1.4.1 Report to Inform Appropriate Assessment Appendix 4.1 Modelling the abundance of red-throated divers in the area of overlap between North Falls digital aerial surveys (12km buffer) and the Outer Thames Estuary Special Protection Area • [APP-180] 7.1.4.2 Report to Inform Appropriate Assessment Appendix 4.2 Population Viability Analysis			
NE-246	F21	Screening	Natural England are content that the relevant sites and features have been screened into the Habitats Regulations Assessment (HRA)	N/A	The Applicant welcomes this comment.
NE-247	F22	Screening	The Applicant continues to advocate for the consideration of an 'effective displacement area' (EDA) and argues that "*using the percentage of the SPA affected by any displacement impacts takes no account of the diminishing scale of the potential effect and leads to a potentially misleading overestimate of the scale of the predicted effect."* Natural England agree that some consideration of the diminishing displacement effect with distance from an array is appropriate. However, we do not believe the EDA is an appropriate way to quantify this. We maintain that with respect to the relevant Supplementary Advice on Conservation Objectives (SACO) attribute ('Maintain the extent, distribution, and availability of suitable habitat...') the entire area of effect must be considered as impacted. Ultimately, the conservation objective is being contravened wherever displacement impacts may occur, regardless of the proportion of birds displaced. Thus, Natural England do not agree that using the total area to assess potential	Natural England welcome the provision of 'uncorrected' data alongside the EDA calculations. We confirm that we will base our advice on the scale of impact according to the total area over which displacement impacts are expected and will not consider the EDA when drawing conclusions or making integrity judgements.	The Applicant notes the response and will continue to provide total (uncorrected) displacement area and EDA for RTD in any future updates. See also comments NE223, NE234, NE236.

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			displacement impacts in any way overstates the scale of the impact.		
NE-248	F23	Screening	The Applicant states, "*The area of the SPA where displacement effects would be predicted for North Falls alone (i.e. excluding those areas already within the 12km buffers of operational OWFs) is 54.5 km2, equivalent to 1.4% of the SPA area."* The Applicant also describes the high levels of shipping activity within the area of overlap between the 12km buffer and OTE SPA. Natural England agree that two major shipping lanes run through this area and will impact RTD distribution. However, we note that the 'vessels per day' presented refer to a 10nm buffer around the entire North Falls project area (as detailed in ES Appendix 15.1, Document Reference: 3.3.16) and do not appear directly relevant to this specific characterisation of shipping traffic. Furthermore, we note the Applicant's position (para 117) that shipping lanes should be treated as part of the baseline condition of the SPA. As such, and in light of the (now potentially greater) impacts not being assessed in-combination, it is not clear why the shipping lane should be considered to diminish the quality of the habitat in this area (for the purposes of impact assessment), as clearly, RTDs are still present, and indeed were present at sufficient density for this area of the SPA to be classified for their protection. We highlight that beyond the coastal fringe the entire SPA area is included within the bounds of the SPA boundary as the relative density of RTDs present suggest these areas are the 'most suitable territories' for this species. We acknowledge that the area is also subject to disturbance and displacement impacts from high levels of vessel movements, as indeed, is much of the SPA. Nonetheless, as the Applicant's baseline survey data confirms, RTDs are present in the area. 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	Natural England confirm that we consider the 'novel' area that the project will impact through disturbance and displacement to be 54.5 km^2, constituting 1.4% of the SPA area. **We consider this has the potential to result in an AEOI for the project alone.** This would be in clear contravention of the SACO targets to "***reduce*** *the frequency, duration and / or intensity of disturbance affecting roosting, foraging, feeding, moulting and/or loafing birds"* 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)."* Natural England recommend that every effort must be made to effectively mitigate and compensate for this impact. To demonstrate that the mitigation hierarchy has been exhausted, we consider that the Applicant should demonstrate to the Examination that no further reduction in impact is possible whilst retaining a viable project.	The shipping AIS data shown in Figure 4.2 of the RIAA Part 4 [**APP-178**] indicate high density traffic (with reference to the colour coding, >700 vessels per year and in places up to c.2000 vessels per year; equivalent to 1.9 – 5.5 vessels per day) in two parallel shipping lanes running north to south to the west of the North Falls array area, the eastern lane running between the SPA boundary and the North Falls array area, and the western one through the SPA. While it is acknowledged that the vessels per day recorded during the North Falls shipping surveys relates to a wider area, heat maps of the vessel data show high density areas in the same two shipping lanes (ES Appendix 15.1 [**APP-106 to 108**], Figures 10-2 and 10-4). Given that these shipping lanes were in place when the OTE SPA was designated, they are considered to be part of the baseline conditions. Maps of RTD density from surveys to determine the SPA boundary (O'Brien et al. 2012) and SPA surveys in 2013 and 2018 (APEM 2013, Irwin et al. 2019), show lower densities in the vicinity of the shipping lanes, compared with other areas of the SPA. Considering shipping in general (including these two particular shipping lanes) to be a factor in the baseline RTD distribution on which the SPA boundary was determined, does not negate the fact that these shipping lanes represent specific sources of disturbance to RTD within the SPA and outside but close to the SPA boundary that are within the 12km buffer of North Falls and closer to the SPA that North Falls. As stated in ES Chapter 13 Offshore Ornithology ([**APP 0-27**], Table 13.2) and acknowledged elsewhere by Natural England, a reduction to the North Falls array area boundary has been made from the boundary at PEIR, which has resulted in some reduction in displacement impacts. Further reduction of the array area boundary is not feasible to retain a viable project.

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			resettlement of habitat between vessel movements.		
NE-249	F24	Screening	Natural England note that the AOE SPA population of LBBG has been calculated as the mean of all counts in years where both Havergate Island and Orford Ness data were counted. The data considered spans 2014-23 inclusive. The Applicant's population of 1880 AON is larger than that used by the Five Estuaries (VE) OWF assessment of 1749 AON. This smaller count was derived by summing the latest counts from Orford Ness (2022) and Havergate (2023). The Orford Ness count was taken from the 'Annual Report for the LBBG Galloper s106 Project – 2022'. We note that the Seabirds Count (Burnell *et al*, 2023) reported a population count of 1767 for AOE SPA which considered data from 2015-21. The Seabirds Count population is also smaller than the Applicant's proposed population for assessment. We highlight that assessing impacts against a larger population could lead to an underestimation of impact scale.	Natural England advise that the most recent (reliable) count data that aligns with the Applicant's baseline survey should be used to calculate baseline mortality for impact assessment. We also advise that as VE and North Falls will be in Examination concurrently, the same breeding population of lesser black-backed gull at AOE SPA should be considered by both assessments. We advise that the population count used by Five Estuaries OWF considers the best available contemporary data and is, therefore, the most appropriate count. The Applicant should therefore use the same count in an updated impact assessment.	The Applicant accepts the position of Natural England on the population estimate for LBBG at the AOE SPA. It is noted however that the difference between the population estimate used by North Falls in the RIAA Part 4 [**APP-178**] (1880 AON) and that by VE (1749) is relatively small and would not change the conclusion of the North Falls RIAA of no AEoI for the project alone, but that an in combination AEoI cannot be ruled out. Updated calculations of the predicted change in baseline mortality rate of the LBBG breeding population due to collisions at North Falls are provided in the Updated apportioning for LBBG at the Alde Ore Estuary submitted at Deadline 1 [doc ref **9.15**] (see also NE225 below).
NE-250	F25	Screening	Natural England note that the Applicant has used population counts from 2012 to align AOE SPA counts with the concurrent urban colony counts reported by Piotrowski (2013). In the pre-application period, Natural England requested that the North Falls apportioning should be aligned with VE OWF. We note that while the underlying methodology applied is the same for both projects, the colonies and their populations under consideration are not. Given their proximity and similar application stages, Natural England continues to advise that North Falls and VE apportioning approaches should be aligned.	Natural England note that a more precautionary approach to apportioning has been presented by the Applicant compared to that of VE OWF. However, we advise that using historic population counts that do not align with the baseline data collection does not follow best practice guidance. We continue to advise that VE OWF and NF OWF should collaborate and align their approaches to apportioning where appropriate. We anticipate that should this take place, the estimated project-alone impacts to lesser black-backed gull at AOE SPA from North Falls should be reduced.	It is acknowledged that population counts from 2012 were used for the apportioning presented in the RIAA Part 4 ([**APP-178**], Table 4.3.1), and for this reason the apportioning calculations also used population estimates from the SPA for the same year. Post-submission, a review of the data presented by VE OWF in their LBBG apportioning for the AOE SPA has been undertaken. The North Falls apportioning for LBBG has been revised to align the colonies considered with VE, and also to take on board Natural England's advice on the SPA population size (NE224 above; see also NE35). This is provided in the Updated apportioning for LBBG at the Alde Ore Estuary submitted at Deadline 1 [doc ref **9.15**].
NE-251	F26	Screening	The Applicant has ruled out the potential for in-combination displacement effects for Guillemot at the Farne Islands SPA on the basis that at displacement rates of 50% and mortality rates of 1%, increases in baseline mortality are less than 0.1%.	All displacement assessments should consider a range of impact scenarios. For razorbill and guillemot, we request that impacts at 70% displacement and 2% mortality are presented but highlight that, ideally, full matrices would be included in the submitted documents (this could	An in combination assessment for guillemot at the Farne Islands is provided in at Deadline 1 [doc ref **9.13**] (see also NE-203 above). This includes full matrices for displacement and mortality scenarios.

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			Impacts at 70% displacement and 10% mortality are also presented. Natural England consider that, in the absence of a full displacement matrix, presentation of 2% rather than 10% mortality at 70% displacement as the worst-case scenario would be more useful. For in-combination assessments, this would be consistent with recent advice given to SADEP OWF (ref PINS EN010109) where we advised 70%/2% for all projects other than Hornsea 4 where we advised 70%/5%. It also recognises that SoS will likely base their conclusions on this scenario across all projects and so it would be advantageous to present in both the project alone and in-combination assessments. Natural England advised Marine Scotland that adverse effects on the Farne Islands SPA from Berwick Bank OWF could not be ruled out due to impacts on guillemot from that project alone, and other consented /proposed projects could also impact the site. Therefore, we advise that there is the potential for effects from North Falls to combine with those from Berwick Bank and other North Sea projects, and this should be properly considered by the Applicant, rather than just assuming the contribution is not material.	be in an appendix) for all displacement assessments. A full in-combination assessment of impacts should be presented for guillemot for the Farne Islands SPA. Natural England should be consulted on the results of this assessment, at which point we can advise on whether AEOI can be excluded. We advise that Nature Scot, as the relevant SNCB, are consulted on predicted impacts to Scottish SPAs and the potential for contribution to existing impacts in light of AEOI judgements.	
NE-252	F27	Screening	Most parameters for the Population Viability Analysis (PVA) modelling are as we would expect, however, there are three input parameters that do not follow Natural England guidance. 1. Years for burn-in is 4, not 5. 2. Impacts have been applied separately for immatures, we advise that this option is not selected. 3. Random seeds have been matched for impact scenarios. However, standard errors of impacts are not available. In this case, random seeds should **not** be <u>matched for impact scenarios.</u>	Natural England do not anticipate that the results of PVA would be materially different due to these variations in input parameters. However, we advise that a 5- year burn-in period is adopted, random seeds are not matched, and impacts are not applied separately to immatures if any further PVA modelling is undertaken.	Natural England's comments are noted. These have been applied in the Shadow appropriate assessment for Guillemot at the Farne Islands SPA [document reference **9.13**] in combination assessment and will be applied if any further PVA is required to be carried out.
NE-253	F28	In-combination	The results presented in Table 4.23 for the scenarios relating to Tier 1-5 appear to be assigned to the wrong scenario. When effects from OWFs with compensation are excluded,	We advise that table 4.23 should be checked and amended, as needed	It is noted that there is an error in Table 4.23 and the scenario descriptions are given the wrong way around for in combination Tier 1-5. However, the PVA results are

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			the predicted adult mortality should decrease (as for the Tier 1-3 scenarios.		described correctly in the text, so this does not affect the conclusion of the shadow in combination assessment.
NE-254	F29	In-combination	Natural England welcome the quantitative in-combination assessment of RTD mortality arising from OWF displacement. Natural England consider that the in-combination assessment highlights the potential for significant impacts on the RTD population from existing OWF developments, which could contravene the conservation objective to "maintain the size of the non-breeding population." We note that levels of mortality are predicted to be of a scale (i.e., >1% increases in baseline mortality) that would normally warrant further investigation (e.g. by PVA) even under non-precautionary scenarios. However, we do agree with the Applicant's caveats surrounding the methods used and consider that these predictions are subject to high levels of uncertainty. Furthermore, we note the relatively modest contribution to the in-combination mortality totals from the North Falls project. Nevertheless, Natural England consider that the in-combination assessment does highlight the risk of population level impacts arising from displacement mortality.	As the non-breeding RTD population at the OTE SPA is drawn from a biogeographic scale breeding population, we do not recommend further investigation of the impact by PVA. While the impacts to habitat availability and feature distribution remain our primary concern for RTD in the OTE SPA (in relation to the North Falls project and more generally), we consider that the potential scale of mortality estimated adds weight to the requirement for the project to deliver effective compensatory measures.	Natural England's comments are noted regarding PVA not being required. The Applicant maintains its position regarding there being no AEOI on RTD at the OTE SPA from North Falls alone or in-combination.
NE-255	F30	In-combination	Natural England note that the LBBG in-combination collision totals under consideration by the Applicant do not align with those presented by Five Estuaries OWF. It appears that much, but not all, of this discrepancy is accounted for by the now updated (smaller) North Falls impact which was not reflected in the Five Estuaries submission.	Natural England continue to advise that the North Falls and Five Estuaries projects should both be considering the same 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.	North Falls and Five Estuaries have made use of the same data for in combination impacts on LBBG, i.e. data available from the ESs of OWFs included in the in combination assessment, subject to any updates that have been made during DCO examinations or equivalent, or post consent. In addition to the revision to the North Falls apportioning [**doc ref 9.15**], the small discrepancies that have arisen may reflect adjustments to predicted collision numbers at other OWFs to take account of changes to SNCB advice on avoidance rates.
NE-256	F31	In-combination	In the SADEP Examination, Natural England could not rule out AEOI for guillemot at FFC SPA from an estimated an in-combination annual mortality of 1,498 guillemot based on 70% displacement and 2% mortality, resulting in a reduction in population growth rate of 1.4%. Under the same parameters, the Applicant estimates an in-combination mortality of 1,172	It would be useful to fully understand the differences in the in-combination assessment (and PVA) the Applicant presents compared to that from which SoS concluded that AEOI could not be ruled out in combination for guillemot at FFC SPA in the SADEP consent decision.	The in combination assessment for guillemot at the FFC SPA and PVA will be checked against that for SADEP and revised if appropriate. As stated in the Applicant's Response to Procedural Decisions (Document Reference 8.3 [AS-042]) an update will be provided at Deadline 3.

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			guillemot which results in a 0.5% reduction in population growth rate.		
NE-257	F32	In-combination	In the SADEP Examination, Natural England could not rule out AEOI for razorbill at FFC SPA. As similarly noted for guillemot, despite considering very similar in-combination data, the Applicants PVA has resulted in a significantly lower reduction in growth rate than that calculated by SADEP	It would be useful to fully understand the differences in the in-combination assessment (and PVA) the Applicant presents compared to that from which Natural England previously concluded that AEOI could not be ruled out in combination for razorbill at FFC SPA in the SADEP consent decision.	The in combination assessment for razorbill at the FFC SPA and PVA will be checked against that for SADEP and revised if appropriate. As stated in the Applicant's Response to Procedural Decisions (Document Reference 8.3 [AS-042]) an update will be provided at Deadline 3, It is noted however that in consenting SADEP the Secretary of State who is the final decision maker concluded there was no AEOI on razorbill at the FFC SPA.
NE-258	F33	Further Receptor Points	The Applicant suggests that the lack of evidence for RTDs suffering mass mortality events during seabird wrecks may suggest they are less energetically constrained during the non-breeding season than other seabird species (e.g., auks). While it is true that RTDs do not appear to suffer in such wrecks, Natural England do not believe the evidence supports this extrapolation. We would highlight that RTDs tend to winter in more sheltered coastal waters where they are less exposed to major storm events. It is also relevant that populations of wintering RTDs are much smaller than, e.g., guillemot. Thus, much lower numbers of wrecked birds would be expected even if they were similarly exposed. Furthermore, we highlight that RTDs are much more constrained by habitat than seabird species typically involved in wrecks, as they require shallow water. Therefore, regardless of energetic constraint, developments that reduce the suitability of already limited areas of preferred RTD habitat are problematic. As birds become increasingly constrained, increased competition with other divers is likely to occur.	Natural England welcome the inclusion of our pre-application comments on the evidence base with respect to RTD and disturbance and displacement impacts in the submitted documents, both within the main text, and in Tables 4.1 and 4.2. For clarity, we have not commented on our positions on the interpretation of evidence where the Applicant has presented them. We have only made comments relating to additional information or interpretation that was not included within the PEIR, and so our views were not captured in the submitted documents.	The Applicant acknowledges Natural England's comments on this point, but note that to date, despite considerable shipping activity and several offshore wind farms in and around the OTE SPA, there is no evidence this has had any detrimental effect on the numbers of RTDs wintering in the SPA.
NE-259	F34	Further Receptor Points	The Applicant presents the total area of overlap between the OTE SPA and a 12km buffer from North Falls OWF. The resulting overlap encompasses 108.7km^2 (2.4%) of the SPA area. The Applicant then excludes those areas already within the 12km buffers of operational OWFs to calculate the area that North Falls alone will impact the SPA. The resulting 'newly impacted' area is 54.5km^2, equivalent to 1.4% of the SPA. Natural England consider that this is an appropriate calculation to contextualise the	Natural England request that the area of 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) is 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.	The Applicant is considering Natural England's request.

Applicants Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
			project impacts. However, we also advise that further investigation of the area of overlap with existing OWF 12km buffers is required to understand the potential nature of additional impacts across this area.	Area where impacts may be exacerbated.	
NE-260	F35	Have the impacts been avoided/reduced by the use of appropriate mitigation?	Natural England welcome the proposed mitigation measures to reduce impacts on offshore ornithology. The reduction in the (remaining) southern array area increases the distance from the OTE SPA, which is particularly welcomed. While this may still fall short of providing a buffer to the OTE SPA that could mitigate disturbance and displacement impacts to RTD entirely, we recognise that complete avoidance of impacts will be challenging, given the partial constraints of the project's developable area. Natural England highlight the following areas for consideration with respect to further appropriate mitigation. • Offshore cable installation and operation and maintenance within the OTE SPA and a 2km buffer should not take place within the sensitive over wintering period (November-March inclusive) for RTD. • With respect to a minimum air gap of 27m above MHWS Natural England again highlight that any increases to this air gap will reduce collision impacts.	Natural England continue to advise that the mitigation hierarchy is followed until demonstrably exhausted, and that all options to mitigate impacts are employed prior to the reliance on compensatory measures. Any further reduction in the distance of the array from the OTE SPA would be most beneficial and any opportunity to do so should be fully explored. We advise that installation of the export cable and O&M 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	As stated in the Habitats Regulations Derogation: Provision of Evidence **([APP-183],** Section 5.4.3) and acknowledged elsewhere by Natural England, a 37% reduction to the North Falls array area has been made from the boundary at PEIR in response to stakeholder feedback, which has resulted in reduction in the potential displacement effect. The Applicant considers 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 [**APP-178**] (section 4.4.1.4.3.2) that there would be no AEoI from construction works in the offshore cable corridor. During the O&M period it is also considered that a seasonal restriction on works within the SPA and a 2km buffer is not merited. However, at this time a Protocol for Reducing Disturbance to RTD will apply to vessels operating during the core winter period (1 November to 1 March) as set out in the Outline Project Environmental Management Plan **(**[**APP-241**]**,** section 7.5 and Appendix B). Mitigation for collision risk is already built into the Project design, with an air gap of 27m above MHWS, 5m above the minimum of 22m (ES Chapter 13 [**APP-027**], Table 13.2). While it is acknowledged that other OWF projects have set higher air gaps, as stated in the Habitats Regulations Derogation: Provision of Evidence ([**APP-183**], Section 5.51), increasing the air gap beyond 27m would limit the number of available vessels for turbine installation. Given the number of wind farms that are expected to be constructing in the late 2020s, there will be high competition for installation vessels and therefore an increase in turbine height, whilst maintaining the Project programme, is unfeasible.
NE-261	F36	Assessment Conclusions	The Applicant concludes that "*North Falls would not contribute significantly to the existing sources of disturbance / displacement for RTDs in the area of overlap between the 12km buffer and the OTE SPA, and that a Project alone effect on*	Natural England advise that AEOI cannot be ruled out beyond reasonable scientific doubt for the project alone with reference to disturbance and displacement impacts on RTD. This would be felt across 54.5km^2 of the OTE SPA area currently not subject to impacts from other OWF	The Applicant welcomes the statement from Natural England that project-alone effects on the OTE SPA population size are not likely to be significant. The Applicant also maintains that North Falls would make no material contribution to the in-combination effect on the integrity of

Applicants Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
			the distribution of the species within the SPA can be excluded, as well as a Project alone effect on the SPA population size. Natural England do not agree with this conclusion.	(as confirmed by the Applicant's assessment). We consider this additional impact to be significant. 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)."* Natural England agree that the project-alone impacts on the SPA population size are not likely to be significant and highlight that it is the reduction in the amount of habitat available to RTD that are our primary concern.	red-throated diver from the OTE SPA, as discussed in the RIAA Part 4 [**APP-178**], Section 4.4.1.4.4.2. It is noted that the SACOs refer 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***". As described in the RIAA Part 4, disturbance from North Falls would not be significant, taking into account overlap with areas of existing disturbance. The SACOs also refer 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)."* Given there is no evidence of any detrimental effect on the numbers of RTDs wintering in the SPA from the existing offshore wind farms, the red-throated diver feature is still being supported by the SPA.
NE-262	F37	Assessment Conclusions	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 54.38km^2). 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 54.5km^2 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	In relation to the minor discrepancy, the overlap between the SPA and 12km buffer of North Falls (excluding areas of overlap with the 12km buffers of other OWFs) is 54.4km^2 rather than 54.5km^2 as referred to in para 106 of the RIAA Part 4, [**APP-178**]. This represents 1.4% of the total SPA area of 3,942km^2. The value of 54.38km^2 referred to by Natural England appears to come from Table 4.19 of the RIAA, subtracting the total displacement area without North Falls from the total displacement area with North Falls. Checking the totals and % of SPA area for this table and expressing them to one decimal place, the total displacement area without North Falls (1932.32km^2) is 49.2% of the SPA, and the total with North Falls (1986.70km^2) is 50.6% of the SPA area, so the difference is 1.4%, as stated in para 106, rather than 2% as inferred from the Table and stated in para 147.
NE-263	F38	Assessment Conclusions 7.1.4/ Para 230	Natural England agree with the Applicant's conclusion that in-combination with other OWFs AEOI in relation to the breeding population of LBBG at AOE SPA cannot be ruled out.	Natural England welcome the provision of a HRA derogation case for compensating impacts to LBBG at the AOE SPA.	Natural England's comment is noted.
NE-264	F39	Assessment Conclusions	The Applicant concludes that the Project makes no material contribution to the in-combination mortality of kittiwake at FFC SPA. Natural England note that the project apportions 0.8	Natural England welcome the provision of a without prejudice derogation case for compensating impacts to kittiwake at the FFC SPA, in the event of SoS considering an in-	The Applicant maintains its position regarding North Falls having no AEOI of the FFC SPA, however Natural England's position is noted.

Applicants Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
		7.1.4/ Para 401- 413	collisions a year to the FFC SPA population, none of which are in the breeding season, and therefore the in-combination contribution is small. Natural England highlight the previous AEOI in-combination decisions and the SACO attribute target to **restore** the breeding population, and the potential for the impacts of North Falls to be considered simultaneously with other not-yet-consented projects in the North Sea Given the above **Natural England cannot rule out an in-combination adverse effect on FFC SPA kittiwake**	combination AEOI cannot be ruled out. We consider that our input through the Examination period would be best spent ensuring a suitable derogations case can be delivered.	
NE-265	F40	Assessment Conclusions 7.1.4/ Para 457	The Applicant concludes that the North Falls project will make no material contribution to the acknowledged in-combination AEOI on guillemot at FFC SPA. We note the Applicant predicts project-alone mortality impacts of 1 bird (95% CLs 0-3) at 50% displacement 1% mortality, increasing to 3 (95% CLs 1-9) birds at 70% displacement and 2% mortality. Natural England agree that the additional impacts to the in-combination total arising from the North Falls project are relatively small. Nevertheless, given the SACO attribute to **maintain** the size of the breeding population we do consider the predicted scale of in-combination impact to be concerning, even if recently consented projects can deliver effective compensatory measures. Unfortunately, there is a high level of uncertainty around the delivery of measures to address the high levels of predicted impact, especially from Hornsea 4. We also highlight the potential for the impacts of North Falls to be considered simultaneously with other ot-yet-consented projects in the North Sea. **Natural England therefore conclude that an AEOI in-combination cannot be ruled out.**	Despite the Applicant's conclusions, we welcome the provision of an in-combination assessment, investigation of impact by PVA and the provision of a without prejudice derogations case. We consider that our input through the Examination period would be best spent ensuring a suitable derogations case can be delivered.	The Applicant maintains its position regarding North Falls having no AEOI on guillemot at the FFC SPA, however Natural England's position is noted.
NE-266	F41	Assessment Conclusions 7.1.4/ Para 486, 488- 507, Table 4.57, Table 4.58	The Applicant concludes that the North Falls project will make no material contribution to the in-combination impact on razorbill at FFC SPA. Natural England highlight that we concluded during the Hornsea 4 and SADEP Examinations that AEOI on the razorbill feature of the FFC	Natural England request clarity regarding the PVA resulting in a smaller reduction in population growth rate, despite a greater impact being investigated. Natural England anticipate that our previous judgements regarding AEOI for razorbill at FFC SPA	The Applicant notes the position of Natural England with respect to razorbill at the FFC SPA. It is also noted, however, that for both HP4 and SADEP, the Secretary of State concluded that AEoI could be ruled out for this species at FFC (DESNZ 2023, 2024). The Applicant agrees with the Secretary of State's conclusions for HP4 and

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			SPA for displacement impacts in-combination with other plans and projects could not be ruled out. This was due to a lack of confidence that future population growth rates at FFC SPA could sustain the predicted level of mortality (i.e., we do not expect the recent population growth rates can be sustained). In the SADEP Examination, this conclusion was based on an annual mortality total of 206 which PVA indicated could result in a reduction in population growth rate of 0.6%. We note that the Applicant is now considering a total mortality of 235 (using the NE bespoke approach including HP4) but that the PVA suggests a reduction in population growth rate of just 0.3%. We note that the razorbill population at FFC SPA increased by >50% between the 2017 census (which SADEP used as the reference population), and the 2022 population used by the Applicant. Nonetheless, we anticipate that changes to other parameters are also likely to be relevant. Despite the Applicant's conclusions, we welcome the provision of an in-combination assessment, investigation of impact by PVA and the provision of a without prejudice derogations case	are highly likely to be maintained given the increased in-combination mortality impact, albeit the projects contribution to the in-combination total is small.	SADEP. Field counts at FFC SPA have shown that the razorbill population has been increasing since 1969, with the growth rate increasing since 2000 (Clarkson et al. 2022). While it is agreed that this growth rate cannot be sustained indefinitely, as of the last count in 2022 there has been no indication of any beginning of a levelling off (with reference to Clarkson et al. 2022, Figure 11), as might be expected if the colony is reaching carrying capacity. The in combination assessment and PVA for razorbill at the FFC will be checked against that for SADEP and an update provided at Deadline 3.
NE-267	F42		NE's advice on potential compensatory measures is provided separately in Appendix G.		Responses to Natural England comments on compensatory measures are included in Section 2.9 below.

2.9 Applicant's Comments– Appendix G – Offshore Ornithology Derogations Case

Applicants Ref	NE Ref	Issue	Issue raised	Applicant's Response
NE-268		1. Introduction	1.1 As the derogations material differs in content/structure to a standard Environmental Statement chapter, our comments are provided in a different format to the other Appendices. Within this Appendix we provide our current position on our confidence in each proposed compensation measure, followed by key consenting concerns and detailed comments on the compensation plans and supporting documents. For clarity, we have also provided a summary RAG table for each	Noted

Applicants Ref	NE Ref	Issue	Issue raised	Applicant's Response
			measure alongside our position to highlight areas of agreement and outstanding concern. We have used the following criteria to assess each category in the summaries: NE has broad confidence in this aspect of the measure, though there may be some uncertainties that need addressing. There are significant concerns/uncertainties regarding this aspect of the measure, but they have the potential to be resolvable. Major uncertainties remain with this aspect of the measure, which if not resolved would make compensation undeliverable. NE cannot be confident at this stage that the measure is deliverable.	
NE-269		Natural England compensatory measures 'check list'	1.2 To assist developers and regulators, Natural England has developed a checklist of aspects that need to be described in detail in compensation submissions, to give confidence that the measures can be secured (see Annex G1). This checklist forms the basis of the summary table criteria.	Noted.
NE-270		Key consenting concerns applicable to all measures	Updates to Implementation Plans (all species). Natural England advises that the species-specific Implementation and Management Plans should be submitted into the examination process in a fully populated state, rather than as skeleton documents. These documents are of key importance. The success of proposed compensation measures is intrinsically linked to these Plans.	The outline implementation and monitoring plans have been populated and submitted at Deadline 1: • Outline Lesser Black-backed Gull Compensation Implementation and Monitoring Plan [7.2.2.1, Rev 1]; • Outline Red Throated Diver Compensation Implementation and Monitoring Plan [7.2.3.1, Rev 1]; • Outline Kittiwake Compensation Implementation and Monitoring Plan [7.2.4.1, Rev 1]; and • Outline Guillemot and Razorbill Compensation Implementation and Monitoring Plan [7.2.5.1, Rev 1].
		2. Natural England's Advice and Recommendations		
		Flamborough and Filey Coast SPA Guillemot and Razorbill (Auks) – Reduction in Recreational Disturbance at a Breeding Colony in Southwest England		
NE-271	2.1		This measure involves implementing methods that could reduce the impact of human disturbance through introduction of, for example, wardens, fencing and signage. The focus for this compensation measure would be small colonies in the southwest of England (Devon and Cornwall) that have experienced historical declines in population numbers, particularly where pressures have been identified as suppressing the breeding success of the population, and where remedial action may be possible to facilitate colony recovery. However, Natural England advise that site selection	Natural England's advice is noted and agreed. The responses below are provided without prejudice to the Applicant's position that there will be no adverse effect on integrity (AEoI) of the guillemot or razorbill features of the FFC SPA from North Falls alone and no meaningful contribution to any in-combination with other plans and projects, and that compensation is therefore not required. The Applicant has provided updates to the guillemot and razorbill compensation proposals described in the Guillemot and Razorbill Compensation Document [7.2.5, Rev 1] and Outline Guillemot and Razorbill Implementation and Monitoring Plan [7.2.5.1, Rev 1].

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			should, primarily, focus on those with the greatest chance of success for the greatest potential benefit	The Applicant held a meeting with Natural England on the 28th October 2024 and an Expert Topic Group meeting on the 15th January 2025 to inform the development of the compensatory measures, including guillemot and razorbill.
NE-272	2.1.2		Management interventions explored by the Applicant include onsite interventions such as wardens/guides to interact with the public and influence visitor behaviour, fencing/buoyage to enforce setback distances, signs to raise awareness, and seasonal or time restrictions; in addition to working with local activity or equipment hire businesses and recreational activities.	Agreed
NE-273	2.1.3		Natural England considers that the proposed measures could theoretically deliver the required compensation for impacts on guillemot and razorbill at FFC SPA, given the modest level of impact, and there is some evidence of success using similar methods of recreational disturbance reduction in other species. However, the Applicant has so far only carried out a desk-based assessment. No observational evidence has been presented by the Applicant regarding the current state of anthropogenic disturbance at southwest auk colonies. However, we understand that other projects working on similar compensation proposals have undertaken (relatively limited) field observations at some southwest auk colonies. Therefore, we urge collaboration on this aspect	The Applicant has undertaken site visits in October 2024 to carry out a preliminary ecological assessment of each site short-listed for North Falls (excluding offshore islets and sites which have already been subject to preliminary survey for Five Estuaries and Rampion 2; (e.g.GoBe 2024)) and is planning breeding guillemot and razorbill surveys to inform the development of the final implementation and monitoring plans post consent, if required. Natural England will be consulted on the survey methodologies. Further evidence for disturbance effects (literature review) is provided in the Guillemot and Razorbill Compensation Document [7.2.5, Rev 1], Section 7.
NE-274	2.1.4		We question the assumption that every colony exhibiting population declines is doing so due to the impacts of recreational disturbance - there is uncertainty regarding the relative importance of other causal factors such as food availability or predation pressures. The Applicant needs to gather field-based observations, either through monitoring or communication with site managers/landowners, to provide a clear picture of the level of recreational disturbance experienced at the selected colony sites.	The Applicant is planning guillemot and razorbill surveys to inform the development of the final implementation and monitoring plans post consent, if required. Studies of recreational disturbance will be undertaken. Natural England will be consulted on the survey methodologies.
NE-275	2.1.5		We welcome the proposed monitoring but suggest investigating the use of novel technologies (e.g. drones) for monitoring otherwise inaccessible cliffs, to gauge the level of success of the proposed intervention measures	The methods for monitoring will be informed by the nature of the final site(s) and will be developed in consultation with Natural England.
NE-276	2.1.6		We have concerns that there are high levels of uncertainty around the success of the measure which have not influenced the Applicant's approach to the scale of compensation considered necessary. We advise that, as for kittiwake, the method developed by Hornsea 3 for assessing scale of compensation required, should be utilised and the outputs presented for consideration.	The Hornsea 3 methodology was developed for kittiwakes and incorporates the very detailed age-specific survival data which is available for kittiwakes. The demographic data available for guillemot and razorbill are not so detailed as for kittiwake. In addition, the full workings for the Hornsea 3 method are not publicly available. The Applicant has discussed the methods for assessing the scale of compensation with Natural England and understands the Hornsea 4 method used by the Applicant to be acceptable provided philopatry is taken into consideration. The updated Guillemot and Razorbill Compensation Document [7.2.5, Rev 1] takes this into account.

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NE-277	2.1.7		We note that no sites have been secured yet, although we understand that discussions are underway with other developers. Therefore, we advise that a sufficient number of sites should be secured, either by the Applicant alone or with other developments as soon as possible	Recognising that it is the Applicant's position that auk compensation should not be required, landowner agreements will be secured post consent, if the SoS's decision determines that compensation is required. Given the low level of impact of North Falls and the associated small scale of compensation (Sections 4 and 5 of the Guillemot and Razorbill Compensation Document [7.2.5, Rev 1], the Applicant is confident that suitable sites at the scale of compensation required, will be securable. The Applicant has engaged with the National Trust as the landowner or operator of a number of potential sites and is in the process of land registry works on the search areas shown in the Guillemot and Razorbill Compensation Document [7.2.5, Rev 1], Section 8.2. Regular meetings are also being held with Five Estuaries, Rampion 2 and Outer Dowsing over the potential for collaboration.
NE-278	2.1.8		Overall, we welcome acknowledgment by the Applicant that more work needs to be carried out to progress this compensatory measure and believe that the right measures at the right sites could provide adequate compensation for the Project's impacts	The Applicant welcomes Natural England's comments. Further work has been undertaken and is planned to inform the final implementation and monitoring plan, if required, as described in the Guillemot and Razorbill Compensation Document [**7.2.5, Rev 1**] and Outline Guillemot and Razorbill Implementation and Monitoring Plan [**7.2.5.1, Rev 1**]).
		Table 1: Summary Position of Compensation Measure for Guillemot and Razorbill		
NE-279	G1	Compensation Measure for Guillemot and Razorbill	Currently there is uncertainty regarding the current state of anthropogenic disturbance at southwest auk colonies and its relative importance compared to other factors such as food availability and predation. No observational evidence has been presented, although the proposed measures have successfully reduced recreational disturbance of other species. Overall, we consider the right measures at the right sites should deliver legitimate benefits.	
NE-280	G2	Theoretical merit to deliver compensation	We consider that raising public awareness, and/or potentially reducing the frequency or intensity of, recreational disturbance at one or more breeding colonies in the southwest of England could theoretically deliver the required compensation for impacts on guillemot and razorbill at FFC SPA. We accept that due to their often-inaccessible sea-facing cliff locations, site monitoring may only be possible indirectly through comparative colony counts with control colonies in the region, although the use of drones for this purpose should be investigated. This would be preferable to using visitor statistics for example. Common guillemots appear to show a high degree of philopatry (Birkhead and Hudson 1977; Swann and Ramsey 1983; Hudson 1985; Nettleship and Evans 1985), with Coulson (2016) quoting rates of 42% to >58%. Young guillemots have been recorded breeding away from their natal colony (Lyngs, 1993), on one occasion having moved several hundred kilometres to Wales (Olsson et al, 2000). Razorbills appear to be even more highly philopatric, with rates of 83% reported in a study from Labrador, USA	The Applicant welcomes Natural England's advice regarding benefits of the compensatory measure to the National Site Network. The methods for monitoring will be informed by the nature of the final site(s) and will be developed in consultation with Natural England, in accordance with the Outline Guillemot and Razorbill Implementation and Monitoring Plan [**7.2.5.1, Rev 1**]).

Applicants Ref	NE Ref	Issue	Issue raised	Applicant's Response
			(Lavers et al, 2007). Where ringed young have later been found to be breeding, emigration distances between colonies in North America ranged from 57 to 1,737 km. As such, whilst connectivity with the FFC SPA guillemot and razorbill colonies is likely to be limited, it is possible that individuals fledging from the short-listed colonies in the southwest of England could integrate into the UK National Site Network (NSN) at e.g., the Isles of Scilly SPA or Skomer, Skokholm and the Seas off Pembrokeshire SPA, where guillemot and razorbill are included in the seabird assemblages.	
NE-281	G3	Technical feasibility	We agree that measures such as wardening (including the need for a presence offshore at some sites), buffer zones, signage, fencing, awareness-raising campaigns, and initiating Codes of Practice amongst recreational stakeholders are technically feasible at some southwest UK auk colonies. Furthermore, all such measures have been shown to be successful at reducing recreational disturbance in other species (e.g., Rodgers and Smith, 1997; Burger, 2003; Ikuta and Blumstein, 2003; Rodgers and Schwikert, 2003; Madeiros et al, 2007; Allbrook and Quinn, 2020). However, no observational evidence is presented regarding the current state of anthropogenic disturbance at the colonies. The Applicant has carried out a qualitative assessment from a desk-based study looking at generic factors such as proximity to coastal paths, nearest settlement, and levels of localised recreational activity. These factors alone do not necessarily result in disturbance that might cause egg or chick losses. Only field-based observation, either through monitoring or communication with site managers/landowners is likely to yield this information. For example, 3 sources of disturbance for Berry Head NNR are listed (walkers/tourists, birdwatchers and watercraft), yet only the latter caused disturbance to the guillemot colony during several hundred hours of observation in 2012 (Matt Twiggs, pers. obs.) We understand that other projects working on similar compensation proposals have undertaken (relatively limited) field observations at some southwest UK auk colonies. We urge collaboration on this aspect. Natural England question the assumption that every colony exhibiting population declines is doing so due to the impacts of recreational disturbance, without also considering other potential causal factors such as food availability or predation pressure. It is currently impossible to judge whether (a combination of) the proposed measures to raise public awareness and/or reduce recreational disturbance at southwest sites will result in the Project adequately	The Applicant has undertaken site visits in October 2024 to carry out a preliminary ecological assessment of each site short-listed for North Falls (excluding offshore islets and sites which have already been subject to preliminary survey for Five Estuaries and Rampion 2; (e.g.GoBe 2024)) and is planning guillemot and razorbill surveys to inform the development of the final implementation and monitoring plans post consent, if required. Natural England will be consulted on the survey methodologies.

Applicants Ref	NE Ref	Issue	Issue raised	Applicant's Response
			compensating for its estimated impacts, since it is unknown whether disturbance is having a demonstrable impact on nesting success. Nevertheless, we acknowledge that the right measures at the right sites should have potential benefits. These may include reducing disturbance and consequently helping to mediate the avian responses typically shown in colonially nesting seabirds subject to anthropogenic disturbance (e.g., Anderson and Keith, 1980; Carney and Sydeman, 1999; Blanc et al, 2006).	
NE-282	G4	Agreed compensation level	Natural England consider the Applicant should seek to compensate for their impacts to auks at FFC SPA under a 70% displacement and 2% mortality scenario. There is clear precedence (Hornsea Four, Sheringham and Dudgeon Extension Projects) for this, as acknowledged by the Applicant. It is likely to be extremely difficult to quantify the nature and extent of the potential threat posed by anthropogenic disturbance and how this may affect nesting success. It is therefore extremely challenging to quantify the potential efficacy of the proposed measures in addressing this threat. Accordingly, Natural England advise the consideration of a compensation ratio of 1:1 to be inappropriate. However, we do believe that given the nature of the measure proposed, the difficulties of quantifying benefits (as well as potential for subsidiary benefits to non-target species) and the small scale of predicted impacts, a pragmatic approach to scaling the measure is appropriate.	A range of potential compensation scales is provided in the updated Guillemot and Razorbill Compensation Document [**7.2.5, Rev 1**] including using 70% displacement and 2% mortality, as well as up to 3:1 ratio. The Applicant maintains its position that quantification of the effect, based on 50% displacement and 1% mortality is appropriate as discussed in the RIAA Part 4 [**APP-178**], Section 4.4.4.6.3, and that a 2:1 compensation ratio is appropriate.
NE-283	G5	Scale/extent of measure	We disagree with the seasonal extent of compensation measures proposed by the Applicant. We suggest that measures to reduce recreational disturbance should be in place well before the breeding season. This may need to be as early as December/January, to be determined on a site-specific basis, to allow for cyclic pre-lay attendance by guillemots. This could facilitate egg-laying synchrony and increasing productivity. There would be no negative consequences for razorbill of this earlier timing. The scale of compensation required, in terms of the number of pairs required to produce a required number of new recruits to compensate for a given impact follows the Hornsea 4 approach. As advised for kittiwake, Natural England consider the method developed and applied by Hornsea 3 should be utilised. Given the refined geographical location of the measure Natural England advise that it would be preferable to consider locally derived demographic rates (especially for productivity) if possible. We note the measure seeks to align the level of impact with the potential delivery at short listed sites (Table 6.4). Given	The Applicant has provided an updated Outline Guillemot and Razorbill CIMP [7.2.5.**1**, Rev 1] to state the measure would be deployed by March prior to the first breeding season, with timing to be informed by data where possible. As discussed in response to NE-248, the detailed working of the Hornsea 3 method is not publicly available nor is it considered suitable for auks. The Applicant has discussed the methods for assessing the scale of compensation with Natural England and understands the Hornsea 4 method used by the Applicant to be acceptable provided philopatry is taken into consideration. Updates to the Guillemot and Razorbill Compensation Document [7.2.5, Rev 1] are provided which take this into account. Local (regional) productivity rates are used in the calculation of the scale of compensation, described in the Guillemot and Razorbill Compensation Document [7.2.5, Rev 1] .

Applicants Ref	NE Ref	Issue	Issue raised	Applicant's Response
			the implementation of measures does not necessarily scale with the potential of the site (in terms of additional nesting pairs) we consider that site selection should, primarily, focus on those with greatest chance of success for the greatest potential benefit.	
NE-284	G6	Timing: Deliverable before impact	We highlight that no sites have been secured, no data on existing levels of disturbance or breeding auks has been collected, and therefore no meaningful approach to addressing any identified issues can be defined. Thus, it is difficult to comment on likelihood of measures being implemented within appropriate timescales. Natural England do highlight that implementation 4 breeding seasons prior to an impact occurring (at the operational phase) will risk impacts arising in advance of the measures being functional (see comments on species-specific demography below). Further, we highlight the risk of impacts arising at the construction phase. Guillemots reach breeding age maturity at 6 years old, thus it will take at least 7 breeding seasons after compensation measures are implemented for young fledged to recruit into the adult breeding population and thus provide compensation for the project's impacts. The equivalent values for razorbill are 5 and 6, respectively. Therefore, if the Applicant wishes to retain the current implementation date, we consider that the scale of the requirements be increased to address the risk of 'mortality debt' accruing in the early years of the project.	It is the Applicant's position that auk compensation should not be required. If the SoS's decision determines that compensation is required. landowner agreements will be secured post consent This approach has been taken by various consented offshore wind farms. Given the low level of impact of North Falls and the associated small scale of compensation required, (as detailed in the updated Guillemot and Razorbill Compensation Document [7.2.5, Rev 1]) the Applicant is confident that suitable sites to provide any required compensation will be securable. The low predicted annual mortality of 1.2 (95%CL 0.2-3.2) guillemot and 0.6 (95%CL 0.2-1.3) razorbill, would accrue mortality debt prior to guillemot and razorbill reaching maturity. However, as the planned compensation measures would be in place over the long-term (c.33 years), a delay of a few years would not impact the overall success of the compensatory measures. This would be considered during monitoring and should a material mortality debt be deemed to be accrued, the need for additional measures/ adaptive management would be considered in consultation with the relevant steering group.
NE-285	G7	Location of measure	We note that no sites have yet been secured, although we understand that discussions are underway with other developers. We would recommend that a sufficient number of sites are secured, either by the Applicant alone or in collaboration with other Projects, as soon as possible.	See response to NE-256 above.
NE-286	G8	Long term implementation	The Applicant has not evidenced the occurrence of recreational disturbance at any of the southwest colonies referred to, although we understand that other developments with similar compensation proposals have observed and documented disturbance events. The impacts of any disturbance on nesting success, acknowledging that many of the sea-facing cliff sites are extremely difficult to monitor, has not been quantified. Consequently, it is unknown whether any of the recreational disturbance reduction measures are likely to result in increases in productivity. However, we do consider the proposed measures are largely designed to influence visitor behaviour and may have unquantifiable benefits at the selected sites, as well as potentially long-term and far-reaching benefits, possibly even at other seabird colonies.	Further ecological evidence (literature review) regarding disturbance of auks at breeding colonies is provided in Section 7 of the updated Guillemot and Razorbill Compensation Document [**7.2.5, Rev 1**]. The Applicant is planning breeding guillemot and razorbill surveys to inform the development of the final implementation and monitoring plans post consent, if required. Natural England will be consulted on the survey methodologies. Monitoring is outlined in Section 3.8.1 of the Outline Guillemot and Razorbill CIMP [**7.2.5.1, Rev 1**] and will be further developed in consultation with the relevant steering group including Natural England.

Applicants Ref	NE Ref	Issue	Issue raised	Applicant's Response
			We welcome the proposed monitoring, and that results would be shared amongst the members of appropriate steering groups. We suggest that the use of novel technologies (e.g. drones) for monitoring otherwise inaccessible cliffs should be investigated. We also appreciate the consideration given to potentially unintended impacts of the measures themselves on their surroundings. Adaptive management could be required at some sites, and we agree that this will need to be agreed upon on a case-by-case basis, dependent on individual circumstances.	
NE-287	G9	Success criteria/Ability to prove additionality	See above	
NE-288	G10	Suitable as sole measure for target species	We consider that appropriate measures aimed at raising public awareness around, and potentially reducing the frequency and intensity of, recreational disturbance at suitable sites in SW England would be sufficient to compensate for the project's small contribution to in-combination impacts on guillemots and razorbills from FFC SPA.	The Applicant welcomes Natural England's position that the proposed compensation measure is suitable.
	Key Uncertainties			
NE-289	G11	Limited site-specific evidence regarding impacts	The lack of evidence presented on recreational disturbance at the southwest auk colonies referred to is of concern. We note the project may collaborate with other developments with similar compensation plans and are aware of some limited evidence gathering. We urge collaboration, and a general scaling up of such evidence gathering with respect to both the existing breeding birds and any disturbing activities that may impact them.	The Applicant is engaging with Five Estuaries Offshore Wind Farm and Rampion 2 Offshore Wind Farm. A memorandum of understanding or equivalent is being developed between the parties to facilitate future co-operation.
NE-290	G12	Inadequate compensation level	We are concerned that the high levels of uncertainty around success of the measure have not influenced the Applicants approach to the scale of compensation considered necessary.	The assessment of displacement which forms the basis of the scale of compensation is considered highly precautionary. In calculating the scale of compensation, the Applicant has taken consideration of Natural England's feedback on the methodology (NE-255), through consideration of the available estimates of regional and national productivity rate and philopatry. In relation to NE-254 above, that "*Natural England advise the consideration of a compensation ratio of 1:1 to be inappropriate",* the Applicant proposes to use a 2:1 ratio. Given the small scale of the predicted effects of displacement from North Falls, the methodology used is considered appropriate to address levels of uncertainty, while avoiding large scale compensation requirements which would be disproportionate to the predicted effects. This is consistent with the statement by Natural England that '*we do believe that given the nature of the measure proposed, the difficulties of quantifying benefits (as well as potential for subsidiary benefits to non-target species) and the small scale of predicted impacts, a pragmatic approach to scaling the measure is appropriate* (see comment G4/NE-254 above)'. Monitoring of the compensatory measure will also be undertaken and adaptive management developed in consultation with the steering group, if required, further supporting that compensation at the required scale would be delivered.

Applicants Ref	NE Ref	Issue	Issue raised	Applicant's Response
		Flamborough and Filey Coast SPA: Kittiwake – Artificial Nesting Structure (ANS)		
NE-291	2.2.1		The measure proposed for kittiwake compensation is the use of man-made nesting structures aimed at achieving high breeding success. The Applicant's preference is to secure an allocation of an existing ANS at the Gateshead 'Kittiwakery', as part of a collaborative delivery approach with one or more offshore wind developers. However, as an alternative, the Applicant is also considering strategic compensation (such as the Marine Recovery Fund) for kittiwake, which we consider to be a sensible approach	Agreed. The responses below are provided without prejudice to the Applicant's position that there will be no adverse effect on integrity (AEoI) of the kittiwake feature of the FFC SPA from North Falls alone and no meaningful contribution to any in-combination with other plans and projects, and that compensation is therefore not required.
NE-292	2.2.2		Natural England do not consider a ratio of 1:1 to be an appropriate compensation ratio. We highlight the uncertainties surrounding future colonisation and productivity of any colony at the ANS. Given the small impact to be compensated, we advise a 3:1 compensation ratio would offer a more realistic prospect of the measure delivering benefits into the UK NSN.	The scale of compensation is described in the Outline Kittiwake CIMP submitted at Deadline 1 [**7.2.4.1, Rev 1**], including consideration of a 3:1 ratio. Further information on the calculation methodology will be provided at Deadline 2. As Natural England has acknowledged the predicted effects of kittiwake collision from North Falls are very small scale. Thus, while it is considered necessary to address levels of uncertainty, it is also considered that large scale compensation requirements, disproportionate to the predicted effects, would not be appropriate. As Natural England has noted in NE-266, kittiwakes have been prospecting of nesting sites at the ANS 2023 and 2024. While uncertainty remains, this suggests that colonisation is likely.
NE-293	2.2.3		We advise that adaptive management measures such as the use of calls, decoys, old nests etc, should be implemented as soon as possible to increase the prospect of colonisation. We also advise that monitoring must be undertaken to gauge success, according to agreed criteria. Overall, dependent on number of available nesting spaces, we consider an onshore or offshore ANS offers a suitable sole measure to compensate for the Project's contribution to in-combination impacts at FFC SPA	In March 2024, decoys (fake adult sized kittiwakes) and artificial nests were installed. Monitoring showed kittiwakes prospecting at the tower although not yet nesting. Monitoring of the Kittiwakery is ongoing and the need for further adaptive management will be kept under review.
	Table 2: Summary Position of Compensation Measure for Kittiwake			
NE-294	G13	Overall confidence in the measure	Subject to sufficient nesting spaces being available to the project at either an onshore or offshore ANS, we consider such provision to be suitable for the project's modest impacts. Whilst no breeding attempts were observed at the Kittiwakery in 2023 or 2024, monitoring of kittiwake activity suggests the possibility of future colonisation. However, uncertainty remains regarding the successful colonisation of the proposed ANS, and the mechanism for assigning benefits arising at the ANS between the partnership OWF projects.	The Applicant's position regarding the scale of required compensation is described in the revised Outline Kittiwake CIMP submitted at Deadline 1 [**7.2.4.1, Rev 1**], stating 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 FFC SPA. Details of the supporting calculations will be provided in an updated kittiwake compensation document at Deadline 2. The Applicant's position in respect of the Gateshead ANS (the "Kittiwakery") is that the use of it, and the allocation of the Kittiwakery attributable to North Falls, would provide suitable compensation for the effects of North Falls as set out in the revised Outline Kittiwake CIMP [**7.2.4.1, Rev 1**] alongside other project(s) use of it, e.g. Five Estuaries. As Natural England has noted, kittiwakes have been prospecting of nesting sites at the Gateshead ANS 2023 and 2024. While uncertainty remains, this suggests that colonisation is likely. Monitoring will be undertaken in accordance with Section 3.7 of the Outline Kittiwake Compensation Implementation and Monitoring Plan to determine if the ANS is functioning as required. In the event that a nesting

Applicants Ref	NE Ref	Issue	Issue raised	Applicant's Response
				location was no longer providing, or able to provide, its expected contribution to the compensation requirement, the need for adaptive management would be assessed and agreed with the kittiwake compensation steering group and implemented accordingly.
NE-295	G14	Theoretical merit to deliver compensation	Natural England agree with the conclusions of the screening process for potential compensation measures. We concur that the provision of nesting habitat through the construction of (or adoption of existing) artificial nesting structures (ANS) for new kittiwake breeding colonies is a viable option to compensate for the Project's contribution to in-combination impacts at FFC SPA. There is a strong evidence base in support of the expectation that a significant proportion of individuals fledging from an ANS would recruit into other colonies, even some distance away, thereby contributing to the coherence of the United Kingdom National Site Network (UK NSN).	The Applicant welcomes Natural England's feedback.
NE-296	G15	Technical feasibility	We note that the Applicant's preference is to use an existing onshore ANS at the "Kittiwakery" which has already been built by RWE in Gateshead. We also note that a contribution to an offshore ANS as part of a strategic measure is also being retained as an option if necessary and we consider this is a sensible approach. Natural England consider either onshore or offshore provision of ANS is technically feasible and proven by the successful construction of bespoke structures for this purpose.	The Applicant welcomes Natural England's feedback.
NE-297	G16	Agreed compensation level	We recognise that the Project's contribution to the in-combination adverse effect on the FFC SPA kittiwake feature is small, estimated by the Applicant as 0.76 collision mortalities p/a (95% CLs 0.09 – 2.72). The Applicant suggests an additional 7 pairs would be required to compensate this impact on an annual basis, based on the 'Hornsea 4' method at a compensation ratio of 1:1 (Table 6.2). Natural England advise that the method developed and employed by the Hornsea 3 project is used to calculate the number of pairs required at the ANS to compensate a specific impact. This is in line with advice commissioned by The Crown Estate to inform the Round 4 strategic compensation plan for kittiwake. We note that this will result in a greater number of pairs at the ANS being required. The Hornsea 3 method involves additional consideration of philopatric birds (i.e. those that remain at their natal colony) and also considers the productivity of the colony itself should account for annual breeding adult mortality to reduce the reliance on immigration from the meta-population.	The Applicant has discussed the methods for assessing the scale of compensation with Natural England and understands the Hornsea 4 method used by the Applicant to be acceptable provided philopatry is taken into consideration. Updates to the Kittiwake Compensation Document to be submitted at Deadline 2 will be provided which take this into account. As discussed in the response to NE-248, the calculations behind the Hornsea 3 method are not clearly set out in publicly available information.

Applicants Ref	NE Ref	Issue	Issue raised	Applicant's Response
			We welcome the consideration of the 95% upper confidence interval impact estimate (2.72) to calculate the scale of compensation required and advise that this approach should be maintained in updated calculations.	
NE-298	G17	Scale/extent of measure	Natural England do not consider a ratio of 1:1 to be appropriate. We highlight the uncertainties surrounding future colonisation and productivity of any colony at the ANS. Given the small impact to be compensated we agree that a single ANS location is appropriate but consider that a 3:1 compensation ratio offers a more realistic prospect of the measure delivering benefits into the UK NSN. It is not clear how any resulting compensation will be apportioned to each project with an interest in the ANS, should the measure be only partially successful. This should be clarified.	Please refer to the Applicant's response to NE-264, NE-266 and NE-269.
NE-299	G18	Timing: Deliverable before impact	The "Kittiwakery" was constructed in February 2023. Despite not yet accommodating nesting kittiwakes (as might be expected), we consider the observations of kittiwake at the site to be a positive sign. It is advantageous that the ANS is already built given the usual requirement for deployment 4 years prior to impacts occurring to maximise the chance of colonisation, and in recognition of the fact that it will take at least 4 years for the ANS to deliver breeding-age adult birds into the population. We would highlight the uncertainty around recruitment at ANS in general, noting that there are a number of structures that have remained vacant despite apparently being in suitable locations. Thus, we are concerned about the potential accrual of mortality debt. This would need to be recovered in future years. As the debt compounds, the nesting pairs requirement may exceed that offered by available space the ANS. This does not appear to have been specifically addressed by the Applicant (notwithstanding consideration of adaptive management) and is of particular concern due to the (unspecified) requirement for compensation for other projects reliant on the ANS.	The Applicant agrees that the low predicted annual mortality of a mean 0.76 (95%CL 0.09-2.72) kittiwake could accrue as mortality debt if the ANS is not already utilised by kittiwake prior to North Falls operation. However, as the planned compensation measures will be in place over the 30-year operational life of the Project a delay is not anticipated to have a material impact on the overall success of the measure to compensate the effects of North Falls. This would be considered during monitoring and should a material mortality debt be deemed to be accrued, the need for additional measures/ adaptive management would be considered in consultation with the Kittiwake Compensation Steering Group..
NE-300	G19	Location of measure	The proposed site at Gateshead is an area that already supports known active kittiwake colonies, including within the town. Natural England consider the location to be appropriate. We understand that although there has been no formal agreement yet, Annex 1C reproduces a Letter of Intent from RWE for collaboration with North Falls. The option being retained for collaboration at an offshore ANS remains unspecified although the Letter of Intent referred to above suggests that this too would be with RWE for DBS.	The Applicant agrees that the Gateshead Kittiwakery is appropriate. The letter from DBS states that they would be willing in principle to collaborate on the existing Gateshead Kittiwakery, or any other artificial nesting structure. The Applicant's proposal continues to be the Gateshead Kittiwakery (Section 3 of the Kittiwake Outline CIMP [7.2.4.1, Rev 1]). Alternatively, the Applicant may consider strategic compensation, as described in Section 4 of the Kittiwake CIMP [7.2.4.1, Rev 1].

Applicants Ref	NE Ref	Issue	Issue raised	Applicant's Response
NE-301	G20	Long term implementation	We welcome the undertaking to monitor colony size and productivity at the proposed site "until the success of the compensation has been sufficiently demonstrated but potentially throughout the operational life-span of North Falls." In addition to counting large chicks in nests prior to fledging, we suggest that a BTO ringing/colour-ringing scheme be established at the "Kittiwakery" as is currently underway at the nearby Saltmeadows Tower, to monitor natal philopatry at the colony. We are supportive of the proposed contribution to the monitoring of other kittiwake colonies already underway by a local group. We welcome consideration of adaptive management, such as measures to attract kittiwake to the proposed colony (calls, decoys, old nests) and note that some of these measures were used at the Saltmeadows Tower (Turner, 2010), as well as at a colony in Brittany (Boulinier et al, 1999). We suggest that such measures are implemented as soon as possible to increase the prospects of colonisation. We agree that contribution to a strategic measure could be necessary and would be an appropriate solution if adaptive management beyond ANS modification is required.	As per the response to NE-265 above, in March 2024, decoys (fake adult sized kittiwakes) and artificial nests were installed. Monitoring showed kittiwakes prospecting at the tower although not yet nesting. Monitoring of the Kittiwakery is ongoing and the need for further adaptive management will be kept under review. The Applicant considers the monitoring proposed as set out in the updated Outline Kittiwake CIMP submitted at Deadline 1 [**7.2.4.1, Rev 1**] to be appropriate to determine the effectiveness of the compensatory measures. Final details of the monitoring will be developed in consultation with the Kittiwake Compensation Steering Group post consent. Colour ringing of chicks will be considered as part of this.
NE-302	G21	Success criteria/Ability to prove additionality	We consider that success of the ANS compensation measure could be established through monitoring once the criteria for success have been agreed. This is expected to be a calculation relating to the number of adult birds estimated to recruit into the wider breeding population on an annual basis, arising from productivity at the ANS.	Information regarding predicted dispersal into the wider population will be provided at Deadline 2.
NE-303	G22	Suitable as sole measure for target species	Subject to sufficient nesting spaces being available to the project at either an onshore or offshore ANS, we consider such provision to be suitable as a sole measure to compensate for the Project's contribution to in-combination impacts at FFC SPA.	It is the Applicant's position that 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 FFC SPA, as detailed in the revised Outline Kittiwake CIMP [**7.2.4.1, Rev 1**], An updated Kittiwake Compensation Document will be submitted at Deadline 2 to provide the evidence base. The Applicant's position in respect of the Gateshead ANS (the "Kittiwakery") is that the use of it, and the allocation of the Kittiwakery attributable to North Falls, would provide suitable compensation for the effects of North Falls as set out in the revised Outline Kittiwake CIMP [**7.2.4.1, Rev 1**] alongside other project(s) use of it, e.g. Five Estuaries. .
	Key Uncertainties			
NE-304	G23	Certainty of benefits	There is some uncertainty around whether the proposed site will be colonised, and how any productivity arising at the ANS will be apportioned to those projects relying on it as a compensatory measure.	As Natural England has noted (NE-266), kittiwakes have been prospecting of nesting sites at the ANS 2023 and 2024, this suggests that colonisation is likely. Monitoring will be undertaken in accordance with Section 3.7 of the Outline Kittiwake Compensation Implementation and Monitoring Plan to determine if the ANS is functioning as required. In the event that a nesting location was no longer providing, or able to provide, its expected contribution to the compensation requirement, the need for adaptive management would be assessed and agreed with the kittiwake compensation steering group and implemented accordingly. The Applicant is in the process of agreeing Heads of Terms with RWE

Applicants Ref	NE Ref	Issue	Issue raised	Applicant's Response
				Renewables UK Dogger Bank South (East) Limited, RWE Renewables UK Dogger Bank South (West) Limited, Rampion Extension Development Limited and Five Estuaries Offshore Wind Farm Limited.
NE-305	G24	Inadequate compensation level	We recommend that a compensation ratio of 3:1 be adopted to address the range of uncertainties as detailed above	The scale of compensation is described in the revised Outline Kittiwake CIMP [**7.2.4.1, Rev 1**], including consideration of a 3:1 ratio. Further information on the calculation methodology will be provided at Deadline 2.
NE-306	G25	Scope of monitoring proposed	We would also welcome confirmation as to whether a colour-ringing scheme could be undertaken at the "Kittiwakery" to track natal philopatry there (and recruitment elsewhere) for the purposes of establishing site connectivity with, and overall coherence of, the national site network.	The Applicant considers the monitoring proposed (see updated Outline Kittiwake Compensation Implementation and Monitoring Plan [**7.2.4.1, Rev 1**] to be appropriate to determine the effectiveness of the compensatory measures. Monitoring will be developed in consultation with the Kittiwake Compensation Steering Group post consent. Colour ringing of chicks will be considered.
		<u>Alde-Ore Estuary SPA: Lesser Black Backed Gull – Breeding Enhancement via Predator Exclusion/Control/Disturbance Management/Habitat Management</u>		
NE-307	2.3.1		The measure proposed for Lesser Black Backed Gull (LBBG) compensation is breeding enhancement via predator exclusion, habitat management, and/or disturbance management at breeding colonies. The Applicant has identified a search area within and around the AOE SPA (Lantern Marshes, Five Estuaries VE2 site, Orfordness-Shingle Street) for delivery of LBBG compensation. The Applicant is also considering Outer Trial Bank (an artificial island in The Wash) as a second potential search area, although there is a lack of evidence of connectivity of LBBGs from Outer Trial Bank to AOE SPA.	Agreed
NE-308	2.3.2		The Applicant suggest that a 4-ha site would be ecologically effective in enhancing LBBG breeding, and that this area could be delivered by North Falls alone or in collaboration with another project(s). While Natural England considers a 4-ha site to be broadly appropriate, we consider further work is required around defining success according to the ratio of impact (which may be subject to change within the impact assessment) to observed productivity and assumed level of consequent recruitment.	The Update to Breeding Season Apportioning of Lesser Black-backed gull at the Alde-Ore Estuary Special Protection Area (Document Reference **9.15**) concludes that the North Falls contribution to the in-combination collision risk is 2.3 (reduced from 3.1 in the RIAA Part 4 [**APP-178**]). The Applicant maintains that 4ha, as described in Section 5 of the updated LBBG Compensation Document [**7.2.2, Rev 1**] is appropriate. This is based on the previous higher collision risk estimate of 3.1 and therefore will continue to be appropriate for the reduced collision risk of 2.4. The calculations of the scale of compensation will be updated for the revised collision risk and submitted at an appropriate deadline. The LBBG Compensation Document [**7.2.2, Rev 1**] considers a range of ratios, the local productivity rate and includes recruitment/philopatry.
NE-309	2.3.3		A further measure aimed at enhancing breeding in an area already occupied by breeding LBBG, is to manage and reduce disturbance from anthropogenic sources e.g. walkers and those with dogs, in addition to recreational boat users on the beach is proposed. In this case, measures such as awareness campaigns, or creation/support of a warden position to facilitate the management of anthropogenic impacts on/around the breeding areas would be considered.	Disturbance management as a primary measure (e.g. awareness campaigns, wardening during the breeding season and/or signage) has been removed from the proposed measures for lesser black-backed gull compensation (Outline Lesser Black-backed Gull Compensation Implementation and Monitoring Plan [**7.2.2.1, Rev 1**]). Should disturbance be a potential pressure at the selected site for compensation, mitigation of this will be considered.
NE-310	2.3.4		LBBGs prefer to nest on sites that are open and surrounded by vegetation which provides shelter from the weather and predators when their chicks are mobile. However, they	Vegetation management will be undertaken where required, in accordance with the Outline Lesser Black-backed Gull Compensation Implementation and Monitoring Plan [**7.2.2.1, Rev 1**].

Applicants Ref	NE Ref	Issue	Issue raised	Applicant's Response
			generally avoid vegetation that is dense, whilst taller vegetation is deemed sub-optimal. Therefore, those sites within the Applicant's search area that are determined to be less than optimal in terms of vegetation density, will be managed to improve the habitat. This measure is likely to be implemented alongside the predator exclusion/control or disturbance management.	
NE-311	2.3.5		We note that none of the sites under consideration have been secured by the Applicant yet. However, we acknowledge the Applicant's efforts to secure land rights	The Applicant is in discussion with landowners for each of its three options at Lantern Marshes, Gedgrave Marshes and Outer Trial Bank and is confident land rights can be secured for a suitable site.
NE-312	2.3.9		Subject to an appropriate site of sufficient extent being secured, Natural England advise that predator exclusion (with habitat management where necessary) could theoretically deliver effective compensation for the projects estimated contribution to the in-combination impact on the lesser black-backed gull feature at AOE SPA. This will require ongoing monitoring and maintenance of fencing to ensure efficacy. For Outer Trial Bank, we consider it highly unlikely that non-lethal control (trapping) of rats would be successful. However, we would be supportive of an eradication effort here, in addition to predator exclusion at another site.	Natural England's feedback is welcomed. As discussed above, the Applicant is in discussion with landowners of three potential sites, Lantern Marshes, Gedgrave Marshes and Outer Trial Bank. The Applicant is therefore confident that an appropriate site of sufficient extent can be secured. The measures will be informed by the relevant pressures at the site, this is likely to be predator exclusion (with habitat management where necessary) at Lantern Marshes or Gedgrave Marshes; or rat eradication at Outer Trial Bank, in accordance with the Outline Lesser Black-backed Gull Compensation Implementation and Monitoring Plan [**7.2.2.1, Rev 1**].
	Table 3: Summary Position of Compensation Measure for Lesser Black Backed Gull			
NE-313	G26	Overall confidence in the measure	None of the sites under consideration have been secured yet, and further work is needed around defining success according to the ratio of impact to observed productivity and assumed level of consequent recruitment. There is a risk that the limiting factor to LBBG population growth could be food supply, in which case improving nesting habitat may have no or little impact. However, predator exclusion fencing has a successful track record in increasing some LBBG colonies in the UK and predator control has been shown to be effective for regulating mammalian predation of seabird eggs/chicks. Therefore, we consider that habitat management, combined with one or more of these other measures, could prove effective. Moreover, assuming that the selected site is colonised, we feel that a 4ha site should be able to deliver the required level of compensation over the lifetime of the project.	The Applicant is in discussion with landowners for each of its three options at Lantern Marshes, Gedgrave Marshes and Outer Trial Bank (only one of which would be required) and given there are a range of options the Applicant is confident land rights can be secured for a suitable site. Natural England's feedback that "*a 4ha site should be able to deliver the required level of compensation over the lifetime of the project*" is welcomed. This is confirmed in the LBBG Compensation Document [**7.2.2, Rev 1**].
NE-314	G27	Theoretical merit to deliver compensation	Predator exclusion (fencing) is likely to be an effective measure, with a proven history of success in increasing some lesser black-backed gull breeding colonies in the UK. This measure would directly address the impacted population of the lesser black-backed gull features of the Alde-Ore Estuary Special Protection Area (AOE SPA) if the fence was inside the SPA, or the wider meta-population if outside (e.g. Outer Trial Bank). We agree that predator eradication may be	Disturbance management as a primary measure (e.g. awareness campaigns, wardening during the breeding season and/or signage) has been removed from the proposed measures for lesser black-backed gull compensation (Outline Lesser Black-backed Gull Compensation Implementation and Monitoring Plan [**7.2.2.1, Rev 1**]). Should disturbance be a potential pressure at the selected site for compensation, mitigation of this will be considered. The Applicant agrees that predator exclusion (fencing); predator eradication; and/or habitat management are suitable compensatory measures.

Applicants Ref	NE Ref	Issue	Issue raised	Applicant's Response
			required in addition to exclusion by fencing, or as adaptive/ongoing management in case of e.g. damage to fencing but highlight that predator control is unlikely to be sufficient in these circumstances. Disturbance management (awareness campaigns, wardening during the breeding season and/or signage). It would be extremely challenging to quantify the potential benefit of disturbance management at an appropriate lesser black-backed gull colony without significant field research being undertaken on the extent of disturbance and its impacts first. No details have been received on this fieldwork. Combined with one or more of the other potential measures above, habitat management (planting, grassland cutting and/or scrub clearance) could also prove to be an effective measure in increasing lesser black-backed gull breeding colonies.	
NE-315	G28	Technical feasibility	Predator eradication/control. With respect to predator eradication, we would suggest that without on-going lethal control of rodents outside the breeding season, and on-going monitoring once the initial eradication programme is complete (with subsequent control measures if considered necessary) success of this measure is likely to be limited. Any lethal control should be carried out over a restricted winter period when the colony is not present, to reduce the possibility of secondary poisoning through scavenging of rodent corpses. The RSPB toolkit details industry best practice (Thomas et al, 2017) Disturbance management. Without baseline data collected over a number of breeding seasons identifying impacts from anthropogenic disturbance on both lesser black-backed gull productivity and colony size, the potential benefits of this measure cannot be evidenced, and no details have been supplied on how this might be achieved. Nonetheless, managing disturbance should be technically feasible. Habitat management. The extent of vegetative ground cover and sward height is known to influence success of breeding lesser black-backed gulls (Ross-Smith et al, 2015). Chick survival in particular is related to plant cover (Davis & Dunn, 1976). We consider this measure to be feasible with evidenced benefits, if delivered alongside the exclusion/control of mammalian predators.	Should predator control be selected as a measure, the methods would be informed by site specific surveys. This has been reflected in the in the Lesser Black-Back Gull Compensation Document [**7.2.2. Rev 1**]. Disturbance management as a primary measure of compensation (e.g. awareness campaigns, wardening during the breeding season and/or signage) has been removed from the proposed measures for lesser black-backed gull compensation. Should disturbance be a potential pressure at the selected site for compensation, mitigation of this will be considered. The Applicant agrees that sward height is important to breeding lesser black-backed gull and so vegetation management will be undertaken if required, as discussed in the Lesser Black-Back Gull Compensation Document [**7.2.2. Rev 1**].
NE-316	G29	Agreed compensation level	Natural England advise that some updates to the calculation of impacts to lesser black-backed gull, apportioned to AOE SPA, may be required through the Examination period. We do not consider that this precludes useful ongoing discussion on the relevant compensatory measures, and the broad level	Please see responses to NE-224, NE-225 and NE-280 (NE Ref 2.3.2).

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			of compensation required is unlikely to change due to minor updating of impact assessments.	
NE-317	G30	Scale/extent of measure	Predator exclusion. Natural England broadly welcome the Applicant's intention to create a minimum 4ha area. We consider the extent of the proposed area would be adequate based on the nesting densities as presented in Table 6.3. We note presentation of only the higher end of Natural England's recommended nesting density range (0.047 nests per m2), whilst recognising that the density used for the consented EA1N, EA2, Norfolk Vanguard and Boreas OWFs (0.04 nests per m2) is also presented. It would be useful for context if the lower end of the recommended Natural England/RSPB nesting density range (0.002 nests per m2) was also presented, as well as for a higher compensation ratio (e.g. 3:1) although we anticipate that 4ha will remain sufficient. We note that a joint compensation scheme with Five Estuaries OWF is being considered but there is no detail of consideration of the implications for habitat extent to account for combined impact levels. Habitat management. We welcome the Applicant's suggestion of creating an enhanced breeding environment (e.g. predator free, desirable vegetation) and consider that a higher nesting density may well result. Hower, we would highlight the uncertainties around this since a suitable compensation area has yet to be secured and it is consequently unclear whether enhanced management is either necessary or possible. We do not consider it appropriate to base the compensation level on a 1:1 ratio due to remaining uncertainty of measure success. We acknowledge that a 2:1 ratio is also presented (Table 6.3) and advise that it would be appropriate to consider 3:1. A higher ratio increases confidence that the measure will contribute to the achievement of site conservation objectives and maintenance of network coherence. Finally, we also note that the quantification of breeding pairs required does not account for the possibility of adults relocating from nearby sites with less suitable habitat. We consider that a higher ratio would give some comfort around this uncertainty.	Section 5 of the updated LBBG Compensation Document [**7.2.2, Rev 1**] shows the Applicant's position regarding the extent of compensation required for North Falls alone (0.18ha based on a 2:1 ratio and 0.04 nests/m^2). In addition, calculations based on 3:1 ratio and 0.002 nests/m^2 are presented for context, however it is the Applicant's position that the 2:1 ratio is appropriate. As discussed in Section 5 of the Compensation Document, an area of 4ha is required to be ecologically effective in enhancing LBBG breeding, noting the birds may not use a smaller enclosed space. Therefore 4ha would be the minimum area, whether the measure is delivered for North Falls alone, or in collaboration with another party such as Five Estuaries.
NE-318	G31	Timing: Deliverable before impact	Lesser black-backed gulls reach breeding age maturity at 4-5 years old. Therefore, offspring fledging from a compensation site established 3 breeding seasons before commencement of operation will not have recruited into the adult breeding population. As a result, the proposed timing of delivery will	Given the low predicted annual mortality of LBBG and as the planned compensation measures will be in place over the long-term (c.33 years), a delay of a few years would not affect the overall success of these measures, recognising the significant level of overcompensation associated with the proposed 4ha site compared with the 0.18ha the Applicant considers is required to compensate the effects of North Falls.

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			result in the accumulation of mortality debt. In addition, colonisation in year 1 is far from guaranteed (the Vanguard/Boreas/East Anglia One North/East Anglia Two compound has not been colonised after two breeding seasons). This debt will need to be recovered in future years, and the debt will compound if a suitably sized colony is not established quickly. This risk does not appear to have been specifically addressed by the Applicant. Nevertheless, we recognise that a 4ha site should be able to deliver the required level of compensation over the lifetime of the project, assuming it is adequately colonised. We note that lesser black-backed gulls return to their nest sites from late February (Ross-Smith et al, 2014) and therefore suggest that the compensation area is made available before this time in Year 1 to allow pairs to scope the area before nesting commences (usually in April), in the hope that this minimises the accrual of mortality debt.	In addition, the Applicant has submitted at Deadline 1 an Update to Breeding Season Apportioning of Lesser Black-backed gull at the Alde-Ore Estuary SPA(Document Reference **9.15**), as requested by Natural England, which reduces the predicted annual collisions to 2.3 LBBG (reduced from 3.1), which in turn reduces the potential for mortality debt. The scale of required compensation will be updated to reflect the updated apportioning in the Lesser Black-Backed Gull Compensation Document and the Outline LBBG CIMP. These updates will be submitted at an appropriate Deadline. This will not however affect the intention of the Applicant to deliver a 4ha compensation sites. Mortality debt will be considered during monitoring and should a material mortality debt be deemed to be accrued, the need for additional measures/ adaptive management would be considered in consultation with the LBBG steering group.
NE-319	G32	Location of measure	We note that none of the sites under discussion have currently been secured and we would encourage the Applicant to secure agreement for this measure at an appropriate site with a landowner as soon as possible. Lantern Marshes. We understand that there have been positive discussions between North Falls and the National Trust in respect of this site and accept that an appropriately designed permanent predator exclusion fence would provide benefits beyond the management currently being undertaken by the landowner. Five Estuaries partnership sites (VE2/Outer Trial Bank). We understand that the Applicant is in discussion regarding potential collaboration at these locations. Natural England are highly supportive of this collaboration and would welcome further information regarding how this will be achieved. Orfordness-Shingle Street. We acknowledge that anthropogenic disturbance may be impacting the lesser black-backed gull colony at this site. However, quantification of the potential benefit to the colony of disturbance management measures such as awareness campaigns, warden provision or signage would require observational fieldwork. The frequency and intensity of any existing disturbance, and the consequent impacts on the colony would need to be quantified. There are no details on how or when this might be delivered. We highlight the similarities to the work National Trust are delivering at 'The Spit' under the Galloper OWF s106.	Disturbance management at Orfordness Shingle Street has been removed from the compensation options (Lesser Black-backed Gull Compensation Document [**7.2.2, Rev 1**]). As discussed in response to NE-35, the Applicant is in discussion with landowners of three potential sites, Lantern Marshes, Gedgrave Marshes and Outer Trial Bank. The Applicant is therefore confident that an appropriate site can be secured. The Applicant is also in discussions with Five Estuaries regarding potential collaboration at their selected site (VE2). The Applicant is not currently progressing this site for North Falls alone.

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			Outer Trial Bank. We accept that although lesser black-backed gulls have high rates of natal philopatry, it is entirely possible that individuals fledging from this site could theoretically recruit into other nearby lesser black-backed gull colonies within the AOE SPA, (notwithstanding our concerns about the efficacy of the predator control measure at this site).	
NE-320	G33	Long term implementation	We welcome the Applicant's undertaking to secure land rights by entering into legal agreements with the relevant landowner or seeking a compulsory purchase order under the Electricity Act 1989, to ensure compensation can be delivered for the operational lifetime of the wind farm. We note that any further permissions (e.g. for fencing or SSSI assents) will be sought by the Applicant where necessary. Predator exclusion. We agree that a commitment to the regular monitoring of the integrity of fencing, for mammal incursions and for the state of vegetation within the compensation site is required, noting that even a single night of predator ingress could significantly undermine colony establishment. We also welcome the commitment to monitoring based on Gilbert et al (1998) and Walsh et al. 1995). We are highly supportive of the proposed BTO ringing and colour-ringing scheme, coupled with resighting surveys, to ensure that juvenile's colour-ringed at the site can be followed through to at least 4 years of age when breeding could commence. This would prove that the measure had contributed additional adults to the population. Resighting surveys/reporting should also help establish network connectivity. Hatching and fledging success should be monitored by three visits throughout the breeding season to count eggs, hatched eggs and fledging young. Drones could be used for this purpose and novel methods, such as thermal drone surveys, could be explored if it is considered they provide more accurate results. Ground-truthing of drone surveys would be required, at least initially, to identify a correction factor to accurately calibrate the detection rate of nests/young (Corregidor-Castro et al, 2022). We recognise that individual colony performance should be considered holistically in relation to other lesser black-backed gull colonies but welcome the undertaking to explore reasons for failure and consequent adaptive management measures if considered necessary. Noting that these could include additional habitat management, investigation of avian predator control and use of decoys/colony call playback.	The Applicant welcomes Natural England's agreement. Monitoring methods and the need for decoys and call playback will be discussed with Natural England during development of the final Lesser Black-backed Gull Implementation and Monitoring Plan post consent, in accordance with the Outline Lesser Black-backed Gull Implementation and Monitoring Plan [**7.2.2.1, Rev 1**]. This will be informed by lessons learned from the existing lesser black-backed gull compensation at Orfordness for East Anglia ONE North, East Anglia TWO, Norfolk Vanguard and Norfolk Boreas.

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			Given the poor rate of occupancy achieved so far at compensatory measure sites we advise that any measures that could enhance colonisation (e.g. decoys, call playback) are implemented immediately rather than held in reserve as adaptive management.	
NE-321	G34	Success criteria/Ability to prove additionality	See above	
NE-322	G35	Suitable as sole measure for target species	Subject to an appropriate site of sufficient extent being secured, Natural England advise that predator exclusion (with habitat management where necessary) could theoretically deliver effective compensation for the projects estimated contribution to the in-combination impact on the lesser black-backed gull feature at AOE SPA. It is highly unlikely that non-lethal control (trapping) of rats on the Outer Trial Bank would be successful. However, we would be supportive of an eradication effort here, in addition to predator exclusion at another site. This might alleviate concerns around the accrual of mortality debt due to the proposed timelines.	The Applicant welcomes Natural England's agreement regarding predator exclusion (with habitat management where necessary) at the AOE SPA. Section 9.2 of the Lesser Black-Backed Gull Compensation Document [**7.2.2, Rev 1**] has been amended to confirm lethal methods would be used for rat control/eradication.
	Key Uncertainties			
NE-323	G36	Site not secured	No landowner agreement has yet been secured for any of the sites evaluated for the predator-proof fencing/habitat management measure, although we understand discussions are on-going.	The Applicant is in discussion with landowners for its options at Lantern Marshes, Gedgrave Marshes and Outer Trial Bank and is confident land rights can be secured for a suitable site. The Applicant is also in discussions with Five Estuaries regarding potential collaboration at their selected site (VE2). The Applicant is not currently progressing the VE2 site for North Falls alone.
NE-324	G36	Non-lethal control on Outer Trial Bank	·Non-lethal control (trapping) of rodents on the Outer Trial Bank is highly unlikely to work. Eradication may not be effective if rats are not suppressing breeding lesser black-backed gull productivity, or the site is recolonised by rats prior to the breeding season.	The updated Lesser Black-backed Gull Compensation Document [**7.2.2, Rev** 1] includes rodent control by lethal methods.
NE-325	G36	Inadequate compensation level	While we consider a 4ha site to be appropriate, we consider further work is required around defining success according to the ratio of impact (which may be subject to change within the impact assessment) to observed productivity and assumed level of consequent recruitment.	. Please see response to NE-280 (NE Ref 2.3.2).
NE-326	G36	Drivers of decline	The primary limitation on population growth rates could be food supply. If this is the case, improving nesting habitat may have no or little impact.	It is the Applicant's understanding that Natural England would not support supplementary feeding of lesser black-backed gulls and therefore food supply is not being considered further. Lessons learned from the existing measures in respect of lesser black backed gull at Orfordness for East Anglia ONE North, East Anglia TWO, Norfolk Vanguard and Norfolk Boreas will be considered when developing the final Lesser Black-Backed Gull Compensation Implementation and Monitoring Plan for North Falls

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				post consent and monitoring of the North Falls compensation will inform the need for any adaptive management to deliver ecologically effective compensation. The Applicant understands that Natural England agrees with the proposed measures for North Falls based on their representations, (see NE-284, NE-286).
	2.4	Outer Thames Estuary SPA: Red Throated Diver - Installation of Nesting Rafts and/or Habitat Management to Improve Breeding Success (or Data Collection to Support Development of Sanctuary Areas in the OTE SPA)		
		Nesting Rafts and/or Habitat Management in Scotland/Finland		
NE-327	2.4.1		The measure proposed for red-throated diver (RTD) compensation for the Project alone is to increase productivity and thereby the population resilience via installation of breeding rafts and/or moorland habitat management to reduce peat erosion and draining of breeding lochs	Agreed The responses below are provided without prejudice to the Applicant's position that there will be no adverse effect on integrity (AEoI) of the red throated diver feature of the Outer Thames Estuary SPA from North Falls alone and no meaningful contribution to any in-combination with other plans and projects, and that compensation is therefore not required.
NE-328	2.4.2		Artificial nesting rafts would be installed in waterbodies used by RTD for successful breeding in Scotland or Finland. The RTD population which overwinter in the Outer Thames Estuary Special Protection Area (OTE SPA) breed in Fennoscandia, while the UK breeding population in Scotland has limited connectivity with the OTE SPA	The Applicant agrees with Natural England that compensation in Scotland would contribute benefits to the wider UK NSN for red-throated divers (noting that the HRA regime protects the overall coherence of the network and so this is appropriate). While the Applicant considers Finland also to be a feasible and appropriate option, the Applicant has followed Natural England's advice to focus on Natural England's preferred option of Scotland.
NE-329	2.4.3		Implementation of nesting rafts in Scotland would not necessarily provide direct benefit to the impacted population in the OTE SPA, nor would it address the disturbance and displacement (effectively felt as habitat loss) impacts of the project. However, if deployed in the vicinity of Scottish breeding season SPAs, there could be potential benefits to the NSN for this species. We retain concerns about the provision and management of this measure in Finland given the interventions will be beyond the UK and therefore the NSN.	
NE-330	2.4.4		Site selection is likely to be key to the success of the nesting raft measure and it is of some concern that no sites have yet been short-listed or secured. However, we welcome the appointment of RTD experts in Scotland and acknowledge that site selection work is underway	Site selection has been rapidly progressing, with a short list of sites now selected from a long list of possible sites as described in the Red-throated Diver Compensation Document [**7.2.3, Rev 1**]. Expert input has been used to both generate the long list of sites and to help refine this to the short list of those sites considered suitable for compensation measures as described in the Red-throated Diver Compensation Document [**7.2.3, Rev 1**]. Recognising that it is the Applicant's position that RTD compensation should not be required, landowner agreements will be secured post consent, however engagement with landowners is progressing.
NE-331	2.4.5		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).	Noted

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		Data Collection for the Development of Potential Sanctuary Areas for RTD in the OTE SPA		
NE-332	2.4.6		Alternatively, the Applicant is in the early stages of discussion with Scottish Power Renewables (SPR) to identify viable methods to support data collection for the development of a potential 'sanctuary' or 'reserve' areas within the OTE SPA. This strategic or collaborative compensation would be implemented wholly in substitution of the project led compensatory measure, or partly in substitution, if the proposed measures are unable to deliver the full compensation requirement. However, Natural England consider that if the extent of the strategic/collaborative measure solely relates to evidence gathering and analysis, then both the project-led and strategic/collaborative measure would need to be implemented	The Applicant continues to engage with SPR and Natural England regarding contributing to a strategic/collaborative compensatory measure at the OTE SPA. It is currently unclear how the Applicant could provide additionality to the planned data collection by SPR and, at the time of writing, there is insufficient information from Defra regarding a strategic compensation option for red-throated diver. The Applicant is therefore focusing on enhancing breeding success of red-throated diver in Scotland as the primary without prejudice compensation option for North Falls. The Applicant will continue discussions regarding a strategic/collaborative option and should an appropriate measure become available at the OTE SPA, this will be considered. The Applicant also intends to attend a stakeholder group to be established by SPR.
NE-333	2.4.7		We consider that the scale of impact of the proposed development is significant and that the level of contribution to strategic approaches should reflect this. Whilst we recognise that a developer does not have the regulatory powers to implement a 'sanctuary' or 'reserve' area, we strongly recommend that the Applicant consider how they could meaningfully support regulatory approaches e.g. financial compensation for impacted sea users, funding implementation staff, stakeholder materials etc	The Applicant considers that the scale of the effect from North Falls is small as discussed in the RIAA Part 4 Offshore Ornithology [**APP-178**]. In addition, the Applicant considers that the proposed scale of compensation in Scotland will deliver significant benefits to the NSN. As discussed above, consideration has been given to contributing to a strategic/collaborative compensatory measure at the OTE SPA, however it is currently unclear how North Falls could deliver this option.
NE-334	2.4.7		In summary, we advise that the provision of nesting rafts alongside habitat management would not directly address the impact of the project but could provide benefits to other NSN sites for RTD. Data collection to inform the identification of sanctuary areas would not represent a compensatory measure itself, and the level of benefit to the UK NSN is unclear	The Applicant welcomes Natural England's agreement that the proposal to provide nesting rafts and habitat management would benefit the population within the NSN, and note that, this approach has been selected on the basis that it represents the most optimal option available and the selection process leading to this measure was shared with Natural England through expert topic group meetings.
NE-335	2.4.7		**Therefore, our recommendation is for a more ambitious approach that includes, as a minimum, a strong commitment to a clearly defined package of measures (including data collection for sanctuary area implementation, provision of a greater number of nesting rafts in Scotland, and habitat management).**	The Applicant welcomes Natural England's broad support for the proposed compensation. However, with regard to Natural England's recommendation for a more ambitious approach, including provision of a greater number of nesting rafts and/or habitat management in Scotland, the Applicant notes that the current proposal (a short list of sites comprising up to 40 lochs, half as compensation sites and half as controls) represents a considerable commitment when viewed against the potential scale of impacts which are predicted to be minimal.
	Table 4: Summary Position of Compensation Measure for Outer Thames Estuary SPA Red Throated Diver			
NE-336	G37	Overall confidence in the measure	There is an acknowledged mismatch between the expected benefits (increased productivity) and the impact (habitat loss/degradation). However, we consider that the scale of impact is significant, and, in broad terms, significant benefits should be expected to arise from any delivery of a compensation measure (or package of measures).	The Applicant considers that the scale of the effect from North Falls is small as discussed in the RIAA Part 4 Offshore Ornithology [**APP-178**]. In addition, the Applicant considers that the proposed scale of compensation in Scotland will deliver significant benefits to the NSN. The Applicant has drawn up a short list of sites which are currently being considered for their ecological suitability for successfully increasing RTD breeding success and breeding population size. Recognising that it is the Applicant's position that RTD compensation should not be required,

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			Nesting rafts and habitat management are technically feasible however, site selection is likely a critical factor to the success of this 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. Whilst data collection for the development of sanctuary areas could provide benefits, the Applicant's discussion with SPR is at an early stage. We highlight that under the East Anglia One North/Two DCOs, SPRs have specific requirements relating to surveys, and therefore North Falls' contributions would need to be demonstrably additional to these. It is not clear what substantial remaining evidence or data gaps exist, if any, that currently preclude the identification and development of sanctuary areas.	landowner agreements will be secured post consent, however engagement with landowners is progressing. The Applicant also acknowledges Natural England's concerns regarding raft deployment in Finland and while the Applicant considers Finland to be a feasible and appropriate option, the Applicant has followed Natural England's advice to focus on Natural England's preferred option of Scotland. As discussed above (e.g. NE-304), consideration has been given to contributing to a strategic/collaborative compensatory measure at the OTE SPA in response to advice from Natural England, however it is currently unclear how North Falls could deliver this option and therefore enhancing breeding productivity in Scotland is being developed as the primary without prejudice compensatory measure. The Applicant will continue discussions regarding a strategic/collaborative option and should an appropriate measure become available at the OTE SPA, this will be considered. The Applicant also intends to attend a stakeholder group to be established by SPR.
NE-337	G38	Theoretical merit to deliver compensation	**Nesting rafts (Scotland)**. We consider that the provision of nesting rafts to improve the breeding success of RTD could be an effective measure to compensate for the Project's impacts on the non-breeding red-throated diver feature of the OTE SPA. We recognise that should this measure be implemented in Scotland, there would not necessarily be any direct benefit to the impacted population, which is thought to be drawn predominantly from birds that breed in Fennoscandia and further east to northern Russia. Furthermore, the measure would not address the disturbance and displacement (effectively felt as habitat loss) impacts of the project. Nevertheless, there would be connectivity with the United Kingdom National Site Network (UK NSN) through potential recruitment into Scottish SPAs designated for breeding RTD, and possibly also to the Scottish and English SPAs designated for non-breeding red-throated divers. Nesting rafts (Finland). If the measure were to be adopted in Fennoscandia (i.e. Finland) additional birds could be delivered into the non-breeding RTD population in the southern North Sea, including at the OTE SPA. It is not clear that this is advantageous given the increasing levels of disturbance and displacement causing activities within the OTE SPA. We retain concerns that rafts in Finland may not present meaningful conservation opportunities, with birds being highly likely to recruit into local populations outside the UK NSN.	The Applicant welcomes Natural England's agreement that the provision of nesting rafts in Scotland could deliver compensation for the potential effects of the Project on the red-throated divers in the OTE SPA. The Applicant also acknowledges Natural England's uncertainty about the same measure delivered in Finland, with respect to the outcome for the UK NSN. While the Applicant considers Finland also to be a feasible and appropriate option, the Applicant has followed Natural England's advice to focus on Natural England's preferred option of Scotland. Regarding Natural England's comment: "*Thus, we consider that appropriate habitat management could prove to be effective, particularly if combined with nesting rafts*." The Applicant has included habitat management as an alternative to raft provision because it is the view of the RTD experts advising the Project that in Scotland there are locations where rafts are likely to be of limited benefit to RTDs. For example, in Shetland there are fewer mammalian predators than on Mainland Scotland, and little human disturbance. The primary cause of poor breeding success is waterbodies draining over the breeding season due to peat erosion. For this reason, the primary compensatory measure to be delivered at waterbodies in Shetland would be peatland habitat management to prevent draining. By contrast, short listed sites in other areas are likely to be at higher risk of human disturbance and mammalian predation, but much lower risk of draining or drying up. At these sites raft provision would be the primary option for increasing RTD breeding success, since habitat management would be expected to be of minimal benefit. While this does not preclude the potential for both measures to be deployed at the same site if this is considered appropriate, it is anticipated that the need for this is less likely than for one or the other measure to be used in isolation.

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			Habitat management. Variables influencing nesting success have been shown to include fluctuating water levels (flooding, drought), a lack of anthropogenic disturbance and predation, and nest vegetation height (which might mediate predation risk), amongst others. Thus, we consider that appropriate habitat management could prove to be effective, particularly if combined with nesting rafts. Data collection to support the identification and implementation of a sanctuary area for red-throated diver in the OTE SPA. We consider this to be a potentially effective contribution to a measure that could directly compensate for the predicted impacts on the RTD population in the OTE SPA. Noting the existing requirements on SPR relating to collecting survey data on RTD, we highlight that data collection alone would not be considered an appropriate compensatory measure. We are supportive of the delivery this measure as part of a package. Natural England highlight that there may be further opportunities to aid the identification and implementation of sanctuary areas for RTD. While we accept that the current situation regarding this strategic measure is somewhat unclear, we recommend the Applicant makes clearer commitments to supporting the measure through the delivery of a package of measures. In any case, a clearly defined proposal would be required for us to offer an opinion on.	As noted by Natural England (NE-308), it is not clear what substantial data gaps exist at the OTE SPA that North Falls could contribute to. The Applicant will continue discussions regarding a strategic/collaborative option and should an appropriate measure become available at the OTE SPA, this will be considered, however as discussed above, enhancing breeding productivity in Scotland is being developed as the primary without prejudice compensatory measure for North Falls.
NE-338	G39	Technical feasibility	Nesting rafts. This measure has been shown to increase productivity at suitable sites and has a long history of successful implementation, proving it is technically feasible. Habitat management. We consider this measure to be feasible should baseline monitoring identify there is a need at suitable sites. We highlight that regulation of water levels (on peat) may prove much more challenging than reducing predation/anthropogenic disturbance or managing the height of vegetation. Data collection. Data already exist that can be interrogated to indicate where suitable areas of foraging habitat overlap with high levels of existing disturbance resulting in lower densities of red-throated diver than might otherwise be expected, and therefore where sanctuary areas might be best located. Existing projects will update some of this data. Gathering further data, if required, is highly likely to be technically feasible, although such options have not been fully explored by the Applicant yet. It should be borne in mind that the OTE SPA is a dynamic system of constantly changing tidal fronts and eddies, salinities, water depths and food availability, which might	The Applicant welcomes Natural England's agreement that the proposed measures at breeding lochs are feasible from a technical perspective. As discussed above (e.g. NE-304), consideration has been given to contributing to a strategic/collaborative compensatory measure at the OTE SPA in response to advice from Natural England, however it is currently unclear how North Falls could deliver this option and therefore enhancing breeding productivity in Scotland is being developed as the primary without prejudice compensatory measure. The Applicant will continue discussions regarding a strategic/collaborative option and should an appropriate measure become available at the OTE SPA, this will be considered. The Applicant also intends to attend a stakeholder group to be established by SPR.

Applicants Ref	NE Ref	Issue	Issue raised	Applicant's Response
			perhaps necessitate the production of temporally limited preferential habitat maps (e.g. at different tidal states). Furthermore, we note that a full understanding of fine-scale wintering red-throated diver distribution and habitat utilisation in the absence of disturbing activities is precluded by the simple lack of such a situation. Specific spatially and temporally appropriate datasets for non-licensable marine activities such as recreational pursuits (e.g. power boat racing, kitesurfing) and fishing intensity for boats under 15 m with no AIS/VMS are likely to be unavailable. Licensable activities such as aggregate extraction may alter benthic habitats previously identified as highly suitable as e.g. fish spawning areas and it may be difficult to measure recovery (van der Meulen, 2016). This introduces a high level of uncertainty in the identification of the most suitable areas proposed as sanctuaries and could offer opportunities for the project to contribute to data collection. In terms of evidence to support sanctuary area efficacy, there is currently very little publicly available specifically for red-throated diver. Results from the Maasvlakte2 compensation scheme for the development and expansion of the Port of Rotterdam could be investigated. This involved the creation of the Voordelta, a 25,000-ha sanctuary area for impacted seabirds ten times the size of the new harbour and included prohibition of trawl fishing amongst and all other human activity (van der Meulen, 2016; Rijkswaterstaat Ministry of Infrastructure and Water Management, 2024).	
NE-339	G40	Agreed compensation level	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). The Applicant suggests from the most relevant evidence (Merrie, 1996) that if 20 rafts were installed, 15 may be occupied. Assuming an increase in the productivity rate of 0.4, this could deliver 6 additional juveniles into the population. We note that of those 6 birds, it would also be appropriate to consider the juvenile survival rates to calculate the number of adults that may recruit back into the population. Survival rates of RTD are not well evidenced but are thought to be relatively low. Horswill & Robinson (2015) report (with low confidence) survival rates of 0.6 for juveniles (age 0-1) and 0.62 for immatures (age 1-2). Thus, it appears that the measure might	The Applicant welcomes Natural England's agreement that there is no straightforward means to translate the predicted potential impact (habitat loss/degradation) into demographic benefits (improved breeding success). The Applicant therefore considers it to be contradictory and misleading for Natural England to provide a calculation which attempts to compare these values. The Applicant also disputes Natural England's position that the scale of predicted impact is significant, as detailed in the RIAA Part 4 Offshore Ornithology [**APP-178**]. Furthermore, the proposed compensation, with interventions (rafts or habitat management) at more than 20 lochs and monitoring of a further 20 to act as controls, is considered to represent a significant undertaking.

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			be expected to deliver approximately 2 additional adult red throated divers per year into the population, with some uncertainty around levels of connectivity with the UK NSN. Natural England are not persuaded that this could be judged as a 'significant' contribution to the population. We recommend a more ambitious approach to the nest raft measure, as part of a commitment to a clearly defined package of measures.	
NE-340	G41	Scale/extent of measure	Nesting rafts/habitat management. See comments above relating to scale and extent. We also highlight that should site suitability criteria dictate that sites already used by red-throated diver are selected, productivity should be assessed not on the productivity of pairs using the rafts as a stand-alone consideration, but how productivity has been improved in comparison with baseline productivity prior to the provision of the rafts (see also 'Location of measure' below). Data collection. 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	While the Applicant agrees that comparing breeding success before and after provision of a raft (or habitat management) would be a sensible method for estimating the effectiveness of the measure, this is unlikely to be feasible for most sites. This is because red-throated divers tend to switch breeding lochs between years, moving to neighbouring lochs, particularly if their nesting attempt failed the previous year. Consequently, for most sites it is unlikely to be possible to have a 'baseline breeding success' for an individual loch, subject to ongoing review of the availability of existing data in consultation with local experts. Instead, the Project will use breeding success at control lochs, where no compensation has been implemented, to demonstrate the increase in breeding success. The success of compensation will be quantified as the additional number of chicks fledging from lochs with compensation, above the breeding success at control lochs. Quantifying the increase in the numbers of breeding pairs will be established by monitoring the numbers of breeding pairs in the area. All suitable lochs within an area will be monitored each year for breeding RTDs to obtain evidence of any increase in the number of breeding pairs using lochs at which habitat management/rafts have been instigated, rather than breeding pairs moving between lochs. Additional information is provided in the Red-throated Diver Compensation Document [**7.2.3, Rev 1**] regarding the site selection and proposed measures. As discussed above (e.g. NE-304), consideration has been given to contributing to a strategic/collaborative compensatory measure at the OTE SPA in response to advice from Natural England, however it is currently unclear how North Falls could deliver this option and therefore enhancing breeding productivity in Scotland is being developed as the primary without prejudice compensatory measure. The Applicant will continue discussions regarding a strategic/collaborative option and should an appropriate measure become available at the OTE SPA, this will be considered. The Applicant also intends to attend a stakeholder group to be established by SPR.
NE-341	G42	Timing: Deliverable before impact	Nesting rafts. Adoption of new nesting rafts appears to be high, with Merrie (1996) noting rafts were usually accepted in the first year in Argyll, Scotland. Hancock (2000) similarly observed that most rafts placed in lochs in Scotland for black-throated diver were used in the first or second years, and similar to Nummi et al (2013) findings for red-throated diver in Finland, DeSorbo et al (2007) found that 90% of rafts for great northern diver were used within 3 years. Subject to suitable sites being available and secured, it is likely that sites would be used in the first year, or shortly thereafter. Thus, benefits could	The Applicant welcomes Natural England's agreement on the likely rapid uptake of rafts and that this compensation would therefore begin delivering benefits within the first year of deployment. As discussed above (e.g. NE-304), consideration has been given to contributing to a strategic/collaborative compensatory measure at the OTE SPA in response to advice from Natural England, however it is currently unclear how North Falls could deliver this option and therefore enhancing breeding productivity in Scotland is being developed as the primary without prejudice compensatory measure. The Applicant will continue discussions regarding a strategic/collaborative option and should an appropriate measure become available at the OTE SPA, this will be considered. The Applicant also intends to attend a stakeholder group to be established by SPR.

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			be felt at the NSN after a single breeding season. We consider the measure could be delivered before the point of impact. Habitat management. As above. Data collection. This could start immediately, although we do not consider that any actual benefit will arise until a sanctuary area is defined and protected. While this measure could instantly alleviate the project impacts (depending on the scale and other impacts that the measure might also be compensating) we note that any interim losses could not be compensated for. I.e., there will have been a period over which a most suitable habitat for non-breeding RTD has been impacted. Providing a greater area than that impacted may reduce uncertainty around effectiveness, but we highlight that it will not compensate for any historic impact after the fact.	
NE-342	G43	Location of measure	**Nesting rafts/habitat management**. Gomersall (1986) amongst others (e.g. Solovyeva et al, 2017; Dahlén et al, 2024), found that red-throated diver breeding success was higher on smaller lochs which Okill and Wanless (1990) speculated might be due to disturbance issues at larger lochs (as well as being more prone to dramatic fluctuations in water level, nest flooding from wave action/foaming during high winds, and intraspecific competition). Merrie (1996) observed that red-throated diver seemed to be attracted to traditional nesting lochs (where nesting attempts had previously been noted) and the presence of nesting rafts in other areas did not seem to lure them away. Furthermore, successful rafts were always in sheltered positions. Gomersall (1986) noted significantly greater re-use of lochs which had previously supported successful breeding, whilst Lehtonen (2016) found that distance to foraging area was negatively correlated with breeding success. These studies suggest that site location is an extremely important factor in the success of the measure. It is of some concern that no suitable sites have yet been identified and secured, although we acknowledge that site selection work is underway. We welcome the appointment of experts in red-throated diver breeding ecology in Scotland to this end. **Data collection** for the identification of potential sanctuary areas in the OTE SPA is clearly designed to benefit the impacted red-throated diver population directly at the impacted site but is not an appropriate stand-alone compensatory measure.	The Applicant agrees with Natural England's understanding of the importance of site selection and is making use of expert knowledge built up over many years of experience in Scotland to undertake this aspect. The comprehensive understanding of the requirements of breeding RTDs is being used to carefully select suitable lochans for implementing compensation and as control lochs. As discussed above (e.g. NE-304), consideration has been given to contributing to a strategic/collaborative compensatory measure at the OTE SPA in response to advice from Natural England, however it is currently unclear how North Falls could deliver this option and therefore enhancing breeding productivity in Scotland is being developed as the primary without prejudice compensatory measure. The Applicant will continue discussions regarding a strategic/collaborative option and should an appropriate measure become available at the OTE SPA, this will be considered. The Applicant also intends to attend a stakeholder group to be established by SPR.
NE-343	G44	Long term implementation	Nesting rafts/habitat management (Scotland). We welcome the Applicant's undertaking that permissions for these measures in Scotland would be secured via lease for the	The Applicant welcomes Natural England's agreement on the approach to leasing sites in Scotland. With respect to Finnish sites, the lakes at which rafts were installed, as reported in Nummi *et al.,* (2013) are in the vicinity of Helsinki and it is possible that the RTDs breeding on these lakes were somewhat habituated to walkers and fishermen using the area. The higher breeding success of RTDs

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			operational life of the Project, with land purchase also given consideration. Nesting rafts/habitat management (Finland). We acknowledge the theoretical possibility that rafts in Finland could be provided for the lifetime of the Project and that there has been consideration of the statutory permits for deployment there. However, we consider it falls to the Applicant to demonstrate beyond reasonable doubt that they will have sufficient control over Finnish rafts for the duration of the Project. We again highlight our preference for the implementation of this measure in Scotland. Monitoring. We acknowledge the inherent risks that multiple monitoring visits might represent and recognise that anthropogenic disturbance has been reported as a factor in reduced breeding success, though Nummi et al (2013) found that red-throated diver bred successfully on nesting rafts despite anthropogenic disturbance. Nevertheless, we would advocate investigation into the feasibility of using established or emerging technologies for this purpose, such as thermal drones, trail cameras/temperature data loggers (Hulka, 2010) or remote camera systems to ensure that the potential improvements to red-throated diver productivity by adopting nesting rafts are adequately quantified in comparison with natural sites and/or a baseline. We note that where site visits are required, these would be conducted by appropriately licensed individuals. We note discussion of the need for retrofitting roofs to nesting rafts should avian predation be identified as a limiting factor in breeding success. We understand that the deployment of camouflage nets over wire mesh has met with some success elsewhere for great northern diver (DeSorbo et al, 2008) but consider that references to 'roofs' are somewhat misleading. Rafts will need to be placed in sheltered locations to avoid a retrofitted structure acting as a sail in high winds. We would encourage raft design to allow for the development of natural vegetation (e.g. carex spp. at <30cm). Data collection. 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. For example, the frequency and intensity of some (currently unquantified and unmapped) fishing impacts, particularly from damaging gear types such as trawling, may require a period of recovery before they are fully mediated. This would also be true of aggregate workings. The Thames is an extremely busy waterway and is predicted to become busier (Port of London Authority, 2024), whilst	on rafts, compared with those nesting on the shore of these lakes, was particularly due to dogs being walked around the edge of lakes, as well as mammalian predation. Therefore, it cannot be assumed that RTDs breeding on natural islands or rafts in Scotland would not be disturbed by surveyors making frequent visits to monitor breeding success and we agree that use of remote technologies would be very helpful both for reducing disturbance and also for understanding when and why nests failed. The Applicant will investigate and implement these where we are confident that the data obtained from these devices will be helpful and there are no detrimental effects on the RTDs from using such technology. Regarding 'roofs' the intention would be to use this measure as adaptive management, should there be evidence that avian predation is continuing to reduce RTD breeding success. Careful consideration will be given to the material to use if roofs are required but it would likely be chicken wire or other netting that a bird could not get caught in but that would also not act as a sail. Rafts will be placed in sheltered locations away from prevailing winds, also ensuring that RTDs have the ability to slip below the surface of the water to evade predators when exiting the nest platform. Rafts will have a small amount of vegetation and soil from the edge of the loch placed on them to ensure similar vegetation is on the raft as on the bank. Since this vegetation will not be grazed, it should grow tall and provide cover for nesting RTDs. As discussed above (e.g. NE-304), consideration has been given to contributing to a strategic/collaborative compensatory measure at the OTE SPA in response to advice from Natural England, however it is currently unclear how North Falls could deliver this option and therefore enhancing breeding productivity in Scotland is being developed as the primary without prejudice compensatory measure. The Applicant will continue discussions regarding a strategic/collaborative option and should an appropriate measure become available at the OTE SPA, this will be considered. The Applicant also intends to attend a stakeholder group to be established by SPR.

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			improved access for recreation and leisure is already planned (Defra/Environment Agency, 2023	
NE-344	G45	Success criteria/Ability to prove additionality	**Nesting rafts/habitat management.** Success of these measures relies heavily on the Applicant's ability to quantify existing productivity (see monitoring above) as this measure relies on improvements to existing productivity. Identification of sites with an established (or implementable) monitoring baseline outside of the existing SPA network designated for RTD, and with no current nesting raft provision or habitat management programme, would therefore seem critical. We expect that final site selection could prove challenging and recommend that the Applicant accelerates their work in this area. **Data collection.** Until a more developed proposal for data collection is presented by the Applicant it is difficult to comment further.	The Applicant agrees that monitoring will be critical. Existing productivity will be established through monitoring breeding success at control sites with no rafts and/or at which water levels fluctuate due to peat erosion. This will be compared with breeding success at sites with compensation implemented. This control-impact design ensures that any inter-annual variation in breeding success does not preclude understanding the magnitude of increase in breeding success. Where possible, the Applicant will use an established baseline, working with local experts who have information on breeding success at lochs over recent years, e.g. in Shetland. Where such local knowledge does not exist, the Applicant will initiate a breeding success monitoring programme across control sites and sites at which compensation is implemented. Additional information is provided in the Red-throated Diver Compensation Document [**7.2.3, Rev 1**] regarding the site selection, proposed delivery mechanism and monitoring. On data collection, as discussed above (e.g. NE-304), consideration has been given to contributing to a strategic/collaborative compensatory measure at the OTE SPA in response to advice from Natural England, however it is currently unclear how North Falls could deliver this option and therefore enhancing breeding productivity in Scotland is being developed as the primary without prejudice compensatory measure. The Applicant will continue discussions regarding a strategic/collaborative option and should an appropriate measure become available at the OTE SPA, this will be considered. The Applicant also intends to attend a stakeholder group to be established by SPR.
NE-345	G46	Suitable as sole measure for target species	**Nesting rafts (Scotland).** The provision of this measure is suitable as a primary measure to compensate for impacts to red-throated diver in the OTE SPA but we consider it best delivered alongside habitat management (where appropriate) and in conjunction with data collection in support of the identification and eventual implementation of a sanctuary area within the OTE SPA. **Nesting rafts (Finland).** We retain concerns about the provision of this measure and highlight our preference for delivery in Scotland. **Habitat management**. We consider that this measure should be delivered alongside the provision of nesting rafts to establish optimum conditions for breeding RTD, thereby potentially reducing the impacts of mammalian predation and anthropogenic disturbance. **Data collection** to identify potential sanctuary areas in the OTE SPA is not considered sufficient alone. Natural England advise that delivery of this measure in addition to the provision of nesting rafts could represent a suitable compensation package, but detailed proposals are required	The Applicant welcomes Natural England's support and constructive comments on the proposed measures. As discussed above (NE-309), the Applicant has included habitat management as an alternative to raft provision because it is the view of the RTD experts advising the Project that in Scotland there are location where rafts are likely to be of limited benefit to RTDs. For example, in Shetland there are fewer species of mammalian predators and little human disturbance and consequently the primary cause of poor breeding success is waterbodies draining over the breeding season due to peat erosion. For this reason, the primary compensatory measure to be delivered at waterbodies in Shetland would be peatland habitat management to prevent draining. By contrast, short listed sites in other areas are likely to be at higher risk of human disturbance and mammalian predation, but much lower risk of draining or drying up. At these sites raft provision would be the primary option for increasing RTD breeding success, since habitat management would be expected to be of minimal benefit. While this does not preclude the potential for both measures to be deployed at the same site if this is considered appropriate, it is anticipated that the need for this is less likely than for one or the other measure to be used in isolation. Site selection in Scotland is underway and additional information is provided in the Red-throated Diver Compensation Document [**7.2.3, Rev 1**]. Regarding Finland, while the Applicant considers Finland to be a feasible and appropriate option, this has been parked to focus on Natural England's preferred option of Scotland. On data collection, as discussed above (e.g. NE-304), consideration has been given to contributing to a strategic/collaborative compensatory measure at the OTE SPA in response to advice from Natural England, however it is currently unclear how North Falls could deliver this option and therefore

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				enhancing breeding productivity in Scotland is being developed as the primary without prejudice compensatory measure. The Applicant will continue discussions regarding a strategic/collaborative option and should an appropriate measure become available at the OTE SPA, this will be considered. The Applicant also intends to attend a stakeholder group to be established by SPR.
	Key Uncertainties			
NE-346	G47	Sites not secured (Scotland)	Site selection is likely to be a critical aspect defining the success of the nesting raft measure and it is of some concern that no sites have yet been short-listed or secured.	Site selection is progressing rapidly, see responses to NE-302, NE-314 and NE-308 above in relation to progress. Further information on site selection is also provided in the updated RTD Compensation Document [**7.2.3, Rev 1**], Section 9. Recognising that it is the Applicant's position that RTD compensation should not be required, landowner agreements will be secured post consent, however engagement with landowners is progressing.
NE-347	G47	Sites not securable (Finland)	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	In response to Natural England's feedback, the Applicant is focussing on Scotland as requested.
NE-348	G47	Inadequate compensation level	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	The Applicant considers that their proposals of up to 20 waterbodies with compensatory measures (rafts and/or habitat management), along with monitoring of up to 20 control sites will deliver significant benefits to the NSN population, and this will be evidenced through comparison of the productivity at control and intervention sites.
NE-349	G47	Data collection remains poorly defined	The proposal to contribute in some way to the identification and implementation of sanctuary areas for RTD within the OTE SPA remains poorly defined. Natural England consider that there is substantial merit in progressing this workstream but that it should be considered as part of a compensation 'package' alongside the provision of nest rafts and habitat management.	The Applicant has continued to discuss this option with Natural England and ScottishPower Renewables (SPR). SPR has an existing condition for the East Anglia ONE North (EA1N) and East Anglia TWO (EA2) offshore windfarms to collect survey data to contribute to the development of this potential measure. Opportunities for North Falls to provide additional benefit to the data collection required for the EA1N and EA2 projects have not currently been identified. NFOW expects to be invited to join a working group being established by SPR and intends to contribute to this group. In accordance with "*Strategic compensation measures for offshore wind activities: Marine Recovery Fund interim guidance"*, DESNZ (2025), a contribution to the Marine Recovery Fund (MRF) could be made in substitution for any project-led measure, provided the MRF becomes operational and appropriate compensation can be secured via the MRF for red-throated diver. This could fund the sanctuary areas should Defra include this option in the OWEIP Library of Strategic Compensation Measures (LoSCM).
		Table 5 Natural England's Detailed Advice and Recommendations		
			Please refer to Appendix F Offshore Ornithology for our advice on how the proposed compensation measures will be secured and implemented.	Noted
			Please refer to Appendix A DCO for our advice on how the proposed compensation measures will be secured and implemented.	
			[Annex G1: Natural England check list for compensatory measure submissions - is not copied in full]	

2.10 Applicant's Comments– Appendix H – Onshore Ecology and Ornithology

Applicants Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
		1. Natural England's Advice and Recommendations	A summary of Natural England's key concerns in relation to the Onshore Ecology and Ornithology is set out in Table 1. Our detailed advice and recommendations are presented in further detail in Table 2.		Noted.
		2. Recommended Updates to Documents	We have highlighted in our detailed comments below a number of evidence gaps where the data used to inform impact assessments are old or not site-specific and may not, therefore, accurately represent the present-day environmental conditions at North Falls. We advise that any clarifications on these matters should be provided in updated technical documents/ES chapters/named plans.		Noted.
NE-350	H1		Natural England's overall confidence in mitigation proposals for protected species is reduced due to limitations of survey results caused by the timing of the surveys.	Natural England advises that pre-construction surveys should be undertaken at the optimum time of year as per the relevant guidelines for each species, and appropriate mitigation implemented. This will need to be secured in the Outline Landscape and Ecological Management Plan (OLEM) and Natural England's consultation on these plans should be further secured within the requirement to produce updated onshore documentation.	The Applicant understands that this comment refers specifically to bat hibernation surveys only, as raised in further detail under response Applicant Ref NE-348 (NE Ref H27) below. All other surveys undertaken were completed during the optimum season outlined within the relevant best practice guidance for each species, and undertaken without encountering significant limitations which undermine the conclusions reached. Survey limitations, and an evaluation of their impact on the results of each survey, are detailed within each individual ecological survey report (ES Appendices 23.1- 23.9 **[APP-122 to APP-133**]). The Applicant has committed to undertaken pre-construction surveys during the optimum season, as secured through the Outline Landscape and Ecological Management Strategy **[APP-249**]. Paragraph 27 of the Outline Landscape and Ecological Management Strategy **[APP-249]** states that: "*Due to the mobility of species and the period of time which will have lapsed between the pre-application surveys and the start of construction, all features surveyed during the pre-application survey effort will be re-surveyed, where necessary, in accordance with industry guidance and methodology (i.e. following the approach used during pre-application surveys, or updated best practice at that time).*" The timings proposed for each pre-construction survey, based on the current best practice guidance, is set out in

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					Table 2.1 of the Outline Landscape and Ecological Management Strategy **[APP-249].** Natural England have been added as a consultee to the relevant Requirement of the Draft DCO **[AS-022]** which secures the production of an Ecological Management Plan prior to construction, based on the Outline Landscape and Ecological Management Strategy provided with the DCO application **[APP-249].**
NE-351	H2		Natural England highlights that the Lesser Black-backed Gull (LBBG) Compensation Habitats Regulations Assessment (HRA) document is relatively high level and we have concerns around the timing of baseline surveys to support conclusions.	Natural England advises that there will need to be a further HRA that is location specific, once the final location is selected post consent. Additional environmental information will also be required to support characterisation surveys carried out in the correct period. The surveys conducted at this stage should be conducted during the appropriate time to sufficiently inform the final plans and any HRA conducted. Natural England suggests that collaboration with Five Estuaries may be appropriate to address shortfalls in evidence pre-consent	Further site selection has been undertaken since the submission of the DCO application, supported by site visits. An updated Lesser Black-Backed Gull Compensation Document [**7.22, Rev 1**] and LBBG Implementation and Monitoring Plan [**7.2.2.1, Rev 1**] are provided. This includes further consideration of the effects of the compensation. Further assessment will be undertaken to inform a planning application for the selected site and will be informed by further data collection where required.
NE-352	H3		Natural England notes that a net loss is expected in watercourse module biodiversity units. However, it is not currently proposed to commit to off-site interventions to compensate for these losses due to the complexity of watercourse enhancement and creation, as well as the Project design already minimising impacts on watercourse habitats as far as practicable within the onshore project area.	Natural England generally welcomes the commitment to delivering Biodiversity Net Gain (BNG) for this development. We are, however, disappointed that the scheme is projected to deliver a net loss for watercourses and that no effort is to be made to redress that. We advise further consideration be given to BNG for watercourses.	The Applicant has explored options for watercourse net gain opportunities on site, as described in the Biodiversity Net Gain Strategy **[APP-257],** however net gain of the number of units suggested to achieve 10% net gain in watercourse units is not possible due to the spatial limitations of the site. The watercourses predicted to be affected by the project are a drainage ditch at the onshore substation, which is being recreated as part of the outline landscape strategy, and a small number of watercourses along the onshore cable route which are to be temporarily affected by haul road crossings. The indicative early design stage Biodiversity Net Gain (BNG) calculations reported in the Biodiversity Net Gain Strategy **[APP-257]** use a precautionary 15m swathe when calculating the length of watercourse potentially affected during haul road crossings. In reality, these haul roads are expected to require a narrower swathe, thus reducing the potential impacts on watercourse habitats and reducing the watercourse units impacted by the project. It is anticipated therefore that following detailed design, the number of watercourse units required may be achieved through the drainage ditch habitat creation at the onshore substation. Pending further guidance from the UK Government, BNG calculations will be repeated post-consent at the detailed design stage, where more accurate losses will be calculated and considered. This is secured through a Requirement of the Draft DCO **[AS-022].**

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NE-353	H4		Natural England advises that there are possible disturbance and visual impacts for users of King Charles III England Coast Path (ECP) depending on timing of opening of ECP.	Natural England advises that possible confirmation of the King Charles III ECP in this area will be made by summer 2025 at the earliest. We require information relating to any impacts on the associated margins, in addition to any restrictions required and impacts on the line of the path.	The Applicant has responded to Natural England on this point - see Applicant Ref NE-39 (NE Ref P30) above.
NE-354	H5		Natural England notes that the Applicant has retained the possibility of compensation for LBBG at the Shingle Street location within the Alde Ore Estuary Special Protection Area (SPA) in collaboration with The Five Estuaries (VE) project. We therefore refer you to our comments provided in our Written Representation to the VE project Appendix J with regard to our concerns on this compensation option.	Refer to Natural England's written representation on VE Appendix J link below. Appendix J to the Relevant Representations of Natural England - Onshore Ecology	Following further site selection, Shingle Street has been removed as an option for LBBG compensation (see Section 8.2.4 of the Lesser Black-Backed Gull Compensation Document [**7.22, Rev 1**]).
		Project Parameters – Document(s) Used: [APP-020 3.1.8] ES Chapter 6 EIA Methodology			
NE-355	H6	Project Parameters	Natural England does not have any significant issues with those parts of the Environmental Impact Assessment (EIA) that have not been addressed in other comments. Therefore, unless the design parameters significantly change, we will not be providing further advice on this matter during examination.	N/A	Noted.
		Environmental Impact Assessment - Document Used: [APP-020] 3.1.8 ES Chapter 6 – EIA Methodology [APP-125] 3.3.31 ES Appendix 23.2 GNC eDNA Survey Report [APP-262] 7.27 Cable Statement [APP-264] 7.29 DLL Draft Certificate			
NE-356	H7	Identified impacts	Natural England previously agreed that the Red Line Boundary used for the Great crested newt (GCN) District Level Licence (DLL) would cover the area of 'Temporary Impacts' only and impacts that are external to this or permanent in nature would be undertaken at the developers own risk. All areas of Permanent Impact to the north of the A120 have been removed from the DLL Red Line Boundary as no impacts to GCN are predicted. The development Red Line Boundary includes temporary impact areas north of the A120 to be precautionary despite no impacts to GCN being anticipated.	Natural England advises that the submitted information is in line with what has previously been agreed.	Noted.

Applicant s Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
NE-357	H8	Identified impacts	Natural England believes that further reductions to the Maximum Design Scenario (MDS) can be undertaken to minimise environmental impacts including (but not exclusively) reducing the 72m wide working corridor which seems exceptionally high when compare to other projects such as East Anglia 1 North and East Anglia 2. Similarly, cable crossings appear wide when compared to other projects recently consented.	Natural England advises that further justification is required to support the MDS for the working corridor.	The 72m wide working corridor for open cut trenching is based upon the cross section shown in Plate 5.20 of Chapter 5 Project Description [**APP-019**]. This is to allow for the construction of both North Falls and Five Estuaries, as per the Draft DCO. Similarly, the Environmental Statement Appendix 5.1 Crossing Schedule [**APP-092**] shows which obstacles are being drilled under. To mitigate impacts to these obstacles, depths of circa 5m and deeper are required, depending on the obstacle. At depths of 5m, a corridor of 90m is required to allow the cables for North Falls and Five Estuaries to deliver the rated power of the windfarm.
NE-358	H9	Identified impacts	Natural England is concerned that the process of backfilling as describe will potentially limited land returning to it previous use.	Natural England advises that further detail should be included within the cable statement on ensuring that land can continue to maintain ecological function post installation and back fill.	The Applicant has committed to habitat reinstatement following the completion of construction, which is secured via the Outline Landscape and Ecological Management Strategy **[APP-249]**. The Applicant has also committed to a minimum of 10 years after-care period, to monitor the success of reinstatement. The exact methods of aftercare will be agreed in the final Written Landscaping Scheme and subject to the results of monitoring. Please refer to the Outline Landscape and Ecological Management Strategy for more information regarding habitat reinstatement.
		HRA - Document Used: [APP-173] 7.1.1 RIAA Part 1 Intro [APP-174] 7.1.1.1 RIAA Appendix 1.1 HRA Screening [APP-181] 7.1.5 RIAA Part 5 Onshore European and Ramsar Sites [APP-182] 7.1.6 RIAA Part 6 Summary [APP-188] 7.2.2 Appendix 2 LBBG Compensation Document			
NE-359	H10	Screening	Natural England notes that this document is relatively high level. There is no information on how the proposals to reduce disturbance at the Orfordness-Shingle Street location would be measured. This should be provided with consideration of what disturbance levels are now, and how the proposed interventions success will be related to the colony success. How will greater success be separated out from natural variation or a change in another pressure?	Natural England recommends that the document be updated to provide more detail.	The updated information provided in the revised LBBG Compensation Document [**7.2.2, Rev 1**] submitted at Deadline 1, show that the Orfordness-Shingle Street location is no longer being considered as a location for compensatory measure for North falls.
NE-360	H11	Screening	Natural England notes that there are currently no baseline surveys proposed for the habitats and other features of the designated site and assessment of any impacts. This may come when the Applicant has selected a preferred location. However, once the final location is selected the proposed works will require a detailed consideration under HRA for any Site of Special	Natural England advises there is an expectation that baseline data will be gathered, and all surveys carried out within the appropriate season for notified features of the various designations, priority habitats and species etc. The Applicant will need to ensure project timelines allow for time to undertake these surveys and include the information in reporting and development of a conservation, mitigation, and monitoring plan	The Applicant has undertaken site visits to Gedgrave Marshes and Lantern Marshes. In addition, existing data has been received from National Trust and RSPB regarding LBBG at Orfordness. The revised Outline LBBG CIMP [**7.2.2.1, Rev 1**] provides information on permits and licenses, including SSSI Assents and planning permissions.

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			Scientific Interest (SSSI) assent as well as for any additional planning permissions required	whilst still ensuring measures are implemented 4 breeding seasons before North Falls becomes operational. This will need to be secured with the Development Consent Order (DCO)/Deemed Marine Licence (dML) compensation conditions.	It is the Applicant's position that the compensation measure is implemented at least 3 breeding seasons prior to operation of the Project. The LBBG CIMP, developed in accordance with the Outline LBBG CIMP, is secured in the draft DCO **[AS-022]**, and must provide for survey and reporting programmes, and monitoring for LBBG, and be in accordance with the LBBG Compensation Document.
NE-361	H12	Screening	Natural England notes that similar compensation proposals in the area have not yet been successful. We note this proposal has a number of adaptations, but that some of these are also being used on the site that have not yet seen success	Natural England advises that adaptive management measures may be needed. Please see detailed comments on the compensation proposal and adaptive management in Appendix G.	The revised Outline LBBG CIMP [**7.2.2.1, Rev 1**] provides information on adaptive management.
NE-362	H13	In-combination	Natural England notes that this paragraph lists what the selection considerations are. However, this does not specifically include a review of the success of the current similar compensation projects at Orfordness.	We would recommend that, where possible, a review of the current compensation proposals should be included and any outcomes/conclusions considered in context of the proposal.	Ongoing review of other OWF applications for which consent has been granted subject to compensatory measures for LBBG (including East Anglia ONE North, East Anglia TWO, Norfolk Vanguard and Norfolk Boreas) is discussed in the revised LBBG Compensation Document [**7.2.2, Rev 1**].
NE-363	H14	Further Receptor Points	Natural England notes that Climate change resilience of any of the proposals is not discussed within this document. If the Lantern marsh/Cobra Mist area is to be predator fenced, consideration needs to be given to the flood risk in this area. The seawall was breached in 2013 and the area tidal for 3 years until the breach was fixed. There is a new 2-way sluice gate with a sill that means that in the event of further overtopping or storm events the area could be used for flood storage. Its long-term management has not yet been agreed so it is possible that it could breach again, and that breach remains leaving the area tidal. There is also mention of the area being deliberately flooded through the sluice occasionally to manage the habitats.	Natural England advises that these factors should be considered within this document.	The revised LBBG Compensation Document [**7.2.2, Rev 1**] has been updated in respect of climate change resilience, and in particular flood risk is being considered.
NE-364	H15	Have the impacts been avoided/reduc e d by the use of appropriate mitigation?	The Applicant states monitoring will be through use of a vehicle or hides to reduce disturbance. Natural England queries if that is feasible at this site given the sensitivity of the designated site features to disturbance from vehicle movements and placement of infrastructure.	Natural England advises that this may need further consideration once the location has been selected to ensure monitoring won't impact other features. If not possible a suitable alternative will need to be provided.	Use of a vehicle or portable hide are referred to as examples of potential ways to minimise disturbance during monitoring. Monitoring details will be developed following final site selection, in consultation with Natural England.

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NE-365	H16	Have the impacts been avoided/reduce d by the use of appropriate mitigation?	The Applicant states they will be monitoring predator fencing fortnightly in the breeding season. However, Natural England advises that more detail on this proposed monitoring is required. The risk of disturbing the birds should be considered and where possible the monitoring should be combined with the planned surveys to reduce the risks of disturbance.	Natural England advises that this should be considered in any outline plan and finalised prior to installation.	The Outline Lesser Black-Backed Gull CIMP [**7.2.2.1, Rev 1**] now states that inspections of the fence during the breeding season will be undertaken at intervals to be agreed with the steering group.
NE-366	H17	Compensatory Measures APP-188, Table 7.1	We note the mitigation for vehicles damage is 'reduced speed limited'.	Considering habitats present on the site Natural England advise the use of pre-approved access routes only. Avoiding areas of vegetated shingle should be included as mitigation. Further all staff driving vehicles should be given a full briefing on site protocols prior to any access to the site and speed limits should be monitored and repeat breaches should be advise the Secretary of State and Natural England.	Site access is being considered as part of site selection, the details of which will be reflected in the LBBG CIMP, which will be submitted to the Secretary of State for approval in consultation with Natural England.
NE-367	H18	Compensatory Measures APP-188, Table 7.1	Natural England notes that the Applicant rules out changes to surface water flow, as part of their assessment. However, it is important to consider that material could build-up where fencing crossed current drainage areas, and that blockage could then change the path of draining water and ,therefore, change hydrological processes	Natural England advises the Applicant to consider that the document be updated to include a requirement to remove any build-up of material on the fence as a mitigation	Clearing of debris from fencing has been added to the revised Outline LBBG CIMP [**7.2.2.1, Rev 1**].
		Assessment of SSSI impacts - Document Used: [APP-037] 3.1.25 Environmental Statement Chapter 23 Onshore Ecology [APP-210] 5.15 Statutory/Non-Statutory Nature Conservation Sites (Onshore) [APP-250] 7.15 Outline Horizontal Directional Drill Method Statement and Contingency Plan			

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NE-368	H19	Screening APP-037, Sec 94	Natural England notes this section states that Holland Haven Marshes SSSI is considered to be of low importance for its aquatic invertebrate species, high importance for its terrestrial invertebrate species (especially the Fisher's estuarine moth), medium importance for the botanic interest of the ditch network, and high importance for the botanic interest of the adjoining grassland habitats. However, Natural England highlight that this is incorrect	Survey results notwithstanding, Holland Haven Marshes SSSI is designated for its nationally important lowland ditch systems. The citation states: "The ditch network represents an outstanding example of a freshwater to brackish water transition intimated by the aquatic plant communities, which include a number of nationally and locally scarce species. The adjoining grasslands are of botanical importance in their own right as well as acting as a buffer zone to the ditch system. Further interest is provided by the aquatic and terrestrial invertebrates and the birds which frequent the area, especially in winter." Natural England considers that characterisation of these environmental features as being of low or medium importance is inappropriate. The site is currently considered to be in favourable condition, but even where there has been some degradation of habitats, flora and fauna a duty remains to restore. And therefore every effort should be made to avoid impacts which are likely to cause damage.	The impact assessment of Holland Haven Marshes SSSI reported in ES Chapter 23 Onshore Ecology **[APP-037]** has focussed solely on the presence of interest features of the SSSI within the area potentially affected by the project, as determined by the findings of the ES Appendix 23.6 Terrestrial and Aquatic Invertebrate Survey Report **[APP-129]** and ES Appendix 23.7 National Vegetation Classification Survey Report **[APP-130].** Using the findings of the surveys, the Applicant has proceeded to make a determination about whether the residual scale effects of the project are likely to (i) degrade sensitive features of the SSSI (ii) prohibit the ability to restore the SSSI to favourable condition. On both counts it is the Applicant's view that this is not the case in the specific part of the SSSI under which the project will be located. The above point notwithstanding, it should be noted that the Applicant has taken extensive steps to avoid the Holland Haven Marshes SSSI through the use of horizontal directional drilling (HDD). The Applicant has worked with Natural England, as detailed in Table 23.1 of ES Chapter 23 Onshore Ecology **[APP-037]**, to commit to mitigation to mitigate the residual effects predicted to arise upon Holland Haven Marshes SSSI, due to the potential effects of HDD break-out, in the unlikely event it should occur. Due to these commitments, if all components of the Holland Haven Marshes SSSI was treated as one single, 'high' importance receptor, the impact assessment reported in Section 23.6.1 of ES Chapter 23 Onshore Ecology [**APP-037]** would still result in an minor adverse significance of effect. This remains not significant in EIA terms.
NE-369	H20	Screening APP-037	The Project has sought to minimise the potential interaction with Holland Haven Marshes as far as practicable through the use of trenchless methodologies which are likely to minimise any potential effects upon the habitats present within the SSSI. However, Natural England advises more can be done to avoid impacts by conditioning the number of Horizontal Directional Drilling (HDD) walk over surveys and surveyors	Natural England commends this approach and mitigation measures should be fully secured in the Schedule of Mitigation and named plans such as the Outline HDD method statement.	Noted – all the mitigation measures relating to Holland Haven Marshes SSSI discussed in ES Chapter 23 Onshore Ecology **[APP-037]** are detailed in the Outline Horizontal Direction Drilling Method Statement and Contingency Plan **[APP-250],** and are secured by Requirement of the Draft DCO **[AS-022].**
NE-370	H21	Screening	The Application documents state that bentonite, as the primary component other than fresh water HDD drilling fluid, is inert and recognised by CEFAS as being fully biodegradable and is on the Oslo/Paris convention ''List of Substances Used and Discharged Offshore which are	We advise that this section should be updated to reflect that there is still potential for impact and that appropriate measures will be in place to minimise the risk of any bentonite break out.	The Applicant is content to accept this point, and will update Section 2.2 of the Outline Horizontal Direction Drilling Method Statement and Contingency Plan **[APP-250]** to include the following additional text:

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		APP-250, Sec 18	considered to Pose Little or No Risk to the Environment" (PLONOR). However, Natural England is aware of incidents where bentonite breakout from HDD operations have resulted in long term habitat contamination issues on SSSIs and SPAs.		"*Although non-toxic, in the event of 'breakout' of bentonite to the ground surface (the risk of which is discussed in more detail below), bentonite presents a potential risk of temporary smothering of aquatic or emergent plant species, before it disperses or is removed, temporarily impacting on aquatic or emergent plant species and those species which they support*." An updated version of the Outline Horizontal Direction Drilling Method Statement and Contingency Plan **[APP-250]** containing this text will be submitted into the Examination at an appropriate deadline.
NE-371	H22	Screening APP-250, Sec 86	Coordination with VE has identified that both projects can use the same landfall location and the projects have an aligned onshore cable route running inland from this. This approach is expected to allow minimisation of impacts. The landfall compound identified has sufficient space to accommodate both projects, and if the HDD drilling works were undertaken at the same time adjacent compounds could be established.	Natural England strongly supports co-ordination with five estuaries to minimise risk and ecological disturbance and all mitigation measures should be secured within the DCO.	Noted.
NE-372	H23	Screening APP-250,34,4.2	Natural England generally welcomes the measures set out noting that more detailed plans will be developed post consent. In particular we welcome commitment to the provision of an Ecological Clerk of Works for to landfall HDD which has been included in the Project's embedded mitigation. However, we highlight in Section 3.4 we are not supportive of fresh water abstraction from local water courses given the potential implications for Holland Haven Marshes SSSI. We would also welcome the inclusion of a decision tree in the event of a bentonite release with stepwise options stating with 'do nothing' approach as containment and clean up options have been found to be more damaging to sensitive habitats/receptors than the presence of inert bentonite.	Natural England advises that the outline HDD method statement is updated and that it would be appropriate for Natural England and other environmental consultees to have the opportunity to comment on finalised plans pre-construction. This consultation should be secured through requirement in the DCO.	The Applicant is content to accept this point, and will update the Outline Horizontal Direction Drilling Method Statement and Contingency Plan **[APP-250]** to remove reference to freshwater abstraction from local watercourses and to include a decision tree in the event of a bentonite release, which includes a 'do nothing' option. An updated version of the Outline Horizontal Direction Drilling Method Statement and Contingency Plan **[APP-250]** containing this text will be submitted into the Examination at an appropriate deadline. Natural England have been added as a consultee to the Horizontal Direction Drilling Method Statement and Contingency Plan, secured by Requirement of the Draft DCO **[AS-022] .**
NE-373	H24	Screening APP-210, Figs 1-5	Natural England highlights that the Environment Agency (EA) has previously commented that 'Holland Haven Marshes SSSI may be a complex location to achieve the ideal safe drilling through impermeable geology and this will need careful consideration.'	Natural England advises that any comments made by the EA in relation to HDD at this location should be given due consideration and any assessments informed by site specific geotechnical investigations.	Noted. The Applicant is continuing to engage with the Environment Agency, and the Environment Agency's comments will be considered in detail in the detailed design of the HDD at landfall. It is noted also that in their relevant representation, the Environment Agency's position regarding the landfall is focussed on the sea defence rather than the geology:

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					"*There are several complexities to crossing the defences without causing harm and recognising potential future works, which we are content can be agreed post consent.*" **[RR-091]**
NE-374	H25	Screening APP-210	Natural England is content with the proposed outline landfall methodology and has no concerns regarding the installation across the SSSI, dependent on the proposed mitigation being successfully implemented. However, successful installation is contingent on the Assessments.	Natural England advises that further pre-consent consideration is given to the impacts from bentonite frac-out. We would welcome further risk assessment detailing the likelihood of a frac-out occurring specifically at Holland Haven Marshes SSSI and potential impacts with reference to the features that the SSSI is notified for. See point H23.	The Applicant intends to update the Outline Horizontal Direction Drilling Method Statement and Contingency Plan **[APP-250]** as described under Applicant's Ref NE-342 (NE Ref H21) and Applicant's Ref NE-344 (NE Ref H25) above.
		Table 3: Other Onshore Related Matters			
		Other Onshore Related Matters - Document Used: [APP-131] 3.3.37 ES Appendix 23.8 Bat Emergence/Re-entry Survey Report [APP-249] 7.14 OLEMS [APP-257] 7.22 BNG Strategy [APP-264] 7.29 DLL Draft Certificate			
NE-375	H26	Onshore Protected Species APP-264, Sec 5	Natural England has approved the use of DLL prior to construction to ensure compliance with the legal status of GCN and mitigate for potential impacts on this species. A provisional Impact Assessment and Conservation Payment Certificate (IACPC) was issued to the developer on 09/07/2024 and re-issued on 13/09/2024. It was signed and returned on 16/09/2024, confirming the applicant's intention to use DLL to mitigate for their impacts on GCN. Due to ongoing co-ordination and collaboration with the VE the projects have shared data and information informing their environmental assessments, as well as collaboration on design of the Projects' onshore infrastructure. We have provided separate DLL Impact Assessments and Certificates to each scheme which will represent a 'worst case scenario' of impact to GCN. If the two projects are merged fully or partially the impact would be lower than estimated, but cannot be higher therefore, we are satisfied that impacts	Natural England advises that that full procurement of the DLL should be undertaken within no more than 12 months prior to the commencement of onshore construction works. The DLL has been applied for based on full temporary impacts. Therefore, when the final Landscape and Ecological Management Plan (LEMP) is produced post-DCO determination this must include details to re-instate all terrestrial habitats within the DLL boundary like for like or of better quality for GCN within 12 months of the completion of works	Noted.

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			to GCN are compensated for under Scenarios 1, 2 and 3		
NE-376	H27	Onshore Protected Species APP-131, Sec 2.2	Natural England notes that the hibernation potential of the features that have been identified as being able to support roosting bats should have been considered during the surveys. Where there is moderate to high potential for hibernation use the pre-construction surveys should include tree climbing inspections (where safe to do so) between core wintering months (December - February) to allow an assessment of the impacts to hibernating bats and to allow impacts to be avoided. Automated/static surveys may also be used when collecting data on winter bat activity. This is especially pertinent as several of the species identified during the activity surveys and presence / likely absence surveys are known to hibernate in tree crevices.	Natural England advises that, the OLEMS should be updated to require the appropriate surveys to be conducted.	Pre-application hibernating bat surveys were determined to be not required, as no potential roosting features were deemed suitable to support hibernating bats. The Applicant agrees with the suggestion by Natural England regarding pre-construction surveys, and will amend the **Outline Landscape and Ecological Management Strategy** [APP-249] to reflect the potential that hibernating bat surveys may be required pre-construction if baseline conditions change. An updated version of the **Outline Landscape and Ecological Management Strategy** [APP-249] will be submitted into the Examination at an appropriate deadline.
NE-377	H28	Onshore Protected Species APP 249 2.2.3.1	Natural England notes there is no commitment here to avoid work in functionally linked land, this is particularly relevant to Hamford Water SPA but applies to all functionally linked land within the red line boundary.	Natural England advises an amendment be made to require avoidance of work on functionally linked land where reasonable practicable to avoid impacts to supporting habitats and/or avoid sensitive periods to avoid disturbing Annex I bird features. If this is not possible then a management plan would be required to ensure impacts are sufficiently minimised	Table 5.3 of RIAA Part 5 Onshore European and Ramsar Sites **[APP-181],** paragraphs 374 to 376 of ES Chapter 24 Onshore Ornithology **[APP-038],** and paragraphs 110 and 111 of Outline Landscape and Ecological Management Strategy **[APP-249]** outline additional mitigation measures that would be applied where appropriate to minimise or avoid disturbance during construction to key aggregations of non-breeding birds. These measures are intended to cover usage of functionally linked land by SPA qualifying features, and would be either implemented in advance of construction (e.g., screening) or at the behest of the Ecological Clerk of Works as construction progresses (e.g. construction timing restrictions). Further details would be included in the final Ecological Management Plan, as secured by Requirement of the Draft DCO **[AS-022].**
NE-378	H29	Onshore Protected Species APP 249 2.3.3	Natural England notes the works are stated to be outside of the SSSI. However, no details are provided on the transportation routes. Natural England's default position is for no transits 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.	The Applicant is not proposing transportation routes through the Holland Haven Marshes SSSI in order to access the landfall. The Schedule of Mitigation **[APP-012]** and Outline Landscape and Ecological Management Strategy **[APP-249]** will be updated to include commitment that transportation routes are proposed to take place outside of the SSSI. An updated version of the Schedule of Mitigation

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					[APP-012] and Outline Landscape and Ecological Management Strategy **[APP-249]** will be submitted into the Examination at an appropriate deadline.
NE-379	H30	Onshore Protected Species APP-249 2.3.4. 4 Badger 119.	Natural England advises that it for the Applicant to determine if a badger licence is required or not.	Natural England advises that the Applicant and their consultants should identify the need for a licence. If a licence is required, then Natural England recommends following the guidance here regarding protected species licensing.	As stated Paragraph 134 and Section 23.6.1.9.3 of ES Chapter 23 Onshore Ecology **[APP-037],** no active badger setts were found within 30m of the onshore project area during the pre-application surveys, and therefore no licences are required. Paragraph 103 of the Outline Landscape and Ecological Management Strategy **[APP-249]** states that based on the baseline data collected to date, the only protected species licence required by the Project is a great crested newt District Level Licence (DLL). Licensing requirements for all protected species will be revisited pre-construction to account for any changes in the ecological baseline.
NE-380	H29	Onshore Protected Species APP-249 2.3.4. 3 Bats 112.	It is unclear to Natural England if a bat European Protected Species (EPS) mitigation licence will be required, as in other parts of the document (2.3.4.1). This document states that only a DLL licence is required.	If a licence is required, then Natural England recommends following guidance here regarding protected species licensing. This document should be updated to reflect the need to consider the potential for EPS licences.	As stated in Paragraph 331 of ES Chapter 23 Onshore Ecology **[APP-037],** none of the potential roosting features within the onshore project area were recorded as supporting as active bat roosts during the pre-application Bat Emergence / Re-entry Surveys and therefore no licences are required. Paragraph 103 of the Outline Landscape and Ecological Management Strategy **[APP-249]** states that based on the baseline data collected to date, the only protected species licence required by the Project is a great crested newt District Level Licence (DLL). Licensing requirements for all protected species will be revisited pre-construction to account for any changes in the ecological baseline.
NE-381	H30	Onshore Protected Species APP-249 2.2.3. 2 Bats Pg 42.	Natural England requests to be consulted on the report of the pre-construction bat survey that is to be appended to the Environmental Management Plan (EMP).	We request that our consultation be secured through requirement on the DCO	Noted. Natural England have been added as a consultee for the Ecological Management Plan, as secured by a Requirement of the draft DCO **[AS-022]**.
NE-382	H31	Onshore Protected Species APP-249 2.2.3. 7	Natural England has 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.	Natural England would like the Applicant and their consultants to submit more information on temporary hedgerows and their for Natural England to review pre-consent to ensure the best likelihood of success.	As stated in ES Chapter 23 Onshore Ecology **[APP-037],** in order to the mitigate the effects of habitat fragmentation during the active hazel dormouse season (April to October inclusive), temporary hedgerows would be put in place across the haul road gaps of hedgerows supporting hazel dormice which require small-scale removal. These temporary hedgerows would be taken down during the day to allow vehicles to use the haul road and put back in place

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		Hazeldomice 81.			overnight when the dormice are active. They would consist of 'dead hedges', or containerised hedges, with the final proposed method being detailed within the Ecological Management Plan, secured by Requirement of the Draft DCO **[AS-022].** Such 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. Existing hedgerow gaps are being targeted for haul road crossings, meaning the use of temporary hedgerows will minimise the already existent gaps in the hedgerows. In the unlikely event that a hazel dormouse nest establishes in a temporary hedgerow, this hedgerow will remain in-situ and the appropriate Natural England licence will be sought before any further works proceed at the affected hedgerow. Dead hedging is mentioned several times within Natural England's '*Hazel Dormice – Method Statement template to support a licence application'* as an example measure to maintain connectivity to retained habitat. By adopting temporary hedging, North Falls aim to mirror this methodology already often used under a European Protected Species License and provide improved habitat connectivity for hazel dormice during construction. Licensing requirements for all protected species will be revisited pre-construction to account for any changes in the ecological baseline.
NE-383	H32	Onshore Protected Species APP-249 2.2.3. 7 Hazeldomice 77.	Natural England advises that during the pre-construction surveys it is important to be aware that any areas that are confirmed absent of dormice must have sufficient survey effort index to base these results	Natural England would advise the document is updated to make it clear the appropriate survey effort will be undertaken	Paragraph 27 of the Outline Landscape and Ecological Management Strategy **[APP-249]** states that the pre-application survey effort will be repeated pre-construction, where necessary, in accordance with industry guidance and methodology (i.e. following the approach used during pre-application surveys, or updated best practice at that time). Adhering to industry guidance includes adhering to the survey effort requirements in order to obtain sufficient data to accurately confirm presence/ absence of hazel dormice.

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NE-384	H33	Biodiversity Net Gain APP-257 Sec 2, 17	Natural England notes that Biodiversity Net Gain requirements for Nationally Significant Infrastructure Projects (NSIPs) are not yet mandatory. Whilst we expect the BNG policy approach for NSIPs to broadly follow that of the Town and Country Planning Act (TCPA) development, the detailed policy requirements are yet to be established. We are expecting a government consultation on the policy to be published shortly which will help to address some current areas of uncertainty regarding NSIPs (including baselining across the entire Order Limits, and the temporary acquisition of land).	Natural England recognises the Applicant's commitment to exploring opportunities to deliver a minimum 10% BNG and advise that this should be secured by requirement in the DCO.	Noted.
NE-385	H34	Biodiversity Net Gain APP-257 Sec 4.2.2, paras 54-55	Natural England highlights the Applicant's position on the determination of the boundary. The suggested approach prior to mandatory BNG, does not reflect best practice or the approach used for TCPA development. Therefore, any deviation from BNG best practice and principles should continue to be justified and clearly reported. We note that metric calculations will be re-run post-consent at the detailed design stage. We agree that updating metric calculations over time is required to reflect design iterations and we encourage developments to continue to maximise their potential biodiversity outcomes throughout the detailed design process. Ultimately, metric inputs should accurately reflect the built development.	Natural England advises that, for consistency, everything within the Red Line Boundary (Order Limits) should be included in the BNG baseline calculations, including any retained habitats. We would also advise that North Falls are consistent with the approach taken by the VE project	In response to this request, the Applicant is currently preparing BNG calculations for an additional option in line with Five Estuaries' 'Option 2', i.e. with inclusion of all 'retained' habitats. The outcomes of this additional option will be set out in two further Statutory Biodiversity Metrics (one for North Falls Alone, one for a North Falls – Five Estuaries joint build), and accompanying Technical Note. This Biodiversity Net Gain Technical Note will be submitted into the Examination at an appropriate deadline. Habitats within the Project's DCO boundary but not included in the Applicant's original BNG calculations due to being retained during the project's construction, will not result in a requirement for additional units, so their inclusion does not fundamentally change the outcomes of the BNG assessment reported in the Biodiversity Net Gain Strategy **[APP-257].**
NE-386	H35	Biodiversity Net Gain APP-257 Sec 4.4.3. 1, 77	Natural England notes that the project is not currently proposing to commit to achieving 10% BNG in the watercourse module due to the complexity of creating and enhancing watercourse units. In line with Rule 2. We advise that the requirement to deliver at least a 10% net gain is applied to each type of unit. We would also advise that watercourses are factored into the statutory credit calculations given the metric highlights a 29% loss in the watercourse module.	Natural England highlights current government guidance that mitigation or compensation for protected species or designated site impacts can contribute up to "no net loss", with 10% BNG being additional. We advise that a clear audit trail is kept of any land assigned for compensation, mitigation and BNG to distinguish what is being delivered for which purpose and where. Relevant guidance on mitigation and compensation in regard to BNG can be found here: What you can	Please see the response to Applicant's Ref NE-324 (Natural England Ref H3) above.

Applicant s Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
			Guidance and pricing on statutory credits has now been published and can be accessed here: Statutory biodiversity credits - GOV.UK (www.gov.uk) Buy statutory biodiversity credits - GOV.UK (www.gov.uk)	count towards a development's biodiversity net gain - GOV.UK (www.gov.uk)	
NE-387	H36	Biodiversity Net Gain APP-257, Sec 4.4.5. 1, 89- 92	Natural England notes the proposed approach to hedgerows outlined in section 4.4.5.1 (pg.27) with hedgerows subject to post-reinstatement surveys for a period of 5 years after completion. Whilst this approach is acceptable prior to mandatory BNG, it does not reflect best practice, or the approach used for TCPA development. Best practice would be to maintain all replaced hedgerows for a minimum of 30 years in line with BNG regulations	Natural England advises that where the long-term management of hedgerows for this period cannot be secured, they should be treated as "habitat loss" within the BNG metric. Once BNG is mandatory, then a legal agreement would be required to secure the management for thirty years where habitats will be lost. The document should be updated to reflect this commitment.	As described under response Applicant's Ref NE-356 (Natural England Ref H34) above, the Applicant's is currently preparing a the new BNG additional option in line with Five Estuaries' 'Option 2'. Within this option, all hedgerows will be considered as lost from the baseline and then subsequently reinstated. Where possible, haul roads and obstacle crossings have targeted existing gaps in hedgerows to minimise impacts. It remains the Applicant's position that treating hedgerows as 'habitat loss' for a project of this nature is not proportionate. This is because a large linear scheme such as North Falls impacts a number of hedgerows for a short period of time, but then reinstates these to an improved standard, leading to improved habitat outcomes in the long term. The reinstatement of hedgerows to an improved standard is secured through the Outline Landscape and Ecological Management Strategy **[APP-249].** It is not appropriate for the Applicant to commit to 30 years of management and maintenance for the hedgerows because as part of land agreements they are returned to the landowner to manage following the completion of construction.
NE-388	H37	Biodiversity Net Gain APP-257, Sec 4.4.5. 1, 89- 92	With regards to cropland and any agricultural grassland, we note the points raised in relation to the implementation of BNG.	Natural England advises that the correct risk multiplier is applied within BNG calculations, in line with the Statutory Biodiversity Metric User Guide.	Within the new BNG additional option currently being prepared (in line with Five Estuaries' 'Option 2'), arable land will be considered as lost from the baseline and then subsequently reinstated. As detailed the response to Applicant's Ref NE-356 (Natural England Ref H34) above, this will be captured in a Biodiversity Net Gain Technical note, which will be submitted into the Examination at an appropriate deadline.

2.11 Applicant's Comments– Appendix I – Seascape, Landscape and Visual Impact Assessment

Applicants Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
NE-389	I1	n/a	Natural England welcomes the commitment to exclude the Northern array, increasing visibility distance from the coast from 22km to 40km. We further welcome the commitment to reduce the maximum Wind Turbine Generators (WTG) tip height from 397m to 377m, and to reduce the number of WTGs in the Southern array in both the larger and smaller WTG scenarios, as described in Section 29.3.3 [APP-043]. However, Natural England is still concerned that North Falls Offshore Wind Farm (OWF) has the potential to significantly impact the special qualities of the Suffolk Coast and Heaths Area of Outstanding Natural Beauty(SCHAONB) and Suffolk Heritage Coast (SHC), in particular when acting cumulatively with other existing, consenting and proposed OWF projects.	Natural England will provide further detail at Deadline 1.	The Applicant has provided a response to the points raised here in response to Applicant's ref NE-40 (NE Ref P31) above.
NE-390	I2	n/a	Natural England advises that no justification has been provided for the 30km Zone of Theoretical Visibility used to establish the outer limit of significance for SLVIA receptors, as described in Table 29.15 [APP-043]. Figure 29.1.6b in Document 3.2.25 [APP-077] shows that at the coast, 40km from the proposed array, 31-34WTGs may still be visible. Natural England therefore requires further consideration and assessment to demonstrate that no significant impacts on the special qualities could arise beyond 30km. We draw the examiners attention to significantly larger ZTV used on other projects for similar size larger turbines.	Natural England will provide further detail at Deadline 1	Table 29.15 of ES Chapter 29 Seascape, Landscape and Visual Impact Assessment **[APP-043]** provides an assessment of effects on the Suffolk Coastal Waters Seascape Character Area (SCA) 10. The extents of this SCA are mapped on ES Figure 29.1.4 [**APP-083 to APP-088].** This Figure also shows the project Zone of Theoretical Visibility (ZTV) which has been generated to provide potential coverage over the full Study Area for the SLVIA, and which extends out to a 60km radius from the array area. The seascape assessment, on this specific SCA, concludes that the magnitude of impact on seascape character will be medium to low up to 30km distance from the array area, reducing with distance to low at the coastal edge (which, as highlighted on ES Figure 29.1.4b **[APP-083 to APP-088**], is approximately 40km from the proposed array area). The proposed array area is not located within the SCA, and the SCA has been influenced by existing offshore wind farms through the operational Galloper and Greater Gabbard Wind Farms, both of which lie in closer proximity to the east of this SCA. When defining the geographical extent of the magnitude of impact, and particularly for seascapes where there are no features such as changes in terrain or areas of vegetation cover, the change from one magnitude of impact level to

Applicants Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
					another (from moderate to low, for example) will not be a definitive line but more of a gradual change. Given that any effects on the Suffolk Coastal Waters SCA will be indirect; the range of viewing distances towards the array area from across this large SCA; and the influence of existing offshore wind farms, a magnitude of impact which ranges between medium to low, with impacts judged to be low at distances beyond approximately 30km, is considered appropriate.

2.12 Applicant's Comments – Appendix J – Landscape and Visual Impact Assessment

Applicants Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
	1. Natural England's Advice and Recommendations				
NE-391	1.1		A summary of Natural England's key concerns in relation to Landscape and Visual Impact Assessment is set out in Table 1. Our detailed advice and recommendations are presented in further detail in Table 2.		Noted
NE-392	1.2		Below, Natural England highlights the requirements on decision makers brought about by LURA 2023 which have informed the advice we provide in this Appendix. Natural England advises that S245 LURA 2023 places a duty on relevant authorities in exercising or performing any functions in relation to, or so as to affect, land in a National Park, the Broads or an Area of Outstanding Natural Beauty (AONB) ("National Landscape") in England, to seek to further the statutory purposes of the area. The duty applies to local planning authorities and other decision makers in making planning decisions on development and infrastructure proposals, as well as to other public bodies and statutory undertakers.		Please see the Applicant's Response (Applicant Ref SECHNLP-01, Document Reference: 9.2 Applicant's Responses to Relevant Representations Received from Statutory Consultees and Non Prescribed Consultees) to the Relevant Representation from the Suffolk and Essex Coast and Heaths National Landscape Partnership **[RR-316]**.
NE-393	1.3		It is anticipated that the government will provide guidance on how the duty should be applied in due course.		Noted. The Applicant notes guidance was published recently by the Government on the 16 December 2024 and titled 'Guidance for relevant authorities on seeking to further the purposes of Protected Landscapes' (Defra, 2024), and that this guidance has been taking into account when considering the points raised in natural England's relevant representation **[RR-243].**

Applicants Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
NE-394	1.4		In the meantime, and without prejudicing that guidance, Natural England advises that:		Noted
NE-395	1.4.1		1.4.1 The duty to 'seek to further' is an active duty, not a passive one. Any relevant authority must take all reasonable steps to explore how the statutory purposes of the protected landscape (A National Park, the Broads, or an AONB) can be furthered;		Please see the Applicant's Response (Applicant Ref SECHNLP-01, [Applicant's Responses to Relevant Representations Received from Statutory Consultees and Non Prescribed Consultees **[9.2, (Rev 0)]**) to the Relevant Representation from the Suffolk and Essex Coast and Heaths National Landscape Partnership **[RR-316]**.
NE-396	1.4.2		1.4.2 The new duty underlines the importance of avoiding harm to the statutory purposes of protected landscapes, but also to seek to further the conservation and enhancement of a protected landscape. That goes beyond mitigation and like for like measures and replacement. A relevant authority must be able to demonstrate with reasoned evidence what measures can be taken to further the statutory purpose;		Please see the Applicant's Response (Applicant Ref SECHNLP-01, Applicant's Responses to Relevant Representations Received from Statutory Consultees and Non Prescribed Consultees **[9.2, (Rev 0)]**) to the Relevant Representation from the Suffolk and Essex Coast and Heaths National Landscape Partnership **[RR-316]**.
NE-397	1.4.3		1.4.3 The proposed measures to further the statutory purposes of a protected landscape, should explore what is possible in addition to avoiding and mitigating the effects of the development, and should be appropriate, proportionate to the type and scale of the development and its implications for the area and effectively secured. Natural England's view is that the proposed measures should align with and help to deliver the aims and objectives of the designated landscape's statutory management plan. The relevant protected landscape team/body should be consulted		Please see the Applicant's Response (Applicant Ref SECHNLP-01, Applicant's Responses to Relevant Representations Received from Statutory Consultees and Non Prescribed Consultees Consultees **[9.2, (Rev 0)]**) to the Relevant Representation from the Suffolk and Essex Coast and Heaths National Landscape Partnership **[RR-316]**.
		Table 1 NE Ref Summary of Key Issues – Landscape and Visual Impact Assessment.			
NE-398	J1	n/a	Owing to insufficient evidence on the Norwich-Tilbury substation design/impacts at this stage, Natural England is concerned that there is a potential for in-combination/cumulative impacts between this project, North Falls, and the Five Estuaries (VE) substations.	Natural England understands that further detail on the Norwich-Tilbury substations is likely to become available during the North Falls examination. Therefore, we advise that potential in-combination/cumulative impacts between North Falls, VE, and Norwich-Tilbury substations should be fully considered and assessed, when/if further evidence is available regarding the latter project. In addition, we advise that appropriate mitigation measures should be applied, if necessary, including addressing winter visibility whilst mitigation screening is established.	A combined outline landscape strategy for the proposed North Falls and Five Estuaries onshore substations is provided in the Design Vision **[APP-234]** at Figure 20). Section 1.4 of the Design Vision **[APP-234]** identifies the process for design development post-DCO consent. This design process identifies preparation of a Design Guide to inform detailed design proposals, in combination with development of the Written Landscaping Scheme and Ecological Management Plan, secured through DCO Requirements (see Draft DCO **[AS-022]**). An indicative timescale for this process is indicated within Section 1.5 of the Design Vision **[APP-234].** This timeline

Applicants Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
					aligns with the identified timescales for DCO submission for the Norwich-Tilbury project and anticipates continued dialogue between the Applicant, Five Estuaries Offshore Wind Limited and NGET (the promoter of Norwich to Tilbury) in order to assist the selection of appropriate design responses. The landscape strategy principles described in the Design Vision **[APP-234]** include use of hedgerows, trees and areas of woodland planting to provide suitable mitigation screening and landscape enhancement. The detail of these will be developed further as part of the Design Guide process, should the projects obtain consent. The Design Guide will consider specific screening requirements at different locations, tailoring species composition to respond to different scenarios. Where additional screening is needed, adjustment to species composition may include a higher proportion of evergreen species, those that hold their leaves during winter months or shrub species.
NE-399	J2	General	We welcome the collaboration between the North Falls and VE Offshore Wind Farm (OWF) Projects to co-locate, and design the layout of, their substations, planted screening and landscape mitigation. This is a positive development in terms of their landscape approach, and we therefore provide no further comment on this matter during examination and defer to the Local Planning Authority (LPA).	N/A	Noted.
NE-400	J3	General	Natural England is concerned that there is the potential for in-combination/cumulative impacts between North Falls, VE and Norwich -Tilbury NSIP substations. The Norwich -Tilbury project is at an earlier stage of design development. Therefore, there has been less co-ordination with this project. Consequently, there is a potential risk for landscape and visual impacts arising from all three projects in combination. While we believe the likelihood of a significant impact to the purposes of the NL is low, there is currently insufficient evidence regarding the Norwich -Tilbury substation design to be able to rule out in-combination effects across all three projects.	We advise that potential in- combination/cumulative impacts across the North Falls, VE and Norwich -Tilbury Projects should be fully considered and assessed, when/if more information is made available. Any Relevant Reps made concerning in-combination/cumulative impacts to National Landscapes (NL) arising from all three projects should be considered in all three project submissions and during examination. In addition, appropriate mitigation measures should be applied, if necessary, including addressing winter visibility whilst mitigation screening is established	ES Figure 30.1.4 **[APP-083 to APP-088]** highlights the location of National Landscapes (NL) in relation to the proposed North Falls onshore substation. The southern extents of the Dedham Vale NL is just within 2km of the proposed North Falls onshore substation. The ZTV (ES Figure 30.1.2 **[APP-083 to APP-088])** highlights the very limited nature of visibility associated with the proposed North Falls onshore substation, from the Dedham Vale NL. Viewpoint 8 (refer to ES Figure 30.2.8 **[APP-083 to APP-088]),** which is taken from a location on the southern edge of the NL (Essex Way, Dedham Road) represents some of the closest and potentially 'worst case' views from the NL. From this location hedgerow and woodland cover, across the relatively flat intervening landscape between the southern edge of the NL and the North Falls onshore substation, play a notable screening role.

Applicants Ref	NE Ref	Issue	Issue raised	Natural England's recommendation to resolve issues	Applicant's Response
					As such, the potential for cumulative effects, in which the proposed North Falls onshore substation plays a role, is very limited. The assessment presented in ES Chapter 30 Landscape and Visual Impact Assessment **[APP-044]** concludes a negligible effect upon the Dedham Vale NL as a result. Any visibility of the Norwich – Tilbury project substation, in the vicinity of the North Falls and Five Estuaries onshore substations, would therefore give rise to stand-alone effects associated with the Norwich – Tilbury project only.

3. REFERENCES

Defra (2024) Guidance for relevant authorities on seeking to further the purposes of Protected Landscapes. Published 16 December 2024. Available at https://www.gov.uk/government/publications/the-protected-landscapes-duty/guidance-for-relevant-authorities-on-seeking-to-further-the-purposes-of-protected-landscapes

GoBe (2024). Five Estuaries Offshore Wind Farm; Guillemot and Razorbill - Survey Reports. Available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010115/EN010115-000737-Five%20Estuaries%20Offshore%20Wind%20Farm%20Ltd%20-%20Any%20other%20submission%20from%20the%20Applicant%2029.pdf

Natural England (2023) Sheringham Shoal Extension and Dudgeon Extension Offshore Wind Farms Appendix B3 to the Natural England Deadline 8 Submission Natural England's Offshore Ornithology Position (Revision 2). Available at: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010109/EN010109-002129-Natural%20England%20-%20Other-%20EN010109%20441148%20SEP%20DEP%20Appendix%20B3%20-%20Natural%20England%E2%80%99s%20Offshore%20Ornithology%20Position%20(Revision%202)%20Deadline%208.pdf

White Consultants (2023) Suffolk Seascape sensitivity to offshore wind farms update addendum. Available at [https://www.eastsuffolk.gov.uk/assets/Planning/Energy-Projects/Offshore-Windfarms/Annex-A-Suffolk-Seascape-Sensitivity-to-Offshore-Wind-Farms-Update-Addendum-June-2023.pdf]

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