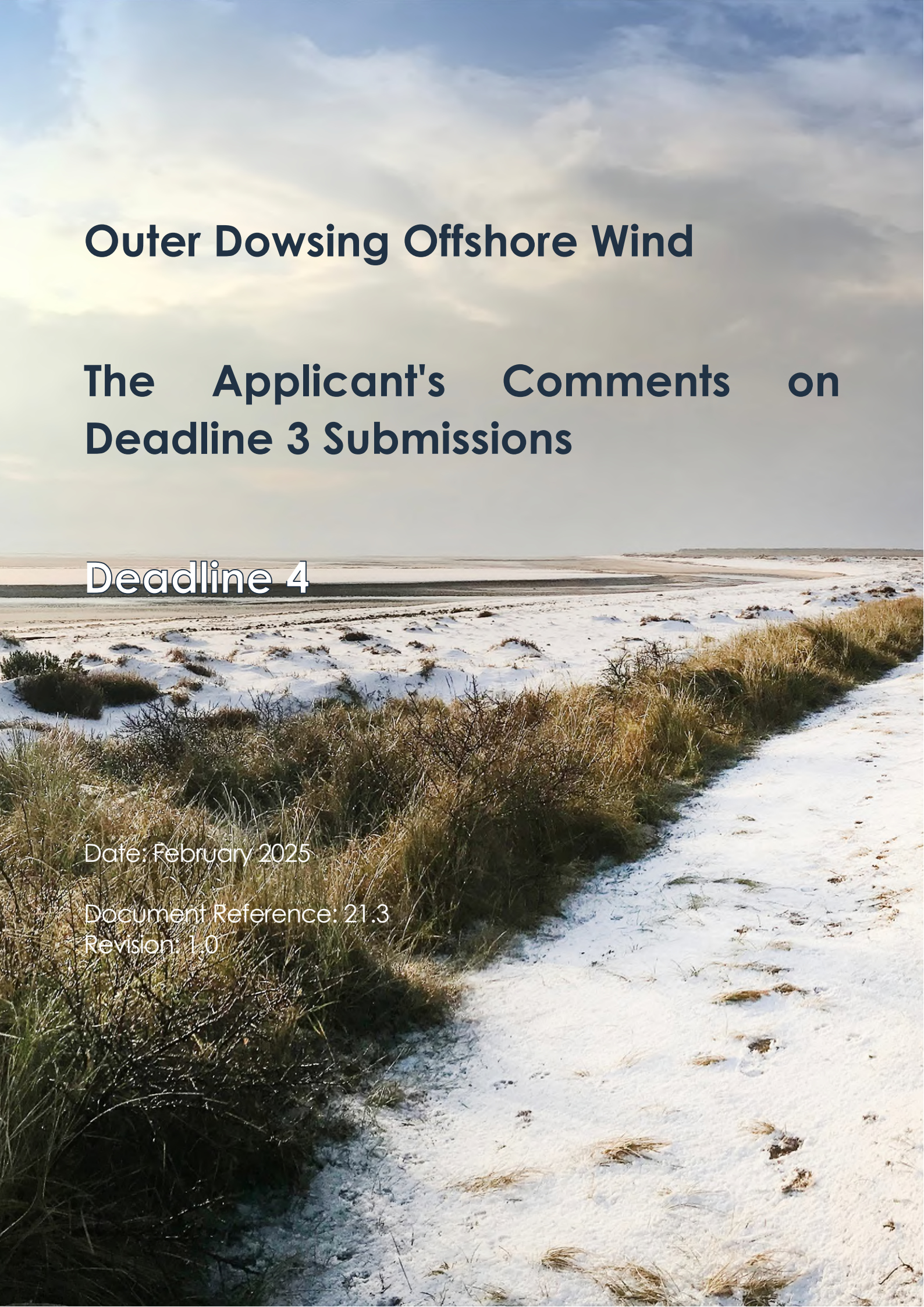


Outer Dowsing Offshore Wind

The Applicant's Comments on Deadline 3 Submissions

Deadline 4

Date: February 2025

Document Reference: 21.3
Revision: 1.0

Company:		**Outer Dowsing Offshore Wind**		Asset:		**Whole Asset**
Project:		**Whole Wind Farm**		Sub Project/Package:		Whole Asset
Document Title or Description:		21.3 The Applicant's Comments on Deadline 3 Submissions				
Internal Document Number:		PP1-ODOW-DEV-CS-REP-0260		3rd Party Doc No (If applicable):		N/A
Rev No.	**Date**	**Status / Reason for Issue**	**Author**	**Checked by**	**Reviewed by**	**Approved by**
1.0	February 2025	Deadline 4	GoBe SLR Outer Dowsing	Outer Dowsing	Shepherd & Wedderburn	Outer Dowsing

Table of Contents

Acronyms & Definitions 4

Abbreviations / Acronyms 4

Terminology 7

1 The Applicant's Comments on Deadline 3 Submissions 10

1.1 The Environmental Agency's Deadline 3 Submission Response 11

1.2 The Marine Management Organisation's Deadline 3 Submission Response 12

1.2.1 MMO's Summary and Comments on the Applicant' s amended Application Docs 12

1.2.2 MMO's Summary and Comments on Stakeholders Deadline 2 responses 15

1.2.3 MMO's Summary and Comments on the Applicants Responses to WQs 20

1.2.4 MMO's Summary and Comments on the Updated Statements of Commonality 27

1.2.5 MMO's Annexes provided at Deadline 3 28

1.3 Natural England's Deadline 3 Submission Response 124

1.3.1 Natural England Cover Letter to Deadline 3 Submissions 124

1.3.2 Appendix C2 to the Natural England Deadline 3 Submission 127

1.3.3 Appendix C3 to the Natural England Deadline 3 Submission 132

1.3.4 Appendix E2 to the Natural England Deadline 3 Submission 136

1.3.5 Appendix F2 to the Natural England Deadline 3 Submission 138

1.3.6 Appendix G1 to the Natural England Deadline 3 Submission 158

1.3.7 Appendix H2 to the Natural England Deadline 3 Submission 163

1.3.8 Appendix I2 to the Natural England Deadline 3 Submission 166

1.3.9 Appendix L to the Natural England Deadline 3 Submission 169

1.4 T.H. Clements' Deadline 3 Submission Response 178

Table of Tables

Table 1.1.1: The Applicant's Comments on The Environment Agency's Deadline 3 submissions 11

Table 1.2.1 MMO Summary and Comments on Applicant's Amended Application Documents 12

Table 1.2.2 MMO Comments on Stakeholders Deadline 2 responses 15

Table 1.2.3 MMO Comments on the Applicant's Responses to The ExA's First Written Questions (ExQ1) (REP2-051) 20

Table 1.2.4 MMO Comments on the Update to the Statement of Commonality of Statements of Common Ground (REP2-047) 27

Table 1.3.1 Natural England Cover Letter to Deadline 3 Submissions 124

Table 1.3.2 Appendix C2: A Potential Evidence-based Approach to Defining Supporting Habitats for *Sabellaria Spinulosa* Reef 127
Table 1.3.3 Appendix C3: Impacts on Supporting Habitats and Processes for Annex I Sabellaria spinulosa reef within Inner Dowsing Race Bank and North Ridge (IDRBNR) Special Area of Conservation (SAC) 132
Table 1.3.4 Appendix E2: Natural England's comments and updated advice on Marine Mammals [REP2-036 and REP2-038] 136
Table 1.3.5 Appendix F2: Natural England's Advice on documentation submitted and updated related to Offshore and Intertidal Ornithology following acceptance of the Offshore Restricted Build Area (ORBA). 138
Table 1.3.6 Appendix G1: Natural England's advice on calculating the number of breeding pairs required for seabird compensation measures involving habitat provision or protection 158
Table 1.3.7 Appendix H2: Natural England's Advice on Onshore Ecology [REP2-032] 163
Table 1.3.8: The Applicant's Comments on Natural England Appendix I2 Onshore Ornithology 166
Table 1.3.9 Appendix L: Natural England's Comments on the Offshore In Principle Monitoring Plan [APP-276] 169
Table 1.4.1: The Applicant's Comments on T.H. Clements' Deadline 3 submissions 178

Acronyms & Definitions

Abbreviations / Acronyms

Abbreviation / Acronym	Description
ADD	Acoustic Deterrent Device
AEoI	Adverse Effect on Integrity
AHBD	Agriculture and Horticulture Development Board
AL	Action level
ALC	Agricultural Land Classification
ANS	Artificial Nesting Structures
BDMPS	Biologically Defined Minimum Population Scale
BSL	Benthic Solutions Limited
CEA	Cumulative Effects Assessment
CGR	Counterfactual of Growth Rate
CI	Confidence Interval
CoCP	Code of Construction Practice
CRA	Chemical Risk Assessment
CRM	Collision Risk Modelling
CSIP	Cable Specification and Installation Plan
CV	Coefficient of Variation
DAERA	Department of Agriculture, Environment and Rural Affairs
DAS	Digital Aerial Survey
dB	Decibel
dDCO	draft Development Consent Order
DCO	Development Consent Order
DDT	Dichlorodiphenyltrichloroethane
DDV	Drop Down Video
DEFRA	Department for Environment Food & Rural Affairs
DEP	Dudgeon Extension Project
dML	deemed Marine Licence
EA	Environmental Agency
ECC	Export Cable Corridor
eDNA	Environmental DNA
EDR	Effective Deterrence Range
EEA	European Economic Area
EGL	Eastern Green Link
EIA	Environmental Impact Assessment
EIFCA	Eastern Inshore Fisheries & Conservation Authority
EMF	Electro-Magnetic Fields
EPS	European Protected Species
ERCoP	Emergency Response and Cooperation Plan
ES	Environmental Statement
EQSD	Environmental Quality Standards Directive
EUNIS	European Nature Information System
ExA	Examining Authority
FCS	Favourable Condition Status
FEM	Finite Element Models

Abbreviation / Acronym	Description
FEED	Front End Engineering Design
FFC	Flamborough and Filey Coast
FLCP	Fisheries Liaison and Coexistence Plan
FRA	Flood Risk Assessment
GBS	Gravity Base Structures
GU	Guillemot
GW	Greater Wash
HDD	Horizontal Directional Drilling
HE	Historic England
HHW	Haisborough Hammond and Winterton
HPAI	Highly Pathogenic Avian Influenza
HRA	Habitats Regulations Assessment
IAQM	Institute of Air Quality Management
IBTS	International Bottom Trawl Surveys
ICES	International Council for the Exploration of the Sea
IDRBNR	Inner Dowsing Race Bank and North Ridge
IFCA	Inshore Fisheries and Conservation Authority
IHLS	International Herring Larvae Survey
INNS	Invasive Non-Native Species
iPCoD	Interim Population Consequences of Disturbance
IPMP	In-Principle Monitoring Plan
JNCC	Joint Nature Conservation Commitee
KI	Kittiwake
LBBG	Lesser black-backed gull
LoNI	Letter of No Impediment
LPA	Local Planning Authority
MBES	Multi Beam Echo Sonar
MCA	Maritime and Coastguard Agency
MCAA	Marine and Coastal Access Act
mCRM	migratory Collision Risk Model
MCZ	Marine Conservation Zone
MDE	Marine Data Exchange
MDS	Maximum Design Scenario
MEDIN	Marine Environmental Data and Information Network
MGN	Marine Guidance Note
MHWS	Mean High Water Spring
MMO	Marine Management Organisation
MMOb	Marine Mammal Observer
MMMP	Marine Mammal Mitigation Protocol
MPA	Marine Protected Area
MPCP	Marine Pollution Contingency Plan
MW&SQ	Marine Water and Sediment Quality
N/A	Not Applicable
NAF	Nocturnal Activity Factor
NAS	Noise Abatement Systems
NE	Natural England
NFFO	National Federation of Fishermen's Organisations
NNC	North Norfolk Coast

Abbreviation / Acronym	Description
NRA	Navigational Risk Assessment
NSR	Noise Sensitive Receptor
NUIs	Normally Unattended Installations
NVMP	Noise and Vibration Management Plan
OCNS	Offshore Chemical Notification Scheme
OCP	Organochlorine Pesticides
ODOW	Outer Dowsing Offshore Wind
OFLO	Offshore Fisheries Liaison Officer
OFTO	Offshore Transmission Owner
O&M	Operations and Maintenance
OOMP	Offshore Operations and Maintenance Plan
ORBA	Offshore Restricted Build Area
ORCP	Offshore Reactive Compensation Platform
ORJIP	Offshore Renewables Joint Industry Programme
ORSMRF	Offshore Renewables Strategic Monitoring and Research Forum
OTE	Outer Thames Estuary
OWEC	Offshore Wind Evidence and Change
OWF	Offshore Wind Farm
OWSI	Onshore Written Scheme of Investigation
PAH	Polycyclic Aromatic Hydrocarbons
PAM	Passive Acoustic Monitoring
PCBs	Polychlorinated Biphenyls
PCE	Property Cost Estimate
PCM	Post-Consent Monitoring
PEIR	Preliminary Environmental Information Report
PEMP	Project Environment Management Plan
PEMMP	Project Environmental Management and Monitoring Plan
PFEER	Prevention of Fire and Explosion, and Emergency Response
PFG	Pink Footed Goose
PINS	Planning Inspectorate
PLONOR	Pose Little or No Risk to the Environment
POSEIDON	Planning Offshore Wind Strategic Environmental Impact Decisions
PSA	Particle Size Analysis
PSD	Particle Size Distribution
PTS	Permanent Threshold Shift
PVA	Population Viability Assessments
UXO	Unexploded Ordnance
RA	Razorbill
REC	Regional Environmental Characterisation
RIAA	Report to Inform Appropriate Assessment
RR	Relevant Representations
RSPB	Royal Society for the Protection of Birds
RTD	Red Throated Diver
SAC	Special Area of Conservation
SACO	Supplementary Advice on Conservation Objectives
SAS	Stable Age Structure
SELcum	Cumulative Sound Exposure Level
SELss	Single Strike Sound Exposure Levels

Abbreviation / Acronym	Description
SEP	Sheringham Shoal Extension Project
SIP	Site Integrity Plan
SLs	Source Levels
SNCB	Statutory Nature Conservation Bodies
SMP	Soil Managemnt Plan
SNS	Southern North Sea
SoCG	Statement of Common Ground
SoS	Secretary of State
SPA	Special Protection Area
SPCPMP	Scour Protection and Cable Protection Management Plan
SPLpeak	Peak Sound Pressure Level
SSC	Suspended Sediment Concentration
SSS	Side Scan Sonar
SSSI	Sites of Special Scientific Interest
ST	Sandwich Tern
TK	Triton Knoll
TTS	Temporary Threshold Shift
UCL	Upper Confidence Limit
UK	United Kingdom
UKAS	United Kingdom Accreditation Service
UKMMAS	UK Marine Monitoring and Assessment Strategy
USEPA	U.S. Environmental Protection Agency
UWN	Underwater Noise
UXO	Unexploded Ordinance
VMC	Visual Meteorological Conditions
WCS	Worst Case Scenario
WFD	Water Framework Directive
WNNC	Wash and North Norfolk Coast
WoRMS	World Register of Marine Species
WTG	Wind Turbine Generators

Terminology

Term	Definition
The Applicant	GT R4 Limited (a joint venture between Corio Generation (and its affiliates), TotalEnergies and Gulf Energy Development), trading as Outer Dowsing Offshore Wind
Array area	The area offshore within which the generating station (including wind turbine generators (WTG) and inter array cables), offshore accommodation platforms, offshore transformer substations and associated cabling will be positioned, including the ORBA.
Baseline	The status of the environment at the time of assessment without the development in place.
Cumulative Impact	Impacts that result from changes caused by other present or reasonably foreseeable actions together with the Project.

Term	Definition
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for a Nationally Significant Infrastructure Project (NSIP).
Deemed Marine License (dML)	A marine licence set out in a Schedule to the Development Consent Order and deemed to have been granted under Part 4 (marine licensing) of the Marine and Coastal Access Act 2009.
Effect	Term used to express the consequence of an impact. The significance of an effect is determined by correlating the magnitude of the impact with the sensitivity of the receptor, in accordance with defined significance criteria.
Environmental Impact Assessment (EIA)	A statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Regulations, including the publication of an Environmental Statement (ES).
Environmental Statement (ES)	The suite of documents that detail the processes and results of the Environmental Impact Assessment (EIA).
Export cables	
Habitats Regulations Assessment (HRA)	A process which helps determine likely significant effects and (where appropriate) assesses adverse impacts on the integrity of European conservation sites and Ramsar sites. The process consists of up to four stages of assessment: screening, appropriate assessment, assessment of alternative solutions and assessment of imperative reasons of over-riding public interest (IROPI) and compensatory measures.
Impact	An impact to the receiving environment is defined as any change to its baseline condition, either adverse or beneficial.
Intertidal	The area between Mean High Water Springs (MHWS) and Mean Low Water Springs (MLWS)
Landfall	The location at the land-sea interface where the offshore export cables and fibre optic cables will come ashore.
Maximum Design Scenario	The project design parameters, or a combination of project design parameters that are likely to result in the greatest potential for change in relation to each impact assessed
Mitigation	Mitigation measures are commitments made by the Project to reduce and/or eliminate the potential for significant effects to arise as a result of the Project. Mitigation measures can be embedded (part of the project design) or secondarily added to reduce impacts in the case of potentially significant effects.
Offshore Export Cable Corridor (ECC)	The Offshore Export Cable Corridor (Offshore ECC) is the area within the Order Limits within which the export cables running from the array to landfall will be situated.
Offshore Restricted Build Area (ORBA)	The area within the array area, where no wind turbine generator, offshore transformer substation or offshore accommodation platform shall be erected.

Term	Definition
Offshore Reactive Compensation Platform (ORCP)	A structure attached to the seabed by means of a foundation, with one or more decks and a helicopter platform (including bird deterrents) housing electrical reactors and switchgear for the purpose of the efficient transfer of power in the course of HVAC transmission by providing reactive compensation.
Outer Dowsing Offshore Wind (ODOW)	The Project
Order Limits	The area subject to the application for development consent, The limits shown on the works plans within which the Project may be carried out.
The Planning Inspectorate	The agency responsible for operating the planning process for Nationally Significant Infrastructure Projects (NSIPs).
Pre-construction and Post-construction	The phases of the Project before and after construction takes place.
The Project	Outer Dowsing Offshore Wind, an offshore wind generating station together with associated onshore and offshore infrastructure.
Receptor	A distinct part of the environment on which effects could occur and can be the subject of specific assessments. Examples of receptors include species (or groups) of animals or plants, people (often categorised further such as 'residential' or those using areas for amenity or recreation), watercourses etc.
Study Area	Area(s) within which environmental impact may occur – to be defined on a receptor-by-receptor basis by the relevant technical specialist.
Wind Turbine Generator (WTG)	A structure comprising a tower, rotor with three blades connected at the hub, nacelle and ancillary electrical and other equipment which may include J-tube(s), transition piece, access and rest platforms, access ladders, boat access systems, corrosion protection systems, fenders and maintenance equipment, helicopter landing facilities and other associated equipment, fixed to a foundation

1 The Applicant's Comments on Deadline 3 Submissions

1. The Applicant has provided comment on Interested Parties (IPs) Deadline 3 submissions, in the sections below.

1.1 The Environmental Agency's Deadline 3 Submission Response

Table 1.1.1: The Applicant's Comments on The Environment Agency's Deadline 3 submissions

Ref No	Submission	Applicant Response
REP2-010	We note that the draft Development Consent Order (DCO) has been amended at the request of Lincolnshire County Council [REP1-053], to remove the placement of the Soil Management Plan (SMP) from Schedule 1, Part 3, Requirement 18(2)(d) into a separate Requirement (Requirement 31). The SMP is of interest to the Environment Agency as it is within this document that stockpiling of materials within the floodplain, and in relation to flood defences, will be detailed (See REP2-039 – Schedule of Mitigation, measure references: 104; 106; and 107). Therefore, we request that the Environment Agency be included as a specific consultee to the discharge of Requirement 31 to enable us to advise on these matters in relation to flood risk mitigation	The Applicant has updated Requirement 31 (Soil management plan) of the draft DCO (document 3.1, version 7) to include the EA as a consultee to the discharge of Requirement 31.
REP2-029	We welcome the confirmation included in paragraph 127 of the outline Code of Construction Practice (CoCP) that the Groundwater Risk Assessment (document reference 6.3.24.1 [APP-210]) will be updated in the pre-construction phase and used to inform the scope of the Water Quality Management and Mitigation Plan (WQM&MP). This will also be appended to the WQM&MP and submitted for approval as part of that plan. Accordingly, the issue raised in section 6.0 of our Written Representation [REP1- 048] is now resolved	The Applicant welcomes the confirmation that this matter has been resolved.
	The Environment Agency notes the action points arising from Issue Specific Hearing 1, particularly action points 8 and 9 relating to agreement of Protective Provisions. We will endeavour to reach agreement on the Protective Provisions within the timescale requested. However, we would like to highlight that alongside the Protective Provisions, the Environment Agency is also requesting the Applicant enters into a side agreement to ensure the installation of the Export Cable Corridor does not adversely affect or delay the annual beach nourishment works that we undertake along the Lincolnshire Coast (please refer to section 4.0 of the Environment Agency's Relevant Representations [RR018] for information on why this is essential).	The Applicant notes the IP's response and is actively engaging regarding the proposed 'beach works cooperation agreement'.
	Discussions around capturing the practicalities of working together within the landfall area are complex and have been ongoing for some months. Although the Environment Agency is taking steps to expedite these discussions, we would like to highlight that the legal agreement and the Protective Provisions are being drafted to work hand in glove. As such, our agreement is dependent on both being completed. Accordingly, we may not be in a position to either confirm our agreement or provide a final preferred draft of the Protective Provisions at Deadline 4.	The Applicant has received an updated set of Protective Provisions from the EA and responded to these. The Applicant has included it's preferred wording for the PPs in the draft DCO at DL4 and notes that a small number of points remain to be finalised. The Applicant and the EA have continued to negotiate a set of protective provisions, but the parties have not yet agreed the final draft. The Applicant has therefore included its preferred wording in Schedule 18, Part 3 of the draft DCO (Document 3.1 version 7). : The principal issues between the parties are as follows: ▪ The definition of "specified work" – The EA has proposed an amendment to the definition of specified work to include any works that involve any interference with the ability of the EA or its contractors to carry out the beach nourishment works or access to its existing compound at Roman Bank. The Applicant disagrees that this is necessary. The Applicant and the EA have been discussing the terms of a cooperation agreement to deal with co-ordination of the EA's beach nourishment works and the Applicant's works, for which principles of working together to co-ordinate works have been proposed and agreed in principle. This amendment to the protective provisions would require the EA to consent to any ODOW works that could interfere with the beach nourishment works, which goes further than the principles agreed for the cooperation agreement. Other specified works for which consent is required relate to matters which could impact sea defences, remote defences, drainage works etc. for which it is clearly imperative the EA has sign off over such works due to the risk of environmental

Ref No	Submission	Applicant Response
		harm if those defences/works are impacted, whereas the beach nourishment works is largely a programme concern which will be adequately covered in the agreement. It should also be noted that the EA's access to Roman Bank is already protected by paragraph 8(2) of these protective provisions. ▪ Indemnity provisions (paragraph 11) – Discussions are ongoing between the Applicant and the EA regarding whether the indemnity set out in paragraph 11(1)(b) should apply to the specified works to which the protective provisions relate or the authorised development.

1.2 The Marine Management Organisation's Deadline 3 Submission Response

1.2.1 MMO's Summary and Comments on the Applicant' s amended Application Docs

Table 1.2.1 MMO Summary and Comments on Applicant's Amended Application Documents

Ref No	Submission	Applicant Response
Summary		
1.1 General Comments		
1.1.1	The MMO highlights the tight deadlines between Deadline 2 and 3. The MMO have focused on adding comments at Deadline 2 into tables in annexes for clarity on points raised.	This comment is noted by the Applicant.
1.2 DCO/Deemed Marine Licence - Article 6 Transfer of Benefit		
1.2.1	The MMO has remaining concerns. The MMO will provide an update to the Applicant promptly and follow-up at Deadline 4.	The Applicant maintains its position as detailed in its responses in the Applicant's Responses to Relevant Representations at RR-042.007 to RR-042.011 (PD1-071).
1.2.2	The MMO continues to raise objection to Article 6 as this impacts the MMO's duty as the regulatory authority of the DMLs as there is no power to the MMO to complete its regulatory duty.	
1.2 DCO/Deemed Marine Licence - Maintain and Materiality		
1.2.3	The MMO will review the updates provided and will provide the Applicant with any updates and follow with supplying the updates Deadline 4.	The Applicant maintains its position as detailed in its response in the Applicant's Responses to Relevant Representations at RR-042.012 (PD1-071).
1.2 DCO/Deemed Marine Licence - Determination dates		
1.2.4	The MMO maintains that putting timeframe on decisions of a technical nature is inappropriate to make an informed, robust decision.	The Applicant refers to its detailed comments at RR-042.21 of Table 1.2.5.1.
1.2.5	5 If discharge was not granted, the undertaker would have to provide updated documentation which would restart the process and potentially cause unnecessary delay.	
1.2 DCO/Deemed Marine Licence - Maintenance Reporting		
1.2.6	The MMO maintains that it is imperative that maintenance reporting is submitted in order to reconfirm the applicability of the methodologies and frequencies of the licensable activities permitted by the licence.	The Applicant refers to its detailed comments at RR-042.22 of Table 1.2.5.1
1.2 DCO/Deemed Marine Licence - Stages of construction		
1.2.7	The MMO notes Schedules 10 and 11, Condition 13(1)(b) of which details the submission of a Construction Programme to the MMO.	The Applicant maintains its position as set out in the Applicant's Responses to Relevant Representations at RR042.023 (PD1-071). Based on the comments from the MMO, the Applicant considers that this matter has been resolved.
1.2 DCO/Deemed Marine Licence – Adaptive Management		
1.2.8	The MMO maintains its position that the inclusion of adaptive management, all parties have clarity on what is required if impacts exceed predictions made in the Environmental Statement. The Applicant's potential reliance on a possible variation to the licence is unnecessary in any remedial action. This is a standard condition being requested for all offshore wind projects and should be included in the DML.	The Applicant maintains its position as set out in the Applicant's Responses to Relevant Representations at RR-042.024 (PD1-071) and the Applicant's Comments on Deadline 1 Submissions at 1.11.1 on page 43 (REP2-053).

Ref No	Submission	Applicant Response
		The Applicant refers to its detailed response at comments at RR-042.24 of Table 1.2.5.1.
1.2 DCO/Deemed Marine Licence - Force Majure		
1.2.9	The MMO considers that Force Majeure should be removed and the MMO resists its inclusion. The MMO will provide further comments at Deadline 4.	The Applicant maintains its position as detailed in in the Applicant's Responses to Relevant Representations at RR-042.025 (PD1-071).
1.3 Environmental Statement (ES) and Other Application Documents		
1.3.1	The MMO provided further comments/justification on issues still remaining regarding ES Chapters and other Application Documents at Deadline 2. The MMO have used this tight deadline to tabularise these comments within Annexes 2-10 of our main document.	This comment is noted by the Applicant.
Main Comments		
1.1 General Comments		
1.1.1	The MMO would like to highlight the tight timeframe between Deadlines 2 and 3. The MMO have focussed on tabularising our comments at Deadline 2 into Annexes attached to this document to make it more clear to the Examining Authority (ExA) where issues are either addressed or still have not met a resolution. The MMO has however, provided some comments on the DCO/DMLs, which were not included in our Deadline 2 response (REP2- 092) and these can be found in points 1.2.1 to 1.2.11 and in Annex 1. The MMO is aiming to provide further responses at Deadline 4.	This comment is noted by the Applicant.
1.2 DCO/Deemed Marine Licence - Article 6 Transfer of Benefit		
1.2.1	The MMO still has concerns regarding Transfer of Benefit of the Order. In addition to the comments set out in Section 1 of REP1-056, the MMO has added further comments below and will provide an update to the Applicant as soon as possible and follow this up with a submission at Deadline 4.	The Applicant maintains its position as detailed in its responses in the Applicant's Responses to Relevant Representations at RR-042.007 to RR-042.011 (PD1-071).
1.2.2	Although the article stipulates the MMO will be consulted there is no requirement for the Secretary of State (SoS) to take into our comments and this will impact our duty as the regulatory authority of the DMLs as there is no power to the MMO to complete its regulatory duty.	It is not necessary or indeed standard practice in Development Consent Orders (DCOs) to explicitly include text requiring the views of bodies consulted on matters to be considered or taken into account as this would be done as a matter of course. It is a fundamental principle of public law that decision-makers must take account of relevant matters. The comments by a key statutory consultee would be one such matter.
1.2.3	As a matter of public law, the MMO does not think the Order can contain a provision transfer of Benefit of the DML as is being proposed. PA 2008 Section 120(3) should read against Section 120(4) and Part 1 of Schedule 5, which the MMO thinks limits what the Order can contain to provisions which deem a marine licence to be granted under the order and to the conditions that should be deemed attached to that licence. The MMO does not consider this to be sufficiently wide as to allow the inclusion of provisions which transfer the Benefit of the Order.	The Applicant disagrees with the Marine Management Organisation (MMO). The provisions contained within Article 6 of the DCO are long established in offshore wind DCOs. The appropriateness and legality of these provisions in light of the Marine and Coastal Access Act 2009 have been debated at length during offshore wind DCO examinations. In each case, the Examining Authority and Secretary of State have considered such provisions to be appropriate. Examples include Art 5 of the Hornsea Three DCO, Art 5 of the Hornsea Four DCO and Art 5 of the East Anglia One North DCO. The MMO notes the following provisions of section 120 of the Planning Act 2008 (emphasis added): "(*3) An order granting development consent may make* ***provision relating to, or to matters ancillary to, the development for which consent is granted****.* *(4) The provision that may be made under subsection (3)* ***includes in particular*** *provision for or relating to any of the matters listed in Part 1 of Schedule 5*." Section 120(4) is broadly framed and identifies that those matters listed in Part 1 of Schedule 5 of the Planning Act 2008 constitute a non-exhaustive list. Paragraph 33 of Part 1, Schedule 5 of

Ref No	Submission	Applicant Response
		the Planning Act 2008 specifically refers to the "*transfer of property, rights liabilities or functions*" as being a matter which is encompassed by the powers in section 120 of the Planning Act 2008. This would include transfer of the benefit of the Order as is envisaged by Article 6 of the draft DCO.
1.2.4	If the Order cannot contain a DML transfer provision for the reasons set out, then it cannot exclude Section 72 of Marine and Coastal Access Act 2009 (MCAA 2009) in the way proposed as Section 120(5) is limited to applying/modifying/excluding only those statutory provisions which relate to any matter for which a provision may be made in the order.	The Applicant refers to its response at 1.2.3 above. As set out, section 120 of the Planning Act 2008 allows for transfer of benefit provisions to be included in a DCO as being a matter for which provision may be made in the DCO. Therefore, it is competent for the DCO to exclude section 72 of the Marine and Coastal Access Act 2009 in the manner proposed.
1.2.5	Overall, the MMO continues to raise objection to Article 6 and will provide further comments to the Applicant as soon as possible and follow that to the ExA at each deadline.	The Applicant maintains its position as detailed in its responses in the Applicant's Responses to Relevant Representations at RR-042.007 to RR-042.011 (PD1-071).
1.2 DCO/Deemed Marine Licence – Maintain and Materiality		
1.2.6	The MMO will review the updates provided and will provide the applicant with any updates and follow with supplying the updates Deadline 4.	The Applicant maintains its position as detailed in its response in the Applicant's Responses to Relevant Representations at RR-042.012 (PD1-071).
1.2 DCO/Deemed Marine Licence – Determination dates		
1.2.7	Schedule 10 and 11, Part 2, Condition 14(4), includes a timescale to discharge documentation. '...(4) The MMO must determine an application for approval made under condition 13 within a period of four months commencing on the date the application is received by the MMO, unless otherwise agreed in writing with the undertaker.' The MMO maintains that it is inappropriate to put a timeframe on decisions of such a technical nature. The MMO would not willingly seek to constrain our ability to make an appropriate decision on post consent sign-off of plans and documentation, we would never include such a restriction on any other consent. With such tight timeframes, the MMO cannot be confident that all concerns during consultation can be sufficiently addressed. The MMO understands that the Applicant wishes to ensure there is a specific time scale by which a decision is made, and that the decision does not continue without resolution. However, if discharge was not granted, the undertaker would have to provide updated documentation which would restart the process and potentially cause unnecessary delay.	The Applicant refers to its detailed comments at RR-042.21 of Table 1.2.5.1.
1.2 DCO/Deemed Marine Licence – Maintenance Reporting		
1.2.8	As previously stated, the request is to know the maintenance activities throughout the lifetime of the operation including understanding any impacts. The MMO reiterates that the Offshore Operations and Maintenance Plan (OOMP) is a forward-looking document. By inclusion of the conditions suggested, the MMO maintains that it is imperative that maintenance reporting is submitted in order to reconfirm the applicability of the methodologies and frequencies of the licensable activities permitted by the licence.	The Applicant refers to its detailed comments at RR-042.22 of Table 1.2.5.1.
1.2 DCO/Deemed Marine Licence – Stages of Construction		
1.2.9	The MMO notes Schedules 10 and 11, Condition 13(1)(b) of which details the submission of a Construction Programme to the MMO.	The Applicant maintains its position as set out in the Applicant's Responses to Relevant Representations at RR042.023 (PD1-071). Based on the comments from the MMO, the Applicant considers that this matter has been resolved.
1.2 DCO/Deemed Marine Licence – Adaptive Management		
1.2.10	The MMO maintains its position that with the inclusion of adaptive management, all parties are clear in what Is required if impacts exceed what was predicted in the environmental statement. The MMO considers that by the Applicant relying on the MMO to enforce our powers to vary the licence, this is an unnecessary step in any remedial action. This is a standard condition being requested for all offshore wind projects and should be included in the DML.	The Applicant maintains its position as set out in the Applicant's Responses to Relevant Representations at RR-042.024 (PD1-071) and the Applicant's Comments on Deadline 1 Submissions at 1.11.1 on page 43 (REP2-053). The Applicant refers to its detailed response at comments at RR-042.24 of Table 1.2.5.1.
1.2 DCO/Deemed Marine Licence – Force Majeure		

Ref No	Submission	Applicant Response
1.2.11	The MMO considers that Force Majeure should be removed and the MMO resists its inclusion. The MMO will provide further comments at Deadline 4.	The Applicant maintains its position as detailed in in the Applicant's Responses to Relevant Representations at RR-042.025 (PD1-071).
Environmental Statement (ES) - 1.3 General Comments		
1.3.1	The MMO provided further comments regarding the general comments raised in relation to the ES within our Relevant Representation (RR-042). Please see Annex 2.	The Applicant has responded to these points in Table 1.2.5.2.
Environmental Statement (ES) - 1.4 Coastal Processes		
1.4.1	The MMO provided further comments/justification on issues still remaining regarding Coastal Processes. Please see Annex 3.	The Applicant has responded to these points in Table 1.2.5.3.
Environmental Statement (ES) - 1.5 Dredge, Disposal and Chemical Use		
1.5.1	The MMO provided further comments/justification on issues still remaining regarding Dredge, Disposal and Chemical Use. Please see Annex 4.	The Applicant has responded to these points in Table 1.2.5.4.
Environmental Statement (ES) - 1.6 Benthic Ecology		
1.6.1	The MMO provided further comments/justification on issues still remaining regarding Benthic Ecology. Please see Annex 5.	The Applicant has responded to these points in Table 1.2.5.5.
Environmental Statement (ES) – 1.7 Fish Ecology		
1.7.1	The MMO provided further comments/justification on issues still remaining regarding Fish Ecology. Please see Annex 6.	The Applicant has responded to these points in Table 1.2.5.6.
Environmental Statement (ES) – 1.8 Shellfish Ecology		
1.8.1	The MMO provided further comments/justification on issues still remaining regarding Shellfish Ecology. Please see Annex 7	The Applicant has responded to these points in Table 1.2.5.7.
Environmental Statement (ES) – 1.9 Underwater Noise		
1.9.1	The MMO provided further comments/justification on issues still remaining regarding Underwater Noise. Please see Annex 8.	The Applicant has responded to these points in Table 1.2.5.8.
Environmental Statement (ES) – 1.10 Other Environmental Statement Chapters		
1.10.1	The MMO provided further comments/justification on issues still remaining regarding other Environmental Statement chapters. Please see Annex 9.	The Applicant has responded to these points in Table 1.2.5.9.
Environmental Statement (ES) – 1.11 Other Application Documents		
1.11.1	The MMO provided further comments/justification on issues still remaining regarding other application documents. Please see Annex 10.	The Applicant has responded to these points in Table 1.2.5.10.

1.2.2 MMO's Summary and Comments on Stakeholders Deadline 2 responses

Table 1.2.2 MMO Comments on Stakeholders Deadline 2 responses

Ref No	MMO's Comments	Applicant Response
Summary		
2.1 Maritime and Coastguard Agency (MCA) (REP2-071) - Responses to ExQ1 Q1 OG 1.7, Q1 SN 1.3, Q1 SN 1.5		
2.1.1	The MMO acknowledges MCA's responses to these questions	This comment is noted by the Applicant.
2.2 Historic England (HE) (REP2-068) - Q1 HE 1.4 and Q1 HE 1.5		
2.2.1	The MMO noted HE's responses to these questions and that HE had listed revisions to the Onshore Written Scheme of Investigation.	This comment is noted by the Applicant.
2.3 Lincolnshire County Council (REP2-069) - Q1 SV 1.9 and Q1 SE 1.1		

Ref No	MMO's Comments	Applicant Response
2.3.1	The MMO notes that Lincolnshire County Council are unlikely to comment on offshore elements of the scheme.	This comment is noted by the Applicant.
2.4 Royal Society for the Protection of Birds (RSPB) (REP2-081) - Responses to ExQ1 Q1 HRA 2.3, Q1 OR 1.2 and Q1 OR 1.4		
2.4.1	The MMO noted that RSPB has provided clarification with regards to their concern over an insufficient evidence base for compensation.	The Applicant has responded to the RSPB in Table 1.7, Comment ID 5.1 (REP3-038), providing and update on compensation documents and planned updates and developments throughout examination.
2.5 Environment Agency (EA) (REP2-067) - Responses to ExQ1 Q1 DCO 1.4, Q1 NV 1.3, Q1 NV 1.4 and Q.1 WE 1.5		
2.5.1	The MMO notes the EA's comments on flood risk.	This comment is noted by the Applicant.
2.6 Natural England (NE) (REP2-074) - Q1 BE 2.2 – 2.8, Q1 FSE 1.6, Q1 HRA 1.5 – 1.7, Q1 HRA 2.2 – 2.4, Q1 HRA 2.14, Q1 OR 1.2 and 1.4 and Q1 OG 1.3		
2.6.1	The MMO notes that NE still have remaining concerns regarding suspended sediment concentration, sea level changes, operation and maintenance activities, use of best practice for cumulative assessment, cable protection, and difficulty in the delivery of benthic compensation measures.	The Applicant has provided responses to Natural England with regard to suspended sediment concentration, sea level changes, operation and maintenance activities, use of best practice for cumulative assessment, and cable protection, within The Applicant's Responses to Relevant Representations (PD1-071), The Applicant's Response to Examining Authorities (ExA's) First Written Questions (REP2- 051), and Table 1.2 of The Applicant's Comments on ExQ1 Responses (REP3-054).
2.6.2	The MMO welcomes that NE are satisfied with scour volume maximum design scenarios, but notes that NE request for these to be validated through modelling.	The Applicant wishes to clarify that Natural England have requested for scour predictions to be validated through monitoring (as outlined in Q1 BE 2.5 of Appendix K to Natural England's Response and Comments to the Examining Authority's first set of Written Questions (REP2-074)), rather than modelling. This comment has been responded to in Table 1.2 of The Applicant's Comments on ExQ1 Responses (REP3-054). Post-construction asset monitoring will be undertaken, as secured in condition 19, Part 2 of the deemed marine licence at Schedule 10 of the Development Consent Order (DCO). Changes in bedform topography, including scour processes, will be monitored at the post-construction phase, as stipulated within the Offshore In-Principle Monitoring Plan (APP-276).
Main Comments		
2.1 Maritime and Coastguard Agency (MCA) (REP2-071) Responses to ExQ1		
Q1 OG 1.7 2.1.1	The MMO notes that MCA are content with the conclusions and mitigation in Chapter 18 of the ES - Marine Infrastructure and Other Users (APP-073) and the Helicopter Access Report (APP-175). However, MCA warns that SAR aircraft should not be solely relied upon and that CAT helicopters may be required and this should be assessed at this stage.	The Project has two operational Normally Unattended Installations (NUIs) located nearby, one inside the wind farm and one on the eastern edge. Due to their location, staff will only be flown to them under day Visual Meteorological Conditions (VMC) and so CAT helicopters will have access, if required to assist in an emergency. However, the ability of CAT Helicopters to conduct medivac flights is limited, as badly injured or impaired patients cannot be flown. In addition, the NUI Duty Holders will take account of their obligations under The Offshore Installations (Prevention of Fire and Explosion, and Emergency Response) Regulations 1995 (PFEER). In particular, the need to demonstrate a "good prospect of rescue" following a helicopter ditching or platform abandonment. This requirement is usually met by a standby vessel, which is considered to be a "place of safety" and these vessels are required to be nearby when the platforms are manned. The Applicant discussed this during Issue Specific Hearing 2 agenda item 3.2, in which the MCA agreed that this matter required no further action as set out in The Applicant's Written Summary of oral case put at Issue Specific Hearing 2 on Offshore matters, 4th Dec (REP3-041).
Q1 SN 1.3 2.1.2	The MMO acknowledges that MCA is content that Outer Dowsing Offshore Wind has undertaken the Navigational Risk Assessment (NRA) in accordance with MCA guidance (MGN654) and NRA risk assessment methodology.	This comment is noted by the Applicant. This has been confirmed via the draft Statement of Common Ground (SoCG) in place with the MCA (REP1-030).

Ref No	MMO's Comments	Applicant Response
Q1 SN 1.3 2.1.3	The MMO acknowledges that MCA is content that the appropriate traffic data has been collected in accordance with MGN654.	This comment is noted by the Applicant. This has been confirmed via the draft SoCG in place with the MCA (REP1-030).
Q1 SN 1.5 2.1.4	The MMO acknowledges that MCA agrees that all areas of agreement or areas under discussions have been covered in the draft SoCG. Further discussions will be held with the Applicant in due course.	This comment is noted by the Applicant. Discussions with the MCA are ongoing. It is noted that the only matters still marked as "Under Discussion" are in relation to wording of the draft DCO (REP3-006) and the Applicant updated the draft DCO at Deadline 3 (REP3-007) to reflect comments from the MCA. The MCA have confirmed they are content with the methodology and conclusions of the Navigation Risk Assessment (NRA) (APP-171) and Chapter 15 Shipping and Navigation (APP-070) via the SOCG (REP1-030).
2.2 Historic England (HE) (REP2-068)		
Q1 HE 1.4 2.2.1	The MMO notes that HE has stated that some area may require more detailed geoarchaeological modelling to target trench evaluation to islands and shores and margins of ancient dryland.	The Applicant does not understand why the Marine Management Organisation (MMO) is commenting on terrestrial matters outside its remit.
Q1 HE 1.4 2.2.2	The latest updated DCO text for Requirement 17 Archaeology (AS1-024) has been noted by HE that it addresses the need for the results of necessary further archaeological evaluation work (reporting post-DCO) to sit alongside the submitted outline onshore written scheme of investigation for archaeological works to inform the specification of archaeological mitigation works.	The Applicant does not understand why the MMO is commenting on terrestrial matters outside its remit.
Q1 HE 1.5 2.2.3	HE acknowledges that the archaeological clerk of works as detailed in the Onshore Written Scheme of Investigation (OWSI) (PD1-052) and Schedule of Mitigation (PD1-058 and PD1- 059) provides reassurance to the robustness of measures, however this is reliant on the control and discharge of requirement 17 for the Written Schemes of Investigation. The MMO notes that HE has listed revisions to the OWSI.	The Applicant does not understand why the MMO is commenting on terrestrial matters outside its remit.
Q1 HE 1.5 2.2.4	The MMO notes that the vibration levels in PD1-071 are conservative and that monitoring and control for noise and dust is presented in the Outline Noise and Vibration Plan. However, HE has deferred to the Highway Authority to provide further comment regarding vibration limits.	The Applicant does not understand why the MMO is commenting on terrestrial matters outside its remit.
2.3 Lincolnshire County Council (REP2-069)		
Q1 SV 1.9 2.3.1	The MMO notes that this question asks whether there would be any merit in the consideration of details contained within the Design Approach Document (APP-292) and the Design Principles Statement (APP-293) to inform 'good design' of offshore infrastructure, particularly the Offshore Reactive Compensation Platforms (ORCPs). The MMO notes that Lincolnshire County Council states that they are unlikely to comment on offshore elements of the scheme.	The Applicant has updated the Design Approach Document (Document Reference 8.18) and submitted a ORCP Design Principles Statement (document reference 21.16) at Deadline 4, to incorporate the relevant offshore elements of the Project.
Q1 SE 1.1 2.3.2	The MMO acknowledges that Lincolnshire County Council has stated that the main areas of concerns regarding impacts to tourism relate to the beaches and coastal resorts, and the detrimental impact from construction activities. The MMO notes that Lincolnshire County Council requests that main constructions activities should take place outside of the main tourism season (April to September).	This comment is noted by the Applicant. However, following the implementation of proposed mitigation measures, including the Outline Public Access Management Plan (REP2-041), the Outline Construction Traffic Management Plan (REP3-031) and the Outline Travel Plan (APP-290), it is not anticipated that there will be any significant detrimental impact from the construction activities at beaches or coastal resorts, as such the Applicant considers that additional limitations on construction activities are not required.
2.4 Royal Society for the Protection of Birds (RSPB) (REP2-081) - Responses to ExQ1		
Q1 HRA 2.3 2.4.1	The MMO notes that the RSPB have provided clarification is why it considers that an insufficient evidence base regarding compensation has been provided for previous projects.	The Applicant refers to their response to 5.1 of REP1-047 (PD1-071) and Natural England's response to Q1 HRA 2.3 (REP2-074), in which Natural England confirm they consider the kittiwake compensatory measures to present an equivalent or greater level of detail than that provided by previous developments.
Q1 OR 1.2	The MMO notes that RSPB have clarified that there are no further assessment methodology matters that have been omitted.	This comment is noted by the Applicant.

Ref No	MMO's Comments	Applicant Response
2.4.2		
Q1 OR 1.4 2.4.3	The MMO notes that RSPB is consulting their technical advisors regarding Closure of the English and Scottish North Sea waters or sandeel fishing.	This comment is noted by the Applicant.
2.5 Environment Agency (EA) (REP2-067) - Responses to ExQ1		
Q1 DCO 1.4, Q1 NV 1.3 and Q1 NV 1.4 2.5.1	The MMO notes that the EA is having productive discussions with the Applicant regarding flood risk activity permits and supporting evidence for the Flood Risk Assessment (FRA).	The Applicant confirms that agreement of Protective Provisions with the EA is nearing finalisation. The Applicant would point out that the PPs secure the process for the pre-construction approval of details for certain flood defence crossings, which will replace the requirement for flood risk activity permits, following the disapplication of the relevant legislation by the DCO.
Q1 WE 1.5 2.5.2	The MMO notes that the EA considers that they have received sufficient information that the works around Fosdyke Bridge should not increase the risk of flooding in that area.	This comment is noted by the Applicant.
2.6 Natural England (NE) (REP2-074)		
Q1 BE 2.2 2.6.1	The MMO notes that NE has reserved commenting further regarding ES conclusions until the further information requested by NE is provided.	This comment is noted by the Applicant.
Q1 BE 2.3 2.6.2	The MMO acknowledges that NE consider that issues regarding suspended sediment concentration and seabed level changes remain unresolved. NE has requested clarification regarding maximum design scenario seabed clearance parameters.	The Applicant has provided responses to Natural England with regard to suspended sediment concentration and seabed level changes within Response B1, B25, and B26 of Table 1.45.3.2 within The Applicant's Responses to Relevant Representations (PD1-071), as well as Table 1.2 of The Applicant's Comments on ExQ1 Responses (REP3-054). The Applicant has provided responses to Natural England with regard to the maximum seabed disturbance parameters within Response B10 of Table 1.45.3.2 within The Applicant's Responses to Relevant Representations (PD1-071).
Q1 BE 2.4 2.6.3	The MMO notes that NE has advised that their concerns are not yet addressed relating to operations and maintenance activities. These activities may exert the same pressures as the construction phase, dependant on what is being undertaken.	The Applicant has provided responses to Natural England with regard to operations and maintenance activities in Row B19, Table 1.45.3.2 of the Applicant's Response to Relevant Representations (PD1-071), as well as Table 1.2 of The Applicant's Comments on ExQ1 Responses (REP3-054). The Applicant consider that based on the spatial and temporal scale, as well as potential frequency of repair/reburial events, Operation and Maintenance (O&M) activities will not be of greater scale than the Maximum Design Scenario (MDS) assessed and are not considered likely to compound existing pressures (beyond that already assessed). The Applicant therefore considers the assessment presented in APP-062 to be appropriate.
Q1 BE 2.4 2.6.4	The MMO welcomes that NE is satisfied with the scour volumes maximum design scenario. However, they have advised that these are validated through modelling. The MMO will continue to be part of the discussions relating to securing any mitigation, monitoring or other conditions required within the DMLs.	The Applicant would like to clarify that Natural England have requested for scour predictions to be validated through monitoring rather than modelling (as outlined in Q1 BE 2.5 of Appendix K to Natural England's Response and Comments to the Examining Authority's first set of Written Questions (REP2-074)). This comment has been responded to in Table 1.2 of The Applicant's Comments on ExQ1 Responses (REP3-054). Post-construction asset monitoring will be undertaken, as secured in condition 19, Part 2 of the deemed marine licence at Schedule 10 of the DCO. Changes in bedform topography, including scour processes, will be monitored at the post-construction phase, as stipulated within the Offshore In-Principle Monitoring Plan (APP-276).
Q1 BE 2.6	The MMO understands that NE considers that, by not using the recommended NE and Joint Natura Conservation Committee (JNCC) best practice for cumulative assessment, there are	The Applicant responded to this point in Q1 BE 2.6, Table 1.2 of The Applicant's Responses to The ExA's First Written Questions (ExQ1) (REP2-051).

Ref No	MMO's Comments	Applicant Response
2.6.5	implications for the projects and level of data included and considered in the cumulative impact assessment (EIA) and in-combination assessment (HRA).	
Q1 BE 2.8 2.6.6	The MMO notes that NE has welcomed the Applicant's justification concerning lack of evidence for secondary scour and have welcomes the use of Hornsea One OWF as rational. However, NE is uncertain of the comparability between the two sites considering differences of seabed mobility.	The Applicant has provided responses to Natural England with regard to secondary scour within Response B31 of Table 1.45.3.2 within The Applicant's Responses to Relevant Representations (PD1-071), as well as Table 1.2 of The Applicant's Comments on ExQ1 Responses (REP3-054). Secondary scour has been considered within Section 7.12.2.2 of APP-062 with evidence provided from Hornsea One Offshore Wind Farm (OWF) in the absence of empirical assessment methodologies. Given the relative lack of evidence (numerical, empirical and post monitoring studies) regarding secondary scour formation, the Applicant maintains that Hornsea One is an appropriate analogue due to similar hydrodynamic forcing and ground conditions and therefore represents the best evidence available.
Q1 FSE 1.6 2.6.7	NE has highlighted the uncertainty regarding the long-term effects of the sandeel fishing ban in English and Scottish waters of the North Sea, which came into effect on 26 March 2024. The MMO notes that NE do not consider it necessary to factor in the closer into the impact assessment.	The Applicant provided more information on this point in its response to Q1 FSE 1.6, Table 1/8 of The Applicant's Responses to The ExA's First Written Questions (ExQ1) (REP2-051).
Q1 HRA 1.5 2.6.8	The MMO notes that NE has provided further justification in why they consider the worst-case scenario for Annex I Sandbanks from the placement of cable protection in the Inner Dowsing Race Bank North Ridge (IDRBNR) Special Area of Conservation (SAC) to not be assessed. NE has noted that the applicant has committed to using removable cable protection, but have highlighted that this is not secured. The MMO notes that NE states that 'Without further assessment and securing mitigation measures Natural England is unable to advise with certainty that the impacts wouldn't exceed 5,760m2 of permanent habitat loss.' The MMO will continue to be part of the discussions relating to securing any mitigation or other conditions required within the DMLs.	The Worst Case Scenario (WCS) as presented within the Application includes all cable protection which the Applicant anticipates might be required for the lifetime of the Project infrastructure. The Applicant will design the cable protection to be deployed during construction to be sufficient for the lifetime of the Project and as such, further cable protection is not expected to be required during the operational period beyond that assessed in the Environmental Statement. The Applicant notes that the use of only removeable cable protection on the sandbank feature of the SAC is secured through the Outline Cable Specification and Installation Plan (CSIP) (paragraph 22 of REP2-033) and Outline Scour Protection and Cable Protection Management Plan (paragraph 8 of APP-295).
Q1 HRA 1.6 2.6.9	The MMO understands that NE will be providing further advice at Deadline 3 on suitable habitat for Annex I reef.	The Applicant is processing the recent advice in relation to defining supporting habitat for *Sabellaria spinulosa*, as presented within Natural England Appendix C2 and C3 (Table 1.3.2 and Table 1.3.3) and will seek to discuss this further with Natural England with a view to providing a more detailed response at Deadline 5 The Applicant does not agree that the proposed scale of rock protection within the SAC would adversely affect the conservation objectives relating to supporting habitat for *S. spinulosa* reef, given the relatively small impact from the Project and the availability of reef forming habitats within the SAC. Furthermore, It should be emphasized that while rock protection may limit the potential for 'natural' *S. spinulosa* reef formation in an area, it would not generate additional negative impacts beyond the affected footprint. The structural complexity of the rock protection would support epifaunal 'influential species' or communities similar to those found in biogenic reef habitats, unlike other pressures (such as fishing). Furthermore, *S. spinulosa* is known to form on silty turbid circatlittoral rock (Tillin *et al.* 2024; Connor *et al*., 2004) and whilst we understand that this is not seen as 'natural' reef (by Natural England) it would provide the presence and spatial distribution of reef communities.
Q1 HRA 1.7 2.6.10	The MMO acknowledges NE's response regarding securing the avoidance of cable protection in shallow nearshore areas. The MMO notes that NE has requested clarity from the Applicant for mitigation measures proposed and whether any cable crossings are anticipated within the	The Applicant has provided responses to Natural England with regard to nearshore cable protection in Row B6 and B11, Table 1.45.3.2 of the Applicant's Response to Relevant Representations (PD1-071) as well as in Table 1, The Applicant's Comments on Deadline 1 Submissions (REP2-053) and Table 1.2 of The Applicant's Comments on ExQ1 Responses (REP3-054). The Applicant wishes to

Ref No	MMO's Comments	Applicant Response
	nearshore. The MMO will continue to be part of the discussions relating to securing any mitigation or other conditions required within the DMLs.	clarify that no cable / pipeline crossings will be required within the nearshore, as defined by the inner depth of closure (approximately 7.1m LAT).
Q1 HRA 2.2 2.6.11	The MMO notes NE's response regarding the Department for Environment, Food & Rural Affairs (DEFRA) Best Practice Guidance on developing compensatory measures for Marine Protected Areas and that the recommendations in draft form will not have implications for the Project, out with what NE has provided in their relevant representations.	This comment is noted by the Applicant.
Q1 HRA 2.3 2.6.12	The MMO notes that NE has provided comments regarding compensation measures on other DCO Orders, to inform the ExA on why it considers the level of information for this Project to be lacking.	In its response to Q1 HRA 2.3, Natural England (Natural England Responses to ExQ1 (REP2-074)) state that the level of information provided by the Applicant on compensation measures for kittiwake "to present an equivalent or greater level of detail than that provided by previous developments", however, NE did not consider that the Applicant had provided enough information on auk species. The Applicant has provided updated versions of the following documents at Deadline 4 which contain additional information on the proposed compensation for auk species: • Without Prejudice Additional Measures for Guillemot and Razorbill evidence and Road Map document (document reference 7.7.6) • Without Prejudice Guillemot Compensation Strategy (document reference 7.7.2) • Without Prejudice Razorbill Compensation Plan (document reference 7.7.3) • Without Prejudice Predator Control Evidence Base and Road Map (document reference 7.7.5).
Q1 HRA 2.4 2.6.13	The MMO notes that NE has stated that they were content, based on the evidence produced, to reduce the length of time the proposed Artificial Nesting Structures (ANS) for Hornsea Four to be in place before operation.	This comment is noted by the Applicant.
Q1 HRA 2.14 2.6.14	The MMO understands that NE does not consider there is merit in progressing project-specific benthic compensation measures owing to the difficulties in delivery. The MMO maintains a watching brief on the outcome relating to securing any mitigation, monitoring or other conditions required within the DMLs.	This comment is noted by the Applicant.
Q1 OR 1.2 2.6.15	The MMO acknowledges NE's outstanding issues relating to offshore and intertidal ornithology (REP2-095) and welcomes that some issues have now been resolved with the production of the Offshore Restricted Build Area (ORBA) documentation. The MMO maintains a watching brief on the outcome relating to securing any mitigation, monitoring or other conditions required within the DMLs.	This comment is noted by the Applicant.
Q1 OR 1.4 2.6.16	The MMO notes that NE has explained the uncertainty regarding the level of benefits to both sandeels and seabirds from the closure of the English and Scottish North Sea waters for sandeel fishing, and that there are no plans to monitor sandeel populations following the closure.	This comment is noted by the Applicant.
Q1 OG 1.3 2.6.17	The MMO welcomes NE's background regarding the DEFRA led project for strategic compensation which includes the possibility of SAC extensions.	This comment is noted by the Applicant.

1.2.3 MMO's Summary and Comments on the Applicants Responses to WQs

Table 1.2.3 MMO Comments on the Applicant's Responses to The ExA's First Written Questions (ExQ1) (REP2-051)

Ref No	MMO's Comments	Applicant Response
Summary		

Ref No	MMO's Comments	Applicant Response
Q1 BE 2.1		
3.1.1	The MMO notes that the Applicant has signposted to where mitigation measures for Sandbanks are secured within the DML and outline plans.	This comment is noted by the Applicant.
Q1 BE 2.7		
3.1.2	The MMO notes that the Applicant is intending to produce a Project specific Sandwave Levelling Assessment at Deadline 3, the MMO will review this document once submitted.	The Applicant provided a Sandwave Levelling Assessment at Deadline 3 (REP3-047).
Q1 CM 1.9		
3.1.3	The MMO acknowledges that the Applicant has included aviation mitigation within the Aids to Navigation Plan as outlined in the Schedule of Mitigation.	The Applicant confirms that aviation mitigation is included within the Schedule of Mitigation (V4 submitted at Deadline 4, document reference 8.13).
Q1 CC 1.4		
3.1.4	The MMO notes the Applicants response to the explanation of the management strategies for offshore cables if they become exposed post decommissioning. The Applicant has stated that Project Infrastructure could 'potentially' include that cables remain in situ.	This comment is noted by the Applicant.
Q1 CF 1.1		
3.1.5	The MMO notes the Applicant's response. The MMO has asked the Applicant to review the published report called 'Spatial distribution of under 12m fishing activity and sensitivity to offshore wind development in the east marine plan areas (MMO1382).'	The Applicant has responded to this point in 3.1.1 and 3.1.2, Table 1.6 of The Applicant's Comments on Deadline 2 Submissions (REP3-037).
1 CF 1.3		
3.1.6	The MMO notes the minimum spacing between turns and that a final array layout plan is secured in the DML.	This comment is noted by the Applicant.
Q1 FSE 1.1, 1.4 and 1.5		
3.1.7	The MMO notes the Applicant's response to the ExA's question regarding assessment of effects on herring, regarding temporal restrictions on piling and implication of the restriction. The MMO will review and respond in due course, however, the MMO has noted further comments regarding impacts to Herring in our Deadline 2 response (Section 1.6, REP2-092).	A response to the further comments submitted by the Marine Management Organisation (MMO) at Deadline 2 (Section 1.6, REP2-092) has been provided in 'The Applicant's Comments on Deadline 2 Submissions' (REP3-037) (Table 1.4, Section 1.6), submitted at Deadline 3. The Applicant met with the MMO and their scientific advisors Cefas on 16th January 2025. The focus of that meeting was to discuss comments raised by the MMO in their Deadline 2 response (Section 1.6, REP2-092) The Applicant is currently reviewing the advice received during the meeting and will provide further detail on its position on this matter to the Examining Authority (ExA) at Deadline 5.
Q1 FSE 1.6		
3.1.8	The MMO notes the Applicant's response to the longer-term effects of the sandeel fishing ban on sandeel populations in English and Scottish waters of the North Sea which came into effect on 26 March 2024.	This comment is noted by the Applicant.
Q1 HOE 1.7		
3.1.9	The MMO is currently reviewing the requirements for decommissioning within the DML and will provide an update in due course.	This comment is noted by the Applicant.

Ref No	MMO's Comments	Applicant Response
Q1 HRA 1.4, 2,2 and 2.4		
3.1.10	The MMO notes the Applicant's responses, and the MMO maintains a watching brief on the outcome relating to securing any mitigation, monitoring or other conditions required within the DMLs.	This comment is noted by the Applicant.
Q1 MM 1.2		
3.1.11	The MMO notes the Applicant's response to the maximum hammer energy of 6,600 kilojoules (kJ) query.	This comment is noted by the Applicant.
Q1 MM 1.3		
3.1.12	The Applicant is correct that the marine European Protected Species licensing body is the MMO, and that Applicant correctly identifies that the MMO does not issue a Letter of No Impediment for marine EPS licences. EPS licences are applied for at the post consent stage when project design and methods are better understood.	The Applicant welcomes this clarification from the MMO.
Q1 MM 1.4		
3.1.13	The MMO welcomes the clarifications regarding definitions of 'piling events' and 'offshore platforms.'	This comment is noted by the Applicant.
Q1 MM 1.6		
3.1.14	The MMO reiterates that it is in the Applicant's interest to plan for noise abatement measures at the earliest opportunity and to incorporate such measures into relevant mitigation plans.	The Applicant directs the reader to the response to Q2 MM 1.3, Applicant's responses to ExQ2 (Document reference 21.2).
Q1 OG 1.5		
3.1.15	The MMO notes that the Applicant considers there not to be any further mitigation with regards to potential vessel access and displacement to other offshore infrastructure. the MMO will keep a watching brief on the outcome relating to securing any mitigation, monitoring or other conditions required within the DMLs.	This comment is noted by the Applicant.
Q1 OG 1.14		
3.1.16	The MMO agrees with the Applicant that the Race Bank disposal site (HU126) is now disused.	This comment is noted by the Applicant.
Q1 OG 1.15		
3.1.17	The MMO notes the Applicants comments regarding vessel trips and that the trip numbers will be included in the vessel management plan contained within the project environmental management plan.	This comment is noted by the Applicant.
Q1 OG 1.16		
3.1.18	The MMO welcomes the Applicant's signposting to where impacts from the ORCP and biogenic reef restoration areas have been considered.	This comment is noted by the Applicant.
Q1 OG 1.20		
3.1.19	The MMO notes that the Applicant will review the scoping report for Eastern Green Link 3 and 4. The MMO will keep a watching brief on the outcome relating to securing any mitigation, monitoring or other conditions required within the DMLs.	The Applicant has now reviewed the Scoping Report for Eastern Green Link (EGL) 3 and 4 and confirms that ES chapters are being updated at Deadline 5, this will include an update to the cumulative assessments and inclusion of EGL 3 and 4, where relevant.

Ref No	MMO's Comments	Applicant Response
		The Applicant also directs the reader to the response to Q2 OG 1.3, Applicant's responses to ExQ2 (Document reference 21.2).
Q1 OG 1.24		
3.1.20	The MMO notes that the Applicant's response states that a minimum target burial depth of 1m is included in the updated Cable Specification and Installation Plan.	The Applicant provided an updated Outline Cable Specification and Installation Plan (REP2-033), including the minimum cable depth of 1m, at Deadline 2.
Q1 SN 1.1		
3.1.21	The MMO notes the Applicant's tabularised response regarding the mechanisms that are in place for adaptive management to address greater than predicted effects in the Navigational Risk Assessment. However, the MMO considers that the Conditions themselves do not allow for adaptive management to be enforced.	The Applicant considers that further mechanism in the Development Consent Order (DCO) for adaptive management are unnecessary for the following reasons: The Navigational Risk assessment (NRA) (APP-171) has assessed a worst case in terms of project parameters and vessel deviations and therefore it is not anticipated that impacts on vessel routeing and safety will be greater than those predicted. Condition 13(1)(c), Part 2, Schedules 10 and 11 of the DCO requires a monitoring plan to be submitted to the MMO for approval prior to the start of licensed activities (or any part). Condition 13(1)(c) is referred to in Conditions 17, 18 and 19. The monitoring plan must accord with the In-Principle Monitoring Plan (APP-276). The Offshore In-Principle Monitoring Plan (APP-276) states, at section 2.1 that an adaptive approach to monitoring is a key principle of the monitoring proposed by the Applicant. Condition 14(5), Part 2, Schedules 10 and 11 of the DCO requires the licensed activities to be carried out in accordance with the approved plans. The MMO has the power to power to vary a deemed marine licence under section 72 of the Marine and Coastal Access Act 2009 in such circumstances. The Applicant also refers to its response to the MMO on this matter generally at RR-042.024 (PD1-071).
Q1 SN 1.6		
3.1.22	The MMO acknowledges the Applicant's comment and the MMO notes that there are no plans to submit an outline decommissioning plan. The MMO considers that an Outline decommissioning plan should be presented into the Examination for review.	It is not considered necessary for an Outline Decommissioning Plan to be provided pursuant to the consenting process under the Planning Act 2008, as the decommissioning process for offshore renewable energy installation farms is controlled by the Energy Act 2004. Section 105 of the Energy Act 2004 requires that the Secretary of State may, by notice, require a decommissioning programme for a renewable energy installation, to include the details set out in that section. In reflection of this, the Draft Development Consent Order) (REP3-006) (provides, at Schedule 1 (the Authorised Project) Part 3 (Requirements), requirement 7, that no offshore works are to commence until a written decommissioning programme in compliance with any notice served upon the undertaker by the Secretary of State pursuant to section 105(2) of the Energy Act 2004 has been submitted to the Secretary of State for approval. This approach is consistent with recently as made offshore wind farm DCOs, including The East Anglia ONE North Offshore Wind Farm Order 2022, The East Anglia TWO Offshore Wind Farm Order 2022 and The Awel y Môr Offshore Wind Farm Order 2023. It is also consistent with the terms of National Policy Statement EN-3 (paragraphs 2.11.29 and 2.11.30).
Main Comments		

Ref No	MMO's Comments	Applicant Response
Q1 BE 2.1 3.1.1	The MMO notes that the Applicant has signposted to where mitigation measures for Sandbanks are secured within the DML and following outline plans: Outline Cable Specification and Installation Plan (CSIP), as required by Condition 13(1)(d)(ii), Part 2, Schedule 11. This includes removable cable protection in the IDRBNR SAC and that no jack-up vessel will be used within the SAC. Outline Biogenic Reef Mitigation Plan (REP2-0xx), as required by Condition 13(1)(j), Part 2, Schedule 11, which includes micrositing to avoid Sabellaria spinulosa reef.	This comment is noted by the Applicant.
Q1 BE 2.7 3.1.2	The MMO notes that the Applicant is intending to produce a Project specific Sandwave Levelling Assessment at Deadline 3, the MMO will review this document once submitted and provide comments in due course.	The Applicant can confirm that a Sandwave Levelling Study (REP3-047) was submitted at Deadline 3.
Q1 CM 1.9 3.1.3	The MMO acknowledges that the Applicant has included aviation mitigation within the Aids to Navigation Plan (as noted within the Schedule of Mitigation, REP2-039) secured though Condition 13(1)(i) of Part 2 of Schedules 10 and 11 DMLs and has highlighted the need to an Emergency Response and Cooperation Plan (ERCoP) secured through Condition 15 of Part 2 of Schedules 10 and 11 DMLs.	This comment is noted by the Applicant and agreed.
Q1 CC 1.4 3.1.4	The MMO notes the Applicants response to the explanation of the management strategies for offshore cables if they become exposed post decommissioning. The Applicant has stated that Project Infrastructure could 'potentially' include that cables remain in situ.	This comment is noted by the Applicant.
Q1 CC 1.4 3.1.5	The MMO welcomes the clarification that the landfall cables under the sea defence will be installed at a depth of between 15-17 metres (m) and between 11-12m deep under the beach to avoid the potential for exposure.	This comment is noted by the Applicant.
Q1 CF 1.1 3.1.6	The MMO welcomes the ExA's question regarding whether fishing activities could take place within any part of the array once operational. The MMO notes the Applicant's Commercial Fisheries Impact Assessment (APP-069). The MMO defers to the National Federation of Fishermen's Organisations and Sussex Inshore Fisheries and Conservation Authorities, along with standalone representatives on matters of commercial fisheries. However, the MMO has asked the Applicant (REP2-092) to review the published report called 'Spatial distribution of under 12m fishing activity and sensitivity to offshore wind development in the east marine plan areas (MMO1382).' which outlines the findings of the evidence project of the under 12m fishing fleet's activity in the east marine plan areas and their sensitivity to Offshore Wind Farms. The MMO will continue to be part of the discussions relating to securing any mitigation, monitoring or other conditions required within the DMLs.	The Applicant has responded to the point regarding the "Spatial distribution of under 12m fishing activity and sensitivity to offshore wind development in the east marine plan areas (MMO1382)" report in 3.1.1 and 3.1.2, Table 1.6 of The Applicant's Comments on Deadline 2 Submissions (REP3-037).
Q1 CF 1.3 3.1.7	The MMO notes that the minimum spacing between turbines is set out in requirement 2(1)(d) of the DCO and that the maximum number of turbines is set out in Schedule 1 (Authorised project), Part 1 (Authorised development) of the DCO. The final array layout plan is secured by condition 13(1)(a) of the Schedule 10 DML.	This comment is noted by the Applicant.
Q1 FSE 1.1 3.1.8	The MMO notes the Applicant's response to the ExA's question regarding assessment of effects on herring. The MMO will review and respond in due course, however, the MMO has noted further comments regarding impacts to Herring in our Deadline 2 response (Section 1.6, REP2-092).	A response to the further comments submitted by the MMO at Deadline 2 (Section 1.6, REP2-092) has been provided in 'The Applicant's Comments on Deadline 2 Submissions' (REP3-037) (Table 1.4, Section 1.6), submitted at Deadline 3.
Q1 FSE 1.4 3.1.9	The MMO notes the Applicant's response to the ExA's question regarding temporal restrictions on piling in other made DCOs. The MMO will review and respond in due course, however, the MMO has	The Applicant met with the Marine Management Organisation (MMO) and their scientific advisors Cefas on 16th January 2025. The focus of that meeting was to discuss comments raised by the MMO

Ref No	MMO's Comments	Applicant Response
	noted further comments regarding the need for piling restrictions in our Deadline 2 response (Section 1.6, REP2-092).	in their Deadline 2 response (Section 1.6, REP2-092). The Applicant is currently reviewing the advice received during the meeting and will provide further detail on its position on this matter to the ExA at Deadline 5.
Q1 FSE 1.5 3.1.10	The MMO acknowledges the Applicant's comments regarding implications of a temporal restriction on piling. The MMO has noted further comments regarding the need for piling restrictions in our Deadline 2 response (Section 1.6, REP2-092). Given that the overlap of noise contours from piling in the array with the area of 'active' spawning ground is driven by piling in the western portion of the array, the MMO considers that the recommended temporal mitigation can be applied spatially, so that piling within the eastern portion of the array can be carried out at any time. This is likely to require some additional modelling to determine an east/west 'boundary' within the array which can be applied to the DML condition and attached as work plans. The MMO has provided further information regarding the ANS sites and the proposed pilling restriction in our Deadline 2 response (Section 1.6, REP2-092).	
Q1 FSE 1.6 3.1.11	The MMO notes the Applicant's response to the longer-term effects of the sandeel fishing ban on sandeel populations in English and Scottish waters of the North Sea which came into effect on 26 March 2024.	This comment is noted by the Applicant.
Q1 HOE 1.7 3.1.12	The MMO notes that the Applicant will submit its decommissioning plans in accordance with the requirements of the draft DCO (Document 3.1) Requirements 7 (Offshore Decommissioning) and 24 (Onshore Decommissioning), and that these plans will be prepared in accordance with the Energy Act 2004 and legislation/best practice at the time of decommissioning. The MMO is currently reviewing the requirements for decommissioning within the DML and will provide an update in due course.	This comment is noted by the Applicant.
Q1 HRA 1.4 3.1.13	The MMO notes the Applicant's response to NE's recommendation for the ORCP to not be sited in the Greater Wash Special Protected Area to avoid disturbance to red-throated diver. The MMO maintains a watching brief on the outcome relating to securing any mitigation, monitoring or other conditions required within the DMLs.	This comment is noted by the Applicant.
Q1 HRA 2.2 3.1.14	The MMO acknowledges that Applicant's response to queries regarding best practice guidance on developing compensatory measures for Marine Protected Areas. The MMO maintains a watching brief on the outcome relating to securing any mitigation, monitoring or other conditions required within the DMLs.	This comment is noted by the Applicant.
Q1 HRA 2.4 3.1.15	The MMO notes the Applicant's comments on the implications of ANS structures being in place for two full breeding seasons, and that the Applicant has submitted a change request (REP2-064) to amend the Order to reduce the length of time for the ANS to be in place prior to operation of the Project. This change reduces the length from three full breeding seasons to two. The MMO defer to NE for further comment and the MMO will keep a watching brief on the outcome relating to securing any mitigation, monitoring or other conditions required within the DMLs.	This comment is noted by the Applicant.
Q1 MM 1.2 3.1.16	The MMO notes the Applicant's response to the maximum hammer energy of 6,600 kilojoules (kJ) query.	This comment is noted by the Applicant.
Q1 MM 1.3 3.1.17	The Applicant is correct that the marine European Protected Species (EPS) licensing body is the MMO, and that Applicant correctly identifies that the MMO does not issue a Letter of No Impediment (LoNI) for marine EPS licences. EPS licences are applied for at the post consent stage when project design and methods are better understood.	The Applicant welcomes this clarification from the MMO.

Ref No	MMO's Comments	Applicant Response
Q1 MM 1.4 3.1.18	The MMO welcomes the clarifications regarding definitions of 'piling events' and 'offshore platforms.'	This comment is noted by the Applicant.
Q1 MM 1.6 3.1.19	The MMO notes the Applicant's resistance to fully committing to the use of Noise Abatement Systems (NAS), noting that the In Principle Southern North Sea Site Integrity Plan (SIP) (PD1-048) references the potential use of NAS. The need to reduce noise at source (noise abatement) is especially pressing given the wider context of the current ramp up of offshore wind development at unprecedented scale in the North Sea. The MMO maintains that reducing noise at source is the most effective measure to reduce the risk of potential impact. Thus, the MMO reiterates that it is in the Applicant's interest to plan for noise abatement measures at the earliest opportunity and to incorporate such measures into relevant mitigation plans.	The Applicant has responded to this point in Q2 MM 1.3 of The Applicant's Responses to ExQ2 (Document Reference 21.2).
Q1 OG 1.5 3.1.20	The MMO notes that the Applicant considers there not to be any further mitigation with regards to potential vessel access and displacement to other offshore infrastructure. the MMO will keep a watching brief on the outcome relating to securing any mitigation, monitoring or other conditions required within the DMLs.	This comment is noted by the Applicant.
Q1 OG 1.14 3.1.21	The MMO agrees with the Applicant that the Race Bank disposal site (HU126) is now disused.	The Applicant welcomes the confirmation from the MMO.
Q1 OG 1.15 3.1.22	The MMO notes the Applicants comments regarding vessel trips and that the trip numbers will be included in the vessel management plan contained within the project environmental management plan. The MMO notes Condition 14(5), Part 2, Schedules 10 and 11 of the DMLs requires that the licensed activities are carried out in accordance with the approved plans, unless otherwise agreed in writing with the MMO.	All licensed activities will be carried out in accordance with the approved plans, unless otherwise agreed in writing with the MMO.
Q1 OG 1.16 3.1.23	The MMO welcomes the Applicant's signposting to where impacts from the ORCP and biogenic reef restoration areas have been considered (within Section 18.7 of APP-073).	This comment is noted by the Applicant.
Q1 OG 1.20 3.1.24	The MMO notes the Applicant's comments regarding Eastern Green Link 3 and 4 cables and that the Applicant will review the scoping report for Eastern Green Link 3 and 4 in order to provide an update. The MMO will keep a watching brief on the outcome relating to securing any mitigation, monitoring or other conditions required within the DMLs.	The Applicant has now reviewed the Scoping Report for Eastern Green Link 3 and 4 and confirms that Environmental Statement (ES) chapters are being updated at Deadline 5, this will include an update to the cumulative assessments and inclusion of Eastern Green Link (EGL) 3 and 4, where relevant. The Applicant also directs the reader to the response to Q2 OG 1.3, Applicant's responses to ExQ2 (Document reference 21.2).
Q1 OG 1.24 3.1.25	The MMO welcomes the ExA's query regarding there being no reference to cable depth within DML Schedule 10, Part 2 - Condition 13(1)(d)(ii) and DML Schedule 11, Part 2 Condition 13 (1)(d)(ii). The MMO notes that the Applicant's response states that a minimum target burial depth of 1m is included in the updated CSIP (REP2-033) and that the conditions require that the CSIP must be in accordance with outline CSIP.	The Applicant confirms that the Outline Cable Specification and Installation Plan (REP2-033) was updated at Deadline 2 to incorporate the minimum target burial depth of 1m.
Q1 SN 1.1 3.1.26	The MMO notes the Applicant's tabularised response to the query regarding the mechanisms that are in place for adaptive management to address greater than predicted effects in the Navigational Risk Assessment (NRA). This response includes the relevant plans as required by the DMLs. Although the Applicant has stated that monitoring reports 'will ensure MCA requirements under Marine Guidance	The Applicant considers that further mechanism in the Development Consent Order (DCO) for adaptive management are unnecessary for the following reasons:

Ref No	MMO's Comments	Applicant Response
	Note (MGN) 654 are met, which state that the MCA would expect the opportunity to discuss any changes identified as part of this monitoring, since the submission of the NRA.' However, the MMO considers that the Conditions themselves do not allow for adaptive management to be enforced, and the Applicant's comment instead relies on discussions but leaves room for the Applicant to dispute adaptive management.	The Navigational Risk assessment (NRA) (APP-171) has assessed a worst case in terms of project parameters and vessel deviations and therefore it is not anticipated that impacts on vessel routeing and safety will be greater than those predicted. Condition 13(1)(c), Part 2, Schedules 10 and 11 of the DCO requires a monitoring plan to be submitted to the MMO for approval prior to the start of licensed activities (or any part). Condition 13(1)(c) is referred to in Conditions 17, 18 and 19. The monitoring plan must accord with the in principle monitoring plan (APP-276). The Offshore In-Principle Monitoring Plan (APP-276) states, at section 2.1 that an adaptive approach to monitoring is a key principle of the monitoring proposed by the Applicant. Condition 14(5), Part 2, Schedules 10 and 11 of the DCO requires the licensed activities to be carried out in accordance with the approved plans. The MMO has the power to power to vary a deemed marine licence under section 72 of the Marine and Coastal Access Act 2009 in such circumstances. The Applicant also refers to its response to the MMO on this matter generally at RR-042.024 (PD1-071).
Q1 SN 1.6 3.1.27	The MMO acknowledges the Applicant's comment and the MMO notes that there are no plans to submit an outline decommissioning plan. The MMO considers that an Outline decommissioning plan should be presented into the Examination for review.	It is not considered necessary for an Outline Decommissioning Plan to be provided pursuant to the consenting process under the Planning Act 2008, as the decommissioning process for offshore renewable energy installation farms is controlled by the Energy Act 2004. Section 105 of the Energy Act 2004 requires that the Secretary of State may, by notice, require a decommissioning programme for a renewable energy installation, to include the details set out in that section. In reflection of this, the Draft Development Consent Order) (REP3-006) (provides, at Schedule 1 (the Authorised Project) Part 3 (Requirements), requirement 7, that no offshore works are to commence until a written decommissioning programme in compliance with any notice served upon the undertaker by the Secretary of State pursuant to section 105(2) of the Energy Act 2004 has been submitted to the Secretary of State for approval. This approach is consistent with recently as made offshore wind farm DCOs, including The East Anglia ONE North Offshore Wind Farm Order 2022, The East Anglia TWO Offshore Wind Farm Order 2022 and The Awel y Môr Offshore Wind Farm Order 2023. It is also consistent with the terms of National Policy Statement EN-3 (paragraphs 2.11.29 and 2.11.30).

1.2.4 MMO's Summary and Comments on the Updated Statements of Commonality

Table 1.2.4 MMO Comments on the Update to the Statement of Commonality of Statements of Common Ground (REP2-047)

Ref No	MMO's Comments	Applicant Response
Summary		
4.1.1	The MMO agrees with the statement in Table 1 regarding the Applicant making positive progress to resolve matters. Ongoing issues relate mainly to fish species and issues relating to the draft DCO/DML.	The Applicant welcomes Marine Management Organisation's (MMO's) agreement with this statement. The Applicant is progressing issues relating to the draft Development Consent Order/deemed Marine License (DCO/DML) with the MMO and held a meeting on the 16 January 2025 to discuss issues related to fish and shellfish ecology.

Main Comments		
4.1.1	The MMO agrees with the statement in Table 1 of the document regarding the SoCG with the MMO in that the Applicant is making positive progress to resolve matters. However, the MMO is incorrectly referenced as the MCA in column 4. Ongoing issues relate mainly to fish as discussed in Annex 6, along with ongoing issues relating to the draft DCO/DML.	The Applicant apologises for this mistake and has amended the error in v4 of this documents which has been submitted at Deadline 4.
4.1.2	The MMO welcomes future engagement with the Applicant and hopes to resolve the remaining points on our SoCG in a timely manner.	The Applicant welcomes this comment and will seek further engagement with the Marine Management Organisation (MMO) to agree the final Statement of Common Ground (SoCG).

1.2.5 MMO's Annexes provided at Deadline 3

1.2.5.1 Annex 1

Table 1.2.5.1 Detailing MMO and the Applicant's comments regarding Marine Plans and DCO/DML comments raised within MMO's Relevant Representation (RR-042)

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
Marine Plan Policies						
General Comments						
RR-042.001	Paragraph Number: 2.11 Marine Plans The Environmental Statement (ES) correctly identified that the proposed development is within the East Marine Plan areas. The MMO requests that all policies are reviewed within a table to show compliance. This must be produced as the Secretary of State must use the East Marine Plan when making planning decisions for the sea, coast, estuaries and tidal waters, as well as developments that impacts these areas, such as infrastructure. The relevant marine plan policies that should be met can be identified using the Explore Marine Plans tool and policy information on the following website: https://www.gov.uk/guidance/ex plore-marine-plans Although some Marine Plan Policies are discussed under the relevant chapters to which they relate, MMO requires the Applicant to detail how the proposed project is compliant with the relevant marine plans by	The Applicant submitted a Policy Compliance Document (AS-012) on 31st July 2024. This includes consideration of the Marine Policy Statement and the East Inshore and East Offshore Marine Plans. A full assessment of relevant Marine Plan Polices relevant to the Project can be found in Table 1 of section 6, from page 798. The Applicant therefore considers that the creation of an additional document would be superfluous and is not required as the information requested by the MMO is included within the Policy Compliance Document (AS-012)	The MMO mentioned in our Deadline 1 submission (REP1-056), that we acknowledged that the Applicant has produced a Policy Compliance Document (AS-012). Section 6, Table 1 includes an assessment of Marine Plan Policies and welcomed the signposting provided by the Applicant. The MMO is therefore satisfied that the Marine Policy considerations remain as part of this document, and there does not need to be an additional document created as this would be duplication. However, we did note that policies E-ECO-1 and E-TR-3 appear to be missing. These should be added to Table 1 to ensure all policies are considered.	The Applicant welcomes the MMO's support of the Policy Compliance Document (AS-012) submitted as a response to the Rule 17 Letter. The Applicant agrees with the MMO that the submission of an additional document would be duplication. In relation to policies E-ECO-1 and E-TR-3, the Applicant understands these policies are directed at decision / plan makers but confirms as follows for completeness: ▪ E-ECO-1 – "Cumulative impacts affecting the ecosystem of the East marine plans and adjacent areas (marine, terrestrial) should be addressed in decision-making and plan implementation." Although the Applicant is not the decision maker or plan	The MMO welcomes the Applicant comments and considers that this is now addressed.	This comment is welcomed by the Applicant.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
	producing a marine plan policy assessment in one document.			implementation, cumulative impacts affecting the ecosystem of the East marine plans and adjacent areas have been considered throughout the Environmental Statement (ES) in each of the assessment chapters. The approach to assessing cumulative effects is set out in Appendix 2 Offshore Cumulative Effects Assessment Approach (APP-147) and Appendix 3 Onshore Cumulative Effects Assessment Approach (APP-148) ▪ E-TR-3 – "Proposals that deliver tourism and/or recreation related benefits in communities adjacent to the East marine plan areas should be supported." As the Project does not deliver tourism and/ or recreation related benefits, this policy is not considered relevant for the Applicant to comment on.		
Development Consent Order (DCO) and Deemed Marine Licences (DMLs)						
RR-042.002	Paragraph Number: 3.1.1 Draft Development Consent Order The MMO has reviewed the draft DCO and provided comments below. The MMO are currently undertaking a detailed review and will provide further comments on the DCO at Deadline 1 and during the course of the examination.	The comment is noted by the Applicant.	The MMO welcomes that the Applicant has noted this comment.			This comment is noted by the Applicant. The Applicant understands the MMO will provide further comments on the draft DCO (REP3-006) at Deadline 4.
RR-042.003	Paragraph Number: 3.2.1 Unexploded Ordinance The MMO would like clarity on if the investigation of and the detonation of UXO's are included within the licenced activities. These are not part of any of the Works order	Whilst the impacts from unexploded ordnance (UXO) clearance have been assessed within the relevant chapters of the Environmental Statement, the Applicant is	The MMO notes that the Applicant has stated that they are not seeking consent at this stage for the investigation of and clearance of Unexploded	The comment is noted by the Applicant.	The MMO is satisfied that this comment can be closed.	This comment is welcomed by the Applicant.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
	or set out within the activities of Schedule 10 & 11, however a draft UXO marine mammal mitigation plan is proposed.	not seeking consent at this stage for the investigation of and clearance of UXO due to the degree of uncertainty regarding the number of UXO which may need to be cleared. Such activities are therefore not included within the scope of the licenced activities, as discussed with the MMO during the pre-application Evidence Plan Process as noted in Appendix 5.1.5. Evidence Plan Process Consultation (APP-052). Prior to the commencement of offshore construction for the Project, a marine licence application will be made to the MMO for the investigation of potential UXOs and the clearance of confirmed UXOs. A formal UXO Clearance Marine Mammal Mitigation Protocol (MMMP) will be drafted and submitted as part of the marine licence application, which will be based on the best available evidence at that point in time. The Applicant submitted an Outline MMMP for UXO Clearance Activities (APP-280) as part of the suite of application documents in response to advice from Natural England to do so. The Outline UXO MMMP is intended to demonstrate that effective mitigation measures are available to mitigate the impacts of UXO clearance to	Ordinance (UXO) due to the degree of uncertainty regarding the number of UXO which require clearing. The MMO notes the Applicant intends to apply for a marine licence application for the investigation of potential UXOs and their clearance prior to the commencement of offshore construction. A formal UXO Clearance Marine Mammal Mitigation Protocol (MMMP) will be drafted and submitted as part of the marine licence application. The MMO agrees with this approach.			

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
		negligible, however the measures proposed within the marine licence application and associated MMMP preconstruction will be based on best practice and up to date evidence at that point in time.				
RR-042.004	Paragraph Number: 3.3.1 Arbitration Schedule 19 proposes a new enhanced Appeals procedure for the Applicant should the MMO refuse an application for approval under a condition, or fail to determine the application for approval by certain 'determination dates' which have been inserted into the DML in Schedule 20. This Appeals procedure is not available for other marine licence holders. The MMO strongly requests that the Appeals procedure for the MMO is removed from both the DCO.	Article 38 (Arbitration) of the draft DCO makes provision for disputes arising under the provisions of the DCO, unless otherwise provided for, to be settled by arbitration however paragraph (2) of Article 38 restricts the scope of this and confirms that matters for which the consent or approval of the Secretary of State or the MMO is required will not be subject to arbitration. The Arbitration Rules set out in Schedule 19 therefore do not apply to matters which require the consent or approval of the MMO. Paragraph (2) of Article 39 (Requirements, appeals, etc.) gives effect to Schedule 20 (procedure for discharge of requirements) which provides a procedure for the discharge of requirements. This does not apply to the discharge of conditions under the Deemed Marine Licences (DMLs). The Arbitration and Appeals procedures set out in the DCO therefore do not apply to the DMLs.	The MMO understands that arbitration does not apply to the MMO in this application. The MMO thanks the Applicant for clearly setting out that the Arbitration and Appeals procedures set out in the DCO do not apply to the DMLs. This is reflected in Article 38 (2): "38…(2) Any matter for which the consent or approval of the Secretary of State or the Marine Management Organisation is required under any provision of this Order shall not be subject to arbitration."	The MMO's position on Arbitration and Appeals is welcomed by the Applicant.	The MMO is satisfied that this comment can be closed.	This comment is welcomed by the Applicant.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
RR-042.005	Paragraph Number: 3.3.2 Arbitration Appeals are already available to the Applicant in the form of an escalated internal procedure and judicial review ("JR"), and therefore, including any additional appeal mechanism within the DCO and DML is unnecessary. The Marine Licensing (Licence Application Appeals) Regulations 2011 apply a statutory appeal process to the decisions that the MMO makes regarding whether to grant or refuse alicence or conditions which are to be applied to the licence. However, they do not include an appeal process to any decisions the MMO is required to give in response to an application to discharge any conditions of a marine licence issued directly by us. Therefore, if the DCO were to be granted with the proposed appeal process included, this would not be consistent with the existing statutory processes. This amendment would be introducing and making available to this specific Applicant, a new and enhanced appeal process which is not available to other marine licence holders, creating an unlevel playing field across the regulated community. These proposals go against the statutory functions laid out by parliament. The private nature of the arbitration process does not align with the public functions and duties of the MMO. The removal of the MMO decision-making function, and its placement into the hands of a private arbitration process, is inconsistent with the MMO legal function, powers and responsibilities, which was never intended by Parliament in enacting the Planning Act 2008 or MCAA 2009. The MMO also consider that arbitration would not be consistent with p.4 of Annex B of the PINS Guidance Note 11, which states that "the MMO will seek to ensure wherever possible	See Applicant's response to 3.3.1 above.	Please see MMO's further response to 3.3.1 above.	The MMO's position on Arbitration and Appeals is welcomed by the Applicant.	The MMO is satisfied that this comment can be closed.	This comment is welcomed by the Applicant.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
	that any deemed licence is generally consistent with those issued independently by the MMO". Inclusion of a different mechanism for determination of disputes in respect of DMLs would not be consistent with Marine Licences issued independently by the MMO.					
RR-042.006	Paragraph Number: 3.3.3 Arbitration In addition to this, the MMO emphasises that we are an open and transparent organisation that actively engages, and maintains excellent working relationships with, industry and those it regulates. The MMO discharges its statutory responsibilities in a manner which is both timely and robust in order to fulfil the public functions vested in it by Parliament. The scale and complexity of Nationally Significant Infrastructure Projects creates no exception in this regard and indeed it follows that where decisions are required to be made, or approvals given, in relation to these developments of significant public interest, only those bodies appointed by Parliament should carry the weight of that responsibility. Since its inception the MMO has undertaken licensing functions on over 130 DCOs, comprising some of the largest and most complex operations globally. The MMO is not aware of an occasion whereby any dispute which has arisen in relation to the discharge of a condition under a DML has failed to be resolved satisfactorily between the MMO and the applicant, without any recourse to an 'appeal' mechanism.	See Applicant's response to 3.3.1 above.	Please see MMO's further response to 3.3.1 above.	The MMO's position on Arbitration and Appeals is welcomed by the Applicant.	The MMO is satisfied that this comment can be closed.	This comment is welcomed by the Applicant.
Transfer of Benefit of the Order						
RR-042.007	Paragraph Number: 3.4.1 The MMO understands that Article 6 – Transfer of Benefit is drafted in a similar way to previous consents granted by the Secretary	As acknowledged by the MMO, Article 6 (Benefit of the Order) is a standard provision with significant precedent in DCOs. The article is	The MMO position in RR-042, points 3.4.1 - 3.4.5 has not changed. The MMO disagrees with the Applicant stance on this. The MMO is	The comment is noted by the Applicant.	The MMO still has concerns regarding Transfer of Benefit of the Order. The MMO are currently reviewing and will	The Applicant maintains its position as detailed in its responses in the Applicant's Responses to Relevant

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
	of State (SoS), however the MMO has major concerns over the wording.	particularly important in offshore wind DCOs as the regulatory regime requires the transmission infrastructure to be transferred to an offshore transmission owner (OFTO). The wording of Article 6 reflects current practice and is considered appropriate in the context of the draft DCO. The Applicant has responded to the MMO's specific comments in the rows below.	reviewing the comments made and will respond in due course.		provide comments at Deadline 4.	Representations at RR-042.007 to RR-042.011 (PD1-071).
RR-042.008	Paragraph Number: 3.4.2 Article 6(1)-(2) gives the right to permanently transfer the benefits of the DCO including the deemed marine licences (DML) in Schedule 11,12& 13 to a third party with the consent of the SoS. Part 2: Article 6(1)-(2) "6.—(1) Subject to this article, the provisions of this Order have effect solely for the benefit of the undertaker. (2) Subject to paragraph (3), the undertaker may with the written consent of the Secretary of State— (a) transfer to another person ("the transferee") any or all of the benefit of the provisions of this Order (including the deemed marine licences) and such related statutory rights as may be agreed between the undertaker and the transferee;" The MMO considers that this is a clear departure from the 2009 Act, which would normally require the licence holder (here 'the undertaker') to make an application to the MMO for a licence to be transferred. Instead, this provision operates to make the decision that of the undertaker, with the Secretary of State (SoS) providing consent to the transfer, rather than the MMO as the regulatory authority for marine licences considering the merits of any application for a transfer.	The provisions contained within paragraphs (1) and (2) of Article 6 are long established in offshore wind DCOs and the appropriateness and legality of such provisions in light of the provisions of the Marine and Coastal Access Act 2009 have been debated at length during previous offshore wind DCO examinations but ultimately Examining Authorities and the Secretary of State have considered such provisions to be appropriate. To depart from wellestablished precedent would be prejudicial to the Applicant. With respect to the MMO's comment querying why it should be the Secretary of State approving the transfer (in the event that paragraph (6) does not apply), this is to reflect the fact that it is the SoS that grants the DCO	The MMO position in RR-042, points 3.4.1 - 3.4.5 has not changed. The MMO disagrees with the Applicant stance on this. The MMO is reviewing the comments made and will respond in due course.	The comment is noted by the Applicant.	The MMO are currently reviewing and will provide comments at Deadline 4.	The Applicant maintains its position as detailed in its responses in the Applicant's Responses to Relevant Representations at RR-042.007 to RR-042.011 (PD1-071).

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
	Parliament has already created a statutory regime for such a process and it is unclear what purpose the written consent of the SoS actually serves. If the intention is for the undertaker to be able to transfer the benefits under the terms of the DCO outside the established procedures under 2009 Act, the MMO queries why is it considered necessary or appropriate for the SoS to 'approve' the transfer of the DML. It is also unclear what criteria the SoS would be taking in determining whether to approve any transfer, and how this would differ from a consent granted by the MMO under the existing 2009 Act regime. Because of this confusion and potential duplication, it is the position of the MMO that these provisions are removed and that any transfer should be subject to the existing regime under the 2009 Act, with the decision maker remaining the MMO.	(which includes the DMLs, as well as various other powers and obligations) and so the Applicant considers that in the event of a transfer of the whole or part of a DCO (which includes DMLs), it is appropriate that the SoS (as the relevant regulator in the case of DCOs) should approve this as there may be considerations that go beyond the DMLs (for example, interactions with articles, requirements or other Schedules which relate to offshore matters). Furthermore, it is likely that any transfer will relate to works and powers within the DCO in addition to licensed activities under the DMLs and so it would not be appropriate or practical to require the consent of the SoS in respect of the DCO aspects only and the consent of the MMO in respect of the DML aspects as this would create duplication. It is worth noting that given the regulatory context in which the offshore wind industry sits, it is unlikely that a transfer will take place to a transferee that does not hold a licence under the Electricity Act 1989 and so in most circumstances, paragraph (6) will apply and the approval of the SoS will not be required. In such circumstances, paragraphs (8) to (11) provide				

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
		for a robust notification process whereby the undertaker must notify the SoS, and where relevant, the MMO, of the transfer. Paragraph (9) reflects the wording set out in earlier DCOs (for example, Hornsea Three, Hornsea Four, East Anglia ONE North, East Anglia TWO, Norfolk Vanguard etc) and was drafted in response to comments from and in consultation with the MMO on those earlier projects to ensure the information provided within the notification meets the requirements of the MMO. The Applicant does not consider there to be any duplication under the current drafting and indeed considers that the MMO's proposed approach would create duplication and potentially confusion (particularly if the SoS were to approve the nonDML elements of a transfer and the MMO were to refuse the transfer of the DML aspects, or if the period taken for each authority to grant consent differed significantly). The Applicant therefore considers the transfer and notification process set out within Article 6 to be appropriate, fit for purpose and in line with established precedent				

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
RR-042.009	Paragraph Number: 3.4.3 This Article 6(2)(b) gives the right to temporarily transfer the benefits of the DCO (including DML) to a third party. Article 6(2)(b) "6(2)(b) grant to another person ("the lessee") for a period agreed between the undertaker and the lessee any or all of the benefit of the provisions of this Order (including the deemed marine licences) and such related statutory rights as may be so agreed, except where paragraph (6) applies, in which case the consent of the Secretary of State is not required." The MMO resists the inclusion of this article. Here the written consent of the SoS is not required. The MMO does not recognise that this would create a more streamlined system. Rather it simply operates to create an additional administrative procedure for marine licences (and one not envisaged by Parliament) and with no clarity in how it will operate.	The Applicant notes that there may be some confusion here as Article 6(2)(b) operates in the same way was Article 6(2)(a) and transfers under this provision will also be subject to Secretary of State approval where paragraph (6) does not apply. The MMO's comment that SoS consent is not required under paragraph (b) is therefore not entirely correct. As noted in response to 3.4.2 above, this paragraph follows established precedent and has been included in numerous DCOs granted by the Secretary of State.	The MMO position in RR-042, points 3.4.1 - 3.4.5 has not changed. The MMO disagrees with the Applicant stance on this. The MMO is reviewing the comments made and will respond in due course.	The comment is noted by the Applicant.	The MMO are currently reviewing and will provide comments at Deadline 4.	The Applicant maintains its position as detailed in its responses in the Applicant's Responses to Relevant Representations at RR-042.007 to RR-042.011 (PD1-071).
RR-042.010	Paragraph Number: 3.4.4 The MMO has concerns regarding Article 6(3) Article 6(3) "6(3) The Secretary of State must consult the MMO before giving consent to the transfer or grant to another person of the benefit of any or all of the provisions of any of the deemed marine licences." The MMO notes that there is no obligation for the SoS to take into account the views of the MMO when providing its consent. Furthermore, there is no obligation for the MMO to be informed of the decision of the SoS, notwithstanding its impact on the MMO as the licencing authority. From a regulatory perspective it is highly irregular that a decision to transfer a licence should not be the decision of the regulatory authority in that area (the MMO) but instead	The Applicant considers that the obligation on the Secretary of State to consult the MMO is entirely appropriate and sufficient and is drafted in standard terms. It is not necessary or indeed standard practice in DCOs to explicitly include text requiring the views of bodies consulted on matters to be considered or taken into account as this would be done as a matter of course. With respect to notifying the MMO of the SoS' decision, the Applicant expects that the Secretary of State would publish any decision granting	The MMO position in RR-042, points 3.4.1 - 3.4.5 has not changed. The MMO disagrees with the Applicant stance on this. The MMO is reviewing the comments made and will respond in due course.	The comment is noted by the Applicant.	The MMO are currently reviewing and will provide comments at Deadline 4.	The Applicant maintains its position as detailed in its responses in the Applicant's Responses to Relevant Representations at RR-042.007 to RR-042.011 (PD1-071).

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
	should be subject to such a cursory process as is set out in Article 6(1)-(3). The MMO thus resists this change as unworkable. As explained above, Articles 6 (1)- (3) sets out what is effectively a new non-legislative regime for the variation and transfers of marine licences. In support of these provisions, Article 6(12) explicitly disapplies sections 72(7) and (8) of the 2009 Act, which would otherwise govern these procedures.	consent to a transfer request (as is the case with Secretary of State approvals under a DCO) and so the MMO would be made aware of the Secretary of State's decision in the usual way. Further drafting to clarify this would be unnecessary and inconsistent with the drafting elsewhere in the DCO. In addition, paragraph (8) requires the MMO to be notified by the undertaker prior to any transfer taking effect, if the transfer relates to the exercise of powers in their area. See the Applicant's response to 3.4.2 above in respect of the other points raised by the MMO in this comment.				
RR-042.011	Paragraph Number: 3.4.5 Article 6(12) "(12) Section 72(7) and (8) of the 2009 Act do not apply to a transfer or grant of the whole or part of the benefit of the provisions of any of the deemed marine licences to another person by the undertaker pursuant to an agreement under this article 6 (benefit of the Order) save that the MMO may amend any deemed marine licence granted under Schedule 11, Schedule 12 or Schedule 13 of the Order to correct the name of the undertaker to the name of a transferee or lessee under this article 6 (benefit of the Order)." This conflicts with the MMO's stated position that the DML granted under a DCO should be regulated by the provisions of 2009 Act, and specifically by all provisions of section 72.	See the Applicant's response to 3.4.2 above. With respect to the MMO's comment about Article 6 being inconsistent with Advice Note Eleven, the Applicant does not agree with this interpretation. The Advice Note states: "Where developers choose to have a marine licence deemed by a DCO, it is envisaged that developers will seek to agree the draft marine licence with the MMO prior to submitting their DCO application to the Planning Inspectorate. The conditions included in a marine licence should be enforceable, clear	The MMO position in RR-042, points 3.4.1 - 3.4.5 has not changed. The MMO disagrees with the Applicant stance on this. The MMO is reviewing the comments made and will respond in due course.	The comment is noted by the Applicant.	The MMO are currently reviewing and will provide comments at Deadline 4.	The Applicant maintains its position as detailed in its responses in the Applicant's Responses to Relevant Representations at RR-042.007 to RR-042.011 (PD1-071).

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
	Section 72(7)(a) of 2009 Act permits a licence holder to make an application for a marine licence to be transferred, and where such an application is approved for the MMO to then vary the licence accordingly (s. 72(7)(b)). This power that should be retained and used in relation to the DML granted under the DCO and the MMO therefore resists the inclusion of this article 6(12) to disapply these provisions. The key concern held by the MMO is that Article 6 operates to override and/or unsatisfactorily duplicate provision that already exist within MCAA 2009 for dealing with variations to marine licences. Such provisions are also inconsistent with the PINS Guidance on how DMLs should operate within a DCO. Advice Note Eleven, Annex B – Marine Management Organisation | National Infrastructure Planning (https://infrastructure.planningin spectorate.gov.uk/legislationand-advice/advicenotes/an11- annex-b/) provides that where the undertaker choses to have a marine licence deemed by a DCO, the MMO, "will seek to ensure wherever possible that any deemed licence is generally consistent with those issued independently by the MMO." Article 6 as drafted is not in compliance with this guidance.	and sufficiently detailed to allow for monitoring and enforcement. The MMO will seek to ensure wherever possible that any deemed licence is generally consistent with those issued independently by the MMO." The Applicant considers that the text quoted from the Advice Note relates to the content of a DML rather than the mechanism for transferring DMLs				
RR-042.012	Paragraph Number: 3.5.1 The MMO strongly considers that the activities authorised under the DCO and DML should be limited to those that are assessed within the EIA, and the statement that activities will be limited to those that 'do not give rise to any materially new or materially different environmental effects' should be updated to clarify this.	The text referred to by the MMO can be found in the context of (1) amendments to approved details (i.e. where a plan or document has been approved under a requirement of the DCO or a condition of the DML and the Applicant requests approval of an amendment to the approved plan) and (2) in	The MMO notes the Applicant's response and is reviewing the comments made and will respond in due course.	The comment is noted by the Applicant.	The MMO are currently reviewing and will provide comments at Deadline 4.	The Applicant maintains its position as detailed in its response in the Applicant's Responses to Relevant Representations at RR-042.012 (PD1-071).

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
		relation to the approval of maintenance activities. With respect to the amendment of approved details, the wording is contained in Requirement 29 of the DCO and in paragraph 9 of the DMLs contained in Schedule 10 to 15 and paragraph 8 of the DML contained in Schedule 16. The text in the DMLs states: "Any amendments to the details, plan or scheme must be in accordance with the principles and assessments set out in the environmental statement, and approval for an amendment may be given only where it has been demonstrated to the satisfaction of the MMO that the amendment is unlikely to give rise to any materially new or materially different environmental effects from those assessed in the environmental statement." The provision clearly states that any amendments "must be in accordance with the principles and assessments set out in the environmental statement" and therefore the provision is not seeking to enable the undertaker to undertake works beyond what has been assessed in the ES. Rather, the provision clarifies the position regarding amendments to approved plans. The Applicant therefore does not				

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
		agree with the MMO's proposed alternative text or the MMO's comments at 3.5.2 – 3.5.7. It should also be noted that this is standard text appearing in very similar terms in numerous DCOs and DMLs, including Hornsea Project Three, Hornsea Project Four, Norfolk Vanguard, Sheringham Shoal and Dudgeon Extensions and East Anglia ONE North and East Anglia TWO and has therefore been accepted by the Secretary of State as being appropriate. Turning to the approval of maintenance activities, the wording raised by the MMO can be found in paragraph (4) of condition 4 of the DMLs in Schedules 10 and 11 and condition 2 of the DMLs in Schedules 12 to 16. The text in paragraphs (1), (2) and (4) of this condition in the DMLs is as follows: "(1) The undertaker may at any time maintain the authorised scheme, except to the extent that this licence or an agreement made under this licence provides otherwise. (2) No maintenance works whose likely effects are not assessed in the environmental statement may be carried out, unless otherwise approved by the MMO. […]				

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
		(4) Where the MMO's approval is required under paragraph (2), approval may be given only where it has been demonstrated to the satisfaction of the MMO that the approval sought is unlikely to give rise to any materially new or materially different environmental effects from those assessed in the environmental statement." The reason for including the text "unless otherwise approved by the MMO" in paragraph (2) is because there may be maintenance activities which were not envisaged at the point of undertaking the EIA but that are relatively minor in nature or would not give rise to any materially new or materially different effects beyond those assessed in the ES. The inclusion of this text is necessary to enable such activities to be approved by the MMO through this condition rather than potentially requiring a further marine licence which would be disproportionate in the context. The materiality threshold is well established in DCO precedent. The MMO states that the "inclusion of the word materially essentially means that the undertaker makes the decision as to what is and what is not material. Under				

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
		EIA it is for the appropriate authority to determine what the likely significant effects will be and how those should be mitigated." The Applicant disagrees with this statement as paragraph (4) makes it clear that it is for the MMO to determine whether it is satisfied that the approval sought is unlikely to give rise to any materially new or materially different environmental effects from those assessed. Historically, DMLs did not include a condition clarifying the maintenance works that can be undertaken however this condition, including the text in paragraph (4) has been included in the Hornsea Three DMLs. The Applicant notes that this text is also included in the Examination version of the Rampion 2 DMLs yet the issue raised by the MMO here was not included in the final principal areas of disagreement submitted by the MMO prior to the Examination closing. Indeed, in its Written Representation dated 27 February 2024 in respect of the Rampion 2 Application, the MMO specifically requested the text "do not give rise to any materially new or materially different environmental effects to those assessed in the environmental information" to be included in				

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
		the relevant condition. In its Relevant Representation dated 16 August 2024 in respect of the Morecambe Offshore Windfarm Generation Assets Application the MMO also suggested including this text in the amendment of approved details condition. It is therefore not clear why the MMO is now departing from well established precedent and is actively recommending the inclusion of this text in the DCOs and DMLs for other offshore wind farm projects but is raising concerns with it in the context of this application				
RR-042.013	Paragraph Number: 3.5.2 The MMO considers that wording should be updated to 'do not give rise to any new or different environmental effects to those assessed in the environmental information'. This also applies to the definition of "maintain".	See the Applicant's response to 3.5.1 above.	The MMO notes the Applicant's response and is reviewing the comments made and will respond in due course	The comment is noted by the Applicant	The MMO are currently reviewing and will provide comments at Deadline 4.	The Applicant maintains its position as detailed in its response in the Applicant's Responses to Relevant Representations at RR-042.012 (PD1-071).
RR042.014	Paragraph Number: 3.5.3 The intention behind EIA is to protect the environment by ensuring that in deciding whether to grant a development consent for a project, and in deciding what conditions to attach to that consent, the decision has full knowledge of what the likely significant environmental effects of the project/development will be. That knowledge then guides the consent process and what conditions, if any, to attach to the consent. Additionally, there is considerable public consultation under the EIA process because the process recognises the importance of local knowledge in environmental decision making.	See the Applicant's response to 3.5.1 above.	The MMO notes the Applicant's response and is reviewing the comments made and will respond in due course.	The comment is noted by the Applicant.	The MMO are currently reviewing and will provide comments at Deadline 4.	The Applicant maintains its position as detailed in its response in the Applicant's Responses to Relevant Representations at RR-042.012 (PD1-071).

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
RR-042.015	Paragraph Number: 3.5.4 The EIA legislation was designed to apply to those plans/projects which could be sufficiently detailed and particularised at the application stage, to allow the consenting decision to be taken in the full knowledge of what the likely significant effects of that plan or project would be. In such circumstances, it would be unnecessary to create a legal obligation under the order which requires the activities to remain within what was assessed under the EIA, because the consent authorises the detailed and well particularised project, assessed in the EIA to be carried out, and therefore, providing the development is constructed as per the consent, those works would, by default, remain within the parameters of the EIA.	See the Applicant's response to 3.5.1 above.	The MMO notes the Applicant's response and is reviewing the comments made and will respond in due course.	The comment is noted by the Applicant.	The MMO are currently reviewing and will provide comments at Deadline 4.	The Applicant maintains its position as detailed in its response in the Applicant's Responses to Relevant Representations at RR-042.012 (PD1-071).
RR-042.016	Paragraph Number: 3.5.5 The difficultly identified with EIA, as was discussed in the Rochdale Envelope case, is that to deal with an outline planning case, where the project will flex over time, you need to undertake the EIA at the outline permission stage when there is not enough detail to properly identify what the final design of the project will actually be. In the case of Rochdale the court was saying things could remain flexible providing the EIA took account of the need for evolution of the project over time and assessed the likely significant effects within clearly defined parameters, and then the consent granted imposed conditions to ensure that the process of evolution kept within the parameters of the EIA. Whilst there might not be an express provision that you can point to in the legislation that says that a project cannot exceed the effects assessed in the EIA, it is implied (or the purpose of EIA would be undermined) and the Rochdale case discusses this.	See the Applicant's response to 3.5.1 above.	The MMO notes the Applicant's response and is reviewing the comments made and will respond in due course.	The comment is noted by the Applicant.	The MMO are currently reviewing and will provide comments at Deadline 4.	The Applicant maintains its position as detailed in its response in the Applicant's Responses to Relevant Representations at RR-042.012 (PD1-071).

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
RR-042.017	Paragraph Number: 3.5.6 In this DCO and the DML, the Applicant is wanting flexibility in terms of the design details (both in terms of some of the construction details, and in relation to some of the maintenance activities). Where those design details are not finalised at the application stage, the Applicant is wanting to retain some flexibility and is proposing that the works that can be carried out should be restricted to those which do not give rise to materially new or materially different environmental effects to those assessed in the EIA. The concern with this is that the inclusion of the word materially here would allow the undertaker to carry out works whose effects are outside of the likely significant effects assessed in the EIA, providing they do not do so materially, i.e. in any significant way, greatly, or considerably. This is not what the purpose of the EIA process is, and it runs contrary to the purpose of EIA. The other issue with this is that whilst the undertaker is responsible for producing the environmental information and statement on which the EIA decision is based, the appropriate authority is responsible for the EIA consent decision, the inclusion of the word materially essentially means that the undertaker makes the decision as to what is and what is not material. Under EIA it is for the appropriate authority to determine what the likely significant effects will be and how those should be mitigated.	See the Applicant's response to 3.5.1 above.	The MMO notes the Applicant's response and is reviewing the comments made and will respond in due course.	The comment is noted by the Applicant	The MMO are currently reviewing and will provide comments at Deadline 4.	The Applicant maintains its position as detailed in its response in the Applicant's Responses to Relevant Representations at RR-042.012 (PD1-071).
RR-042.018	Paragraph Number: 3.5.7 The MMO does not consider that it is appropriate to use the word material in these circumstances. If the Applicant wants the flexibility of not being prescriptive about the design from the start, the Order and the DML granted through it should restrict works which can be carried out to those which do not give	See the Applicant's response to 3.5.1 above.	The MMO notes the Applicant's response and is reviewing the comments made and will respond in due course.	The comment is noted by the Applicant.	The MMO are currently reviewing and will provide comments at Deadline 4.	The Applicant maintains its position as detailed in its response in the Applicant's Responses to Relevant Representations at RR-042.012 (PD1-071).

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
	rise to any new or different environmental effects to those assessed in the EIA.					
Schedule 16						
RR - 042.019	Paragraph Number: 3.6.1 Schedule 16 of the DML enables the recreation of Annex I Reef as a compensation measure within Inner Dowsing Race Bank North Ridge (IDRBNR) Special Area of Conservation (SAC) and that this will be considered as part of the Habitats Regulations Assessment (HRA) for the DCO/DML rather than a separate post consent marine licence. The MMO defers to Natural England as statutory nature conservation body (SNCB) and supports any comments in relation to benthic compensation.	The comment is noted by the Applicant.			The MMO welcomes that the Applicant has noted that we defer to Natural England as statutory nature conservation body (SNCB) and that we support any comments in relation to benthic compensation.	The Applicant has responded to Natural England's comments on benthic compensation in Table 1.45.5 of the Applicant's Responses to Relevant Representations (PD1-071).
RR - 042.020	Paragraph Number: 3.6.2 The MMO notes that some of the potential compensation areas of search are located where The Crown Estate has recently issued seabed lease areas to the Aggregates Industry. The MMO queries whether this has been taken into account. We acknowledge that this is wider seabed issue and the MMO will continue to work with relevant interested parties to address this and provide further comments throughout Examination accordingly.	As set out in ES Chapter 4 Site Selection and Consideration of Alternatives (APP -059), the Applicant refined the areas for biogenic reef from the wider area presented at PEIR. This included the removal of any areas that overlap with aggregate areas that have a marine licence under the Marine and Coastal Access Act 2009 and have obtained a Production Agreement from The Crown Estate. The aggregate areas noted by the MMO have been awarded Exploration and Option agreements, and it is only once a Production Agreement is entered into and/or a marine licence application made would the spatial extent of such aggregate areas be known. As such, at this stage the Applicant			The MMO notes the comments made by the Applicant.	The Applicant welcomes the MMO's acknowledgement.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
		considers it to be entirely appropriate to include these areas identified for the creation and re-creation of biogenic reef.				
Schedule 20						
RR-042.021	Paragraph Number: 3.7.1 Determination Dates The MMO strongly considers that it is inappropriate to put timeframes on complex technical decisions of this nature. The time it takes the MMO to make such determinations depends on the quality of the application made, and the complexity of the issues and the amount of consultation the MMO is required to undertake with other organisations to seek resolutions. The MMO's position remains that it is inappropriate to apply a strict timeframe to the approvals the MMO is required to give under the conditions of the DML given this would create disparity between licences issued under the DCO process and those issued directly by the MMO, as marine licences issued by the MMO are not subject to set determination periods. Whilst the MMO acknowledges that the Applicant may wish to create some certainty around when it can expect the MMO to determine any applications for an approval required under the conditions of a licence, and whilst the MMO acknowledges that delays can be problematic for developers and that they can have financial implications, the MMO stresses that it does not delay determining whether to grant or refuse such approvals unnecessarily. The MMO makes these determinations in a timely manner as it is able to do so. The MMO's view is that it is for the developer to ensure that it applies for any such approval in sufficient time as to allow the MMO to properly determine whether to grant or refuse the approval application	See Applicant's response to 3.3.1 above.	Schedule 10 and 11, Part 2, Condition 14(4), includes a timescale to discharge documentation. ...(4) The MMO must determine an application for approval made under condition 13 within a period of four months commencing on the date the application is received by the MMO, unless otherwise agreed in writing with the undertaker. The MMO maintains that it is inappropriate to put a timeframe on decisions of such a technical nature. The MMO would not willingly seek to constrain our ability to make an appropriate decision on post consent sign-off of plans and documentation, we would never include such a restriction on any other consent. With such tight timeframes, the MMO cannot be confident that all concerns during consultation can be sufficiently addressed. The MMO understands that the Applicant wishes to ensure there is a specific time scale by which a decision is	The Applicant notes that condition 14(2) of Part 2 of Schedule 10 of the draft Development Consent Order (dDCO) provides for an approval period of at least four months unless otherwise stated. Following consultation with Natural England and the MMO, the Applicant revised the draft DCO to increase the approval period from four to six months for those plans which may have particular complexities, as requested by Natural England. Of particular concern to the MMO, the MMMP (condition 13(1)(f) of Part 2 of Schedule 10 of the draft DCO) and the SIP (Condition 22(3) of Part 2 of Schedule 10 of the draft DCO) provide for a six month period (3.1). The Applicant wishes to highlight that the provisions of Condition 14(4), Part 2 of Schedules 10 and 11 would apply in the event that the MMO neither approved nor refused the relevant application for approval made under condition 13, Part 2 of Schedules 10 and 11, within the four month period. As the wording of condition 14(4)	Schedule 10 and 11, Part 2, Condition 14(4), includes a timescale to discharge documentation. ...(4) The MMO must determine an application for approval made under condition 13 within a period of four months commencing on the date the application is received by the MMO, unless otherwise agreed in writing with the undertaker. The MMO maintains that it is inappropriate to put a timeframe on decisions of such a technical nature. The MMO would not willingly seek to constrain our ability to make an appropriate decision on post consent sign-off of plans and documentation, we would never include such a restriction on any other consent. With such tight timeframes, the MMO cannot be confident that all concerns during consultation can be sufficiently addressed. The MMO understands that the Applicant wishes to ensure there is a specific time scale by which a decision is made, and that	The Applicant maintains its position as detailed in its response in The Applicant's Comments on Deadline 1 Submissions ID1.7.1 (REP2-053). The Applicant met with the MMO on 20th January 2025 and agreed to continue discussions with the MMO in relation to seeking agreement on which post consent plans and documents fall in the category of being particularly complex . The Applicant proposes that a six month approval period would apply for discharges in relation to plans and documents agreed to fall within that complex category. The Applicant will continue to discuss this matter with the MMO and provide an update at Deadline 5.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
			made, and that the decision does not continue without resolution. However, if discharge was not granted, the undertaker would have to provide updated documentation which would restart the process and potentially cause unnecessary delay.	specifically allows the Applicant and the MMO to agree a different period, the Applicant would anticipate that, in the event of updated documentation being required, this would be requested by the MMO and a reasonable adjustment to the timescale would be made, rather than the application for approval being refused and the process recommenced causing unnecessary delay.	the decision does not continue without resolution. However, if discharge was not granted, the undertaker would have to provide updated documentation which would restart the process and potentially cause unnecessary delay.	
Additional Conditions						
RR-042.022	Paragraph Number: 3.8.1 Maintenance Reporting To ensure the MMO is able to know the maintenance activities throughout the lifetime of the operation including understanding any impacts the MMO requests this condition is added to both Schedule 10 and 11. "23.—(1) An annual maintenance report must be submitted to the MMO in writing within one month following the first anniversary of the date of commencement of operations, and every year thereafter until the permanent cessation of operation. (2) The report must provide a record of the licensed activities as set out in condition 3 during the preceding year, the timing of activities and methodologies used. (3) Every fifth year, the undertaker must submit to the MMO in writing, within one month of that date, a consolidated maintenance report, which will— (a) include a review of licensed activities undertaken during the preceding five years with reference to the reports submitted in accordance with condition XX(1) of this licence; (b) reconfirm the applicability of the methodologies and frequencies of the	Condition 13(1)(h) of the DMLs in Schedules 10 and 11 requires an offshore operations and maintenance plan (OOMP), in accordance with the outline OOMP, to be submitted to the MMO prior to commencement and it provides for the review and resubmission every three years during the operational phase. This is therefore a forward looking document advising the MMO of the maintenance activities that are anticipated. Prior to undertaking maintenance activities under the DMLs, the undertaker will be required to issue notices to mariners in accordance with condition 7(9) and to provide copies of the notices to the MMO. The MMO will therefore be notified of maintenance activities throughout the operations and maintenance	The MMO notes the Applicant's comments regarding Schedule 10 and 11, Condition 13(1)(h) of the DMLs which requires an Offshore Operations and Maintenance Plan (OOMP), in accordance with the outline OOMP, to be submitted to the MMO prior to commencement and resubmission every three years during the operational phase. As the Applicant states, this is a forward-looking document. The MMO's request was to have an annual maintenance report submitted every three years (and a summary in year five) to provide a record of the licenced activities during the preceding years. The MMO maintains that it is imperative that this is submitted in order to reconfirm the applicability of	The Applicant does not consider it necessary or appropriate to include a dML condition for the provision of an annual maintenance report to the MMO every three years. As set out in the Outline Offshore Operations and Maintenance Plan (APP-275), the Applicant will notify the MMO where maintenance will take place, as such the MMO will be aware of all maintenance activities that have been undertaken under each dML. This provision is secured by the relevant condition each deemed marine licence (excluding Schedule 16 as no reasonably foreseeable maintenance activities will take place) and provides for a review and resubmission of the Offshore Operations and maintenance Plan every three years. This condition is secured in:	As previously stated, the request is to know the maintenance activities throughout the lifetime of the operation including understanding any impacts. The MMO reiterates that the OOMP is a forward looking document. By inclusion of the conditions suggested, the MMO maintains that it is imperative that this is submitted in order to reconfirm the applicability of the methodologies and frequencies of the licensable activities permitted by the licence.	The Applicant maintains its position that such a condition is unnecessary. As set out in the Outline Offshore Operations and Maintenance Plan (APP-275), the Applicant will notify the MMO where maintenance will take place. This condition is secured in: DCO Schedule 10, Part 2, condition 13(h) DCO Schedule 11, Part 2, condition 13(h) DCO Schedule 12, Part 2, condition 11(f) DCO Schedule 13, Part 2, condition 11(f) DCO Schedule 14, Part 2, condition 11(f) DCO Schedule 15, Part 2, condition 11(f) Condition 14(5), Part 2, Schedules 10 and 11 and Condition 12(4), Part 2, Schedules 12-15 require the licensed activities to be carried

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
	licensable activities permitted by this licence for the remaining duration of this licence."	period under the existing DML conditions and therefore the condition proposed by the MMO is considered to be unnecessary.	the methodologies and frequencies of the licensable activities permitted by the licence and provides valuable information on whether further marine licences are required throughout the lifetime of the Project.	DCO Schedule 10, Part 2, condition 13(h) DCO Schedule 11, Part 2, condition 13(h) DCO Schedule 12, Part 2, condition 11(f) DCO Schedule 13, Part 2, condition 11(f) DCO Schedule 14, Part 2, condition 11(f) DCO Schedule 15, Part 2, condition 11(f) The Applicant therefore considers that the MMO will have sufficient records of all relevant maintenance activities undertaken under each dML and that the condition proposed by the MMO is unnecessary. NPS EN-1, paragraph 4.1.16 provides that, in relation to requirements, requirements should only be included where they are necessary, relevant, enforceable, precise and reasonable. The Applicant considers that this policy also applies to marine licence conditions. The Applicant does not consider such a condition to be either necessary or reasonable.		out in accordance with the approved plans. Prior to undertaking maintenance activities under the DMLs, the undertaker will be required to issue notices to mariners in accordance with condition 7(9), Part 2, Schedules 10 and 11, condition 5(9), part 2, Schedules 12-15 and to provide copies of the notices to the MMO. As such the MMO will be aware of all maintenance activities that have been undertaken under each dML.
RR-042.023	Paragraph Number: 3.8.2 Stages of Construction To ensure the MMO has the full timetable for construction the MMO requests this condition is added to both Schedule 10 and 11. "24.—(1) The licenced activities must not be commenced until a written scheme setting out the stages of construction of the authorised development seaward of MHWS	Condition 13(1)(b) of the DMLs in Schedules 10 and 11 requires the submission of a construction programme to the MMO for approval prior to commencement of licensed activities. The Applicant therefore does not consider it necessary to	The MMO notes Schedules 10 and 11, Condition 13(1)(b) of which details the submission of a Construction Programme to the MMO. We have made a further comment regarding this is point 1.20.2 below.	Please refer to the Applicant's response to 1.20.2 below.	The MMO notes Schedules 10 and 11, Condition 13(1)(b) of which details the submission of a Construction Programme to the MMO.	The Applicant maintains its position as set out in the Applicant's Responses to Relevant Representations at RR042.023 (PD1-071). Based on the comments from the MMO, the Applicant considers that this matter has been resolved.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
	has been submitted to and approved by the MMO in writing. (2) The stages of construction referred to in sub–paragraph (1) will not permit the authorised development to be constructed in more than one overall phase. (3) The scheme must be implemented as approved. (4) The written scheme referred to in sub-paragraph (1) must be submitted to the MMO in writing six months prior to the planned commencement of the licenced activities.”	include the condition suggested by the MMO in the DMLs as it would result in unnecessary duplication. Whilst it is acknowledged that a similar requirement (Requirement 8) is included in the DCO in respect of the onshore works, the purpose of this is to clearly define the onshore construction stages so that requirements can be discharged in respect of specific stages. This is not relevant to the offshore works.				
RR-042.024	Paragraph Number: 3.8.3 Adaptive Management MMO requests that the following conditions be added to the Pre-construction monitoring and surveys condition (condition 19 of Schedules 10 and 11) to allow the applicant to provide potential solutions when reviewing the results of monitoring, to be discussed with the MMO and SNCBs. “(5). In the event that the reports provided to the MMO under sub-paragraph (3) identify a need for additional monitoring, the requirement for any additional monitoring will be agreed with the MMO in writing and implemented as agreed.” “(6). In the event that monitoring reports provided to the MMO under sub-paragraph (3), identifies impacts which are beyond those predicted within the Environmental Statement/Habitat Regulations Assessment, adaptive management/mitigation may be required. An Adaptive Management/Mitigation Plan to reduce effects to within what was predicted within the Environmental Statement/Habitat Regulations Assessment, unless otherwise agreed in writing by the MMO, must be	The Applicant notes that condition 19 of Schedules 10 and 11 of the draft DCO (AS1-024) relates to postconstruction monitoring, rather than pre-construction monitoring as is envisaged by the MMO’s comments. The Applicant notes that PINS Advice Note 15 confirms that, at paragraphs 15.2 and 29.2, whilst the law and policy relating to planning conditions does not necessarily apply to deemed marine licence conditions, it is considered that similar principles should apply when drafting these. The law and policy relating to planning conditions require that conditions should be precise, enforceable, necessary, relevant to the development, relevant to planning and reasonable in all other	The MMO notes the Applicant’s comments, however, the MMO considers the proposed wording to be precise, enforceable, necessary, relevant to the development and reasonable and this has recently been included in the Sheringham and Dudgeon Extension Order 2024. The MMO notes the Applicant’s comments that a specific environmental effect to give rise to a concern has not yet been identified, leading the Applicant to consider the proposed condition wording to be unjustified, however sometimes impacts are unforeseen and further clarity is required in what is necessary from parties should impacts exceed what was assessed at this stage.	The Applicant refers to its detailed response to the MMO’s comments at RR-042.024. The Applicant reiterates that the additional limbs are unnecessary given the MMO’s power to vary a deemed marine licence under section 72 of the Marine and Coastal Access Act 2009 in such circumstances. In addition, the Offshore In Principle Monitoring Plan (APP-276) states, at section 2.1 that an adaptive approach to monitoring is a key principle of the monitoring proposed by the Applicant. In relation to benthic impacts specifically, Table 3.2 states “Where significant impacts are observed, an adaptive management process may need to be implemented to ensure that so far as possible, the effects are brought back	The MMO is referring to post-construction monitoring and the use of the word ‘pre’ in our RR-042 is a typo. The MMO maintains its position that the inclusion of adaptive management, all parties are clear in what Is required if impacts exceed what was predicted in the environmental statement. The MMO considers that by the Applicant relying on the MMO to enforce our powers to vary the licence, this is an unnecessary step in any remedial action.	The Applicant maintains its position as set out in the Applicant’s Responses to Relevant Representations at RR-042.024 (PD1-071) and the Applicant’s Comments on Deadline 1 Submissions at 1.11.1 on page 43 (REP2-053). In summary, the Applicant considers that a further mechanism in the DCO for adaptive management is unnecessary for the following reasons: The Environmental Statement has assessed a worst case in terms of project parameters and therefore it is not anticipated that effects will be greater than those predicted. The effect of the MMO’s proposed condition could be to require further monitoring and adaptive management of impacts which do not give rise

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
	submitted alongside the monitoring reports submitted under sub-paragraph (3), including timelines and associated monitoring to test effectiveness. This plan must be agreed with the MMO in consultation with the relevant SNCB's to reduce effects to a suitable level for this project. Any such agreed or approved adaptive management/mitigation should be implemented and monitored in full. In the event that this adaptive management/mitigation requires a separate consent, the Applicant shall apply for such consent." The conditions ensure that all parties are clear what is required if the monitoring shows higher impacts than predicted during the assessment stage.	respects. The Applicant's view is that these standards are not met by the proposed wording. The Applicant considers that the additional parts of the condition are imprecise and unnecessary as: the effect of the condition could be to require further monitoring and adaptive management of impacts which do not give rise to likely significant effects on the environment under EIA or an AEoI under the Habitats Regulations. An environmental effect is not significant and a project does not result in an AEoI simply because an effect is unanticipated. The purpose of the EIA Regulations is to ensure that, at the point a decision is taken in relation to a project, the decision-maker does so in full knowledge of the likely significant effects on the environment, insofar as can be assessed at that point in time. The EIA Regulations require the ES to set out a: "description of the measures envisaged to avoid, prevent, reduce, or if possible offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements" (emphasis added). The EIA Regulations do not require the ultimate consent to protect against all	It is understood that Natural England will be providing further comment on the Project Environmental Monitoring Plan (PEMP) at Deadline 1. If Natural England are to state that monitoring doesn't fully link to outstanding risks and issues and the need to test effectiveness of mitigation measures, then the MMO advises that the adaptive management condition is considered. The MMO would highlight that if any monitoring shows an impact higher than predicted within the Environmental statement (ES) the MMO may require additional monitoring or mitigation at the post consent stage. The MMO will review the monitoring requirements, NE's comments and provide further updates in due course.	within the range of those predicted." Condition 13(c), Part 2, Schedules 10 and 11 of the dDCO requires the preparation of a monitoring plan, which accords with the in principle monitoring plan, to be submitted and approved in writing by the MMO. Condition 14(5) requires the licensed activities to be carried out in accordance with the approved plans, unless otherwise agreed in writing by the MMO. The Applicant believes that the MMO intends to refer to postconstruction monitoring in this comment as the Project cannot have had an impact before works commence.		to likely significant effects on the environment under EIA or an AEoI under the Habitats Regulations. An environmental effect is not significant and a project does not result in an AEoI simply because an effect is unanticipated. Condition 13(1)(c), Part 2, Schedules 10 and 11 of the DCO requires a monitoring plan to be submitted to the MMO for approval prior to the start of licensed activities (or any part). Condition 13(1)(c) is referred to in Conditions 17, 18 and 19. The monitoring plan must accord with the in principle monitoring plan (APP-276). The Offshore In-Principle Monitoring Plan (APP-276) states, at section 2.1 that an adaptive approach to monitoring is a key principle of the monitoring proposed by the Applicant. Condition 14(5), Part 2, Schedules 10 and 11 of the DCO requires the licensed activities to be carried out in accordance with the approved plans. In any event, the MMO has the power to power to vary a deemed marine licence under section 72 of the Marine and Coastal Access Act 2009 in such circumstances.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
		unanticipated environmental effects. The MMO has not identified any specific environmental effects, which give rise to concern and therefore justify the imposition of additional monitoring and adaptive management requirements. Under section 72 of the Marine and Coastal Access Act 2009, the MMO has the power to vary marine licences because of a change of circumstances relating to the environment or human health, because of increased scientific knowledge relating to either of those matters, in the interests of safety of navigation or for any other reason that appears to the MMO to be relevant. The imposition of the proposed condition is unnecessary, given the absence of an identified concern and the existence of the MMO's general powers under section 72 of the Marine and Coastal Access Act 2009.				
Conditions to Remove						
RR-042.025	Paragraph Number: 3.9.1 Force Majeure The MMO does not consider provisions on Force Majeure to be necessary as Section 86 MCAA 2009 provides a defence for action taken in an emergency in breach of any licence conditions. The defence under Section 86 of MCAA has two limbs, and in the event that the undertaker fails to notify the appropriate licensing authority, in this case	The condition imposes a requirement to report any deposits made in an emergency within 48 hours which can be enforced alongside section 86. Similar provision is included in numerous Orders for offshore wind farms including East Anglia One North and Two,	The MMO position in RR-042 point 3.9.1 has not changed. The Applicant maintains their position that the provision can be enforced alongside Section 86 of the Marine and Coastal Access Act (2009) as it is just a notification. The MMO is reviewing this	The comment is noted by the Applicant.	The MMO are currently reviewing and will provide comments at Deadline 4.	The Applicant maintains its position as detailed in in the Applicant's Responses to Relevant Representations at RR-042.025 (PD1-071).

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response Deadline 3 Response (REP3-076 – REP3-078)	Applicant Deadline 4 Response
	the MMO, within a reasonable time of their actions (Section 86(2) "matters") the defence cannot be relied upon n the event of any enforcement Action.	Hornsea Four and Sheringham and Dudgeon Extension projects. It is not considered appropriate for the Order, which will be a statutory instrument, to state that this is in addition to the terms of section 86 of the Marine and Coastal Access Act 2009.	response and will respond in due course.			

1.2.5.2 Annex 2

Table 1.2.5.2 Detailing MMO and the Applicant's comments regarding general comments relating to the ES, raised within MMO's Relevant Representation (RR-042)

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Deadline 4
Environmental Statement						
General Comments						
RR-042.026	Paragraph Number: 4.1.1 MMO has focused its review on the following chapters of Volume 1 Outer Dowsing Offshore Windfarm Environmental Statement (ES) March 2024 Revision: 1.0, by Outer Dowsing Offshore Wind. However, MMO has also reviewed the accompanying figures in Volume 2, and relevant appendices in Volume 3 where required: 6.1.1 Chapter 1 Introduction 6.1.3 Chapter 3 Project Description 6.1.7 Chapter 7 Marine Physical Processes 6.1.8 Chapter 8 Marine Water and Sediment Quality 6.1.9 Chapter 9 Benthic and Intertidal Ecology 6.1.10 Chapter 10 Fish and Shellfish Ecology 6.1.11 Chapter 11 Marine Mammals.	The comment is noted by the Applicant.			The MMO welcomes that this is noted by the Applicant.	The Applicant advises that this comment is closed.
RR-042.027	Paragraph Number: 4.1.2 An up-to-date schedule including specific timings and dates for each of the proposed works must be provided to the MMO. MMO must be further informed of any updates, or changes to the schedule, prior to the commencement of the works, this is to ensure an effective inspection can occur.	Noted. The submission of a Construction Programme to the MMO for approval prior to commencement of licensed activities is required under condition 13(1)(b) of Schedules 10 and 11 in relation to the Generation Assets and Transmission Assets, respectively.			The MMO acknowledges the Applicant's response to RR-042.027 in relation to the submission of a Construction Programme to the MMO for approval prior to the commencement of licensed activities which is required under condition 13(1)(b) of Schedules 10 and 11.	The Applicant advises that this comment is closed.

1.2.5.3 Annex 3

Table 1.2.5.3 Detailing MMO and the Applicant's comments regarding Coastal processes raised within MMO's Relevant Representation (RR-042)

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Deadline 4
Coastal Processes						
RR-042.028	Paragraph Number: 4.2.1 The MMO had previously raised concerns that impacts on coastal processes and geomorphology above the Mean High Water Spring (MHWS) were scoped out. The MMO believes that this should be scoped in under Impacts 3, 4 and 8 (construction and in operations maintenance and decommissioning). The MMO notes that coastal processes and geomorphology above MHWS within the suggested impacts (3,4 and 8) above has been included. Therefore, this concern has been resolved.	The Applicant welcomes the MMO's agreement in relation to the inclusion of certain receptors above MHWS, as appropriate.			The MMO considers that this comment is sufficiently addressed.	The Applicant advises that this comment is closed.
RR-042.029	Paragraph Number: 4.2.2 The MMO previously raised that impacts of using scour protection (relating to a greater footprint of hard substrate being introduced, which may lead to habitat change/loss) should be compared to the impacts of simply designing foundations which can accommodate scour development. Additionally, the MMO noted that 'there is limited numerical basis for the prediction of secondary scour' has been noted. The MMO suggested further evidence should be collected from field data/monitoring evidence from other wind farms if available, acknowledging that empirical assessment methodologies are less established for edge/secondary scour than they are for primary scour where no scour protection is applied. It is not clear whether secondary scour footprint is factored into project footprint estimates. Further information was requested be provided to support this.	Secondary scour has been considered within ES Chapter 7 Marine Physical Processes (APP-062), with evidence provided from Hornsea One OWF in the absence of empirical assessment methodologies. The Applicant compared the Project to Hornsea One as several similarities on factors influencing scour formation were observed: 1) in the Array Area, both projects show the same tidal range (variation from 1.7 m to more than 4 m) and tidal excursion (northwest to southeast); 2) the average significant wave height is similar (1.3 m for the Project and 1.5 m for Hornsea One within the Array Area); 3) surficial seabed sediments are similar in the Array Areas of both projects (sand and gravelly sand); 4) Bathymetry is in the same order (10 to 30 m for the Project and 20 m on average at Hornsea One). Consequently, the Applicant believes that the comparison between the Project and Hornsea One is relevant and valid for assessing the scour formation/ impact.	MMO 4.2.2 and 4.2.3: With regard to the Applicant's responses to MMO points 4.2.2 and 4.2.3, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	For scour protection, a variety of options are listed, such as, rock/gravel placement, concrete mattresses, flow energy dissipation devices, protective aprons or coverings, ecological based solutions and bagged solutions. The MMO would like to highlight that ecological based solutions for scour protection options should be prioritised and all options should be set out in the Outline Scour and Cable Protection Management Plan.	The Applicant has committed to prioritising ecological based solutions in the outline Scour Protection Monitoring Plan (Document reference 8.21, V2 submitted at Deadline 4) where practicable, to do so. The Applicant will continue discussions this topic with the Marine Management Organisation (MMO) in the post consent phase, closer to the time of construction when further details on the scour protection options, available in sufficient quantities, is available.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Deadline 4
		The Applicant also notes that the predicted extent of secondary scour would occur within the footprint for seabed preparation works around foundations, which represents the greatest area for habitat disturbance.				
RR-042.030	Paragraph Number: 4.2.3 Section 7.12.2.2 in Volume 1: Chapter 7: Marine Physical Processes document (ref: PP1-ODOW-DEV-CS-REP-0115) discusses the impacts of seabed scouring, with some estimations for the magnitude of the scour equilibrium volumes. There is a good general discussion regarding scour. The MMO notes that there have still not been any predictions made for secondary scour due to limited numerical basis for prediction and remains unclear as to whether secondary scour volumes are included in the project footprint. The MMO considers this to be a weakness. The suggested impact for scour is minor adverse, which we do believe is appropriate. However, we note that this is an area that could be improved yet we recognise it to be a cross -sector issue.	The Applicant welcomes the agreement from the MMO as to the conclusion of the assessment of the effect from seabed scour is not significant in EIA terms (minor adverse). The Applicant has acknowledged the uncertainties around the assessment of secondary scour within the assessment.	MMO 4.2.2 and 4.2.3: With regard to the Applicant's responses to MMO points 4.2.2 and 4.2.3, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO considers that this comment is sufficiently addressed.	The Applicant advises that this comment is closed.
RR - 042.031	Paragraph Number: 4.2.4 The only impacts scoped out of the ES (Section 7.7.1.2) in regard to the physical processes is the hydrodynamic impacts from installation vessels such as jack - up rigs, cable laying vessels etc during the construction phase. The MMO has no concerns regarding this topic not being included within the ES.	The Applicant welcomes the MMO's agreement in relation to the impacts scoped out.			The MMO considers that this comment is sufficiently addressed.	The Applicant advises that this comment is closed.
RR - 042.032	Paragraph Number: 4.2.5 in Section 7.2 Paragraph 10. Section 7.3.2 of Volume 3: Appendix 7.2 Physical Processes document, goes into further detail of the data sources used and lists them all, including project -specific surveys including geophysical for the marine physical processes. There are a	The Applicant welcomes the MMO's agreement in relation to the data sources used.			The MMO considers that this comment is sufficiently addressed.	The Applicant advises that this comment is closed.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Deadline 4
	wide range of sources used and within reasonable timeframes. The MMO considers them to be appropriate.					
RR-042.033	Paragraph Number: 4.2.6 Table 7.4 outlines the embedded mitigation in relation to marine physical processes. MMO agrees with the measures in the table, which include standard procedures such as the creation of Cable Installation Plans and Scour Protection Management Plans.	The Applicant welcomes the MMO's agreement in relation to the embedded mitigation measures.			The MMO considers that this comment is sufficiently addressed.	The Applicant advises that this comment is closed.
RR-042.034	Paragraph Number: 4.2.7 Section 7.13 outlines the Cumulative Impact Assessment and Section 7.14 discusses the Interrelationships which discusses the potential impacts on the benthic communities and fish species. The MMO considers there to be an adequate description of the potential cumulative and inter-related impacts.	The Applicant welcomes the MMO's agreement in relation to the potential cumulative and inter-related effects.			The MMO considers that this comment is sufficiently addressed.	The Applicant advises that this comment is closed.
RR-042.035	Paragraph Number: 4.2.8 The MMO notes some of the colour schemes and bathymetric scales are difficult to read. For example, Figure 7.6 – the colour scale on the figure is small with only 0 and 32 labelled for depth with no other depths highlighted. This isn't particularly useful for the reader and could be improved. Figure 7.7 – colour scheme used for the Benthic Samples Folk class is hard to distinguish the classes. The MMO suggested that this is also improved.	The Applicant thanks the MMO for the suggestion for revisions to the scales presented for some figures which the Applicant will take into consideration for future figure creation. However at this stage the Applicant does not intend to revise these figures as this would not alter the conclusions of the assessment, nor have any comments been identified by the stakeholder regarding the assessment which are linked to these figures.	MMO 4.2.8: The MMO welcomes the Applicant's consideration of our comments relating to figure scales and colour schemes in future. The MMO notes that the Applicant does not intend to revise these figures.	The comment is noted by the Applicant.	The MMO welcomes that the Applicant has noted this comments for future figure creation.	The Applicant advises that this comment is closed.
RR-042.036	Paragraph Number: 4.2.9 The MMO notes that Impact 8 is not included in the decommissioning stage of Table 7.3 (Maximum Design Scenario). MMO queries whether this is an oversight or intentionally left out. Whilst the cables are meant to be left in situ, the MMO query if there is any risk of exposure by retreating shorelines/local erosion that may need to be considered.	The Applicant thanks the MMO for highlighting the omission of Impact 8 from Table 7.3. Impact 8 has been considered within Section 7.12.3.3 of ES Chapter 7 Marine Physical Processes (APP-062), with the potential effect identified as not significant in EIA terms. Appropriate set back distances, taking into account the risk of	MMO 4.2.9 to 4.2.11: With regards to the Applicant's responses to MMO points 4.2.9 to 4.2.11, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO acknowledges the Applicant's response. We may have further comments on this point at Deadline 4.	This comment is noted by the Applicant.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Deadline 4
		coastal erosion, have been selected during the landfall design process. The Applicant does not consider that it is necessary to update the document as the change would not result in any change to the conclusions of the ES.				
RR-042.037	Paragraph Number: 4.2.10 In Table 7.5, where potential impacts/changes are classified to pathways and receptors; Impact 4 is only identified as a pathway. The MMO considers it should be pathway/receptor, as Impact 4 includes the geomorphology above MHWS, which includes shoreline features such as beach dunes.	The Applicant notes the comment from the MMO however does not consider that it is necessary to update the document as the change would not result in any change to the conclusions of the ES as the receptor "geomorphology above MHWS" has been fully assessed within Impact 4.	MMO 4.2.9 to 4.2.11: With regards to the Applicant's responses to MMO points 4.2.9 to 4.2.11, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO acknowledges the Applicant's response. We may have further comments on this point at Deadline 4.	This comment is noted by the Applicant.
RR-042.038	Paragraph Number: 4.2.11 The MMO notes that the Physical Processes Technical Baseline (Document number 6.3.7.1) was recently updated to include the correct Annex B. The MMO has not had time to review this updated version and may provide further comments on this document.	The comment is noted by the Applicant.	MMO 4.2.9 to 4.2.11: With regards to the Applicant's responses to MMO points 4.2.9 to 4.2.11, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO is still currently reviewing Annex B and may have further comments at Deadline 4.	This comment is noted by the Applicant.

1.2.5.4 Annex 4

Table 1.2.5.4 Detailing MMO and the Applicant's comments regarding Dredge, Disposal and Chemical Use raised within MMO's Relevant Representation (RR-042)

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
Dredge, Disposal and Chemical Use						
RR-042.039	Paragraph Number: 4.3.1 MMO raised previous comments concerning the Preliminary Environmental Information Report (PEIR) with regard to whether a change in the number of gravity bases, would require an increase in the need for scour protection (rock dumping) due to the change in foundations. MMO notes that full descriptions of scour by foundation type are provided in Chapter 3 and in the approach in the outline	The comment is noted by the Applicant.			The MMO is satisfied that the Applicant has noted these comments.	The Applicant advises that this comment is closed.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	scour management plan (document 8.2.1). There is also a consideration of the need for disposal sites as part of the updated assessment presented in the ES and a disposal site characterisation report has been provided alongside the DCO application. This provides clarification sought by MMO's previous comments on the PEIR.					
RR-042.040	Paragraph Number: 4.3.2 Although the number of samples taken are less than is recommended by OSPAR guidelines (14-06e), and which would be expected for sediment dredges of this size, considering the sandy/coarse physical composition of the project area the effort seems appropriate over both the array and the Export Cable Corridor (ECC). Full descriptions of the physical and chemical analysis of the material undertaken are provided (summarised in Chapter 9 Appendix 9.2) which is sufficient to characterise the dredge material.	The comment is noted by the Applicant.			The MMO acknowledges that the Applicant has noted this comment.	The Applicant advises that this comment is closed.
RR-042.041	Paragraph Number: 4.3.3 MMO notes that in the Water Framework Directive (WFD) Assessment, it states that the environmental quality standards directive list (Environment Agency (EA) 2016) should be considered when undertaking an assessment (Chapter 8.03 point 14) and that point 73 states, "There is no intention to knowingly release any chemicals listed in the EQSD into the environment, during the construction, operation and maintenance, or decommissioning phase of the Project." To be able to be compliant with this, the properties of all the chemicals (products) and their component substances used for the construction operation maintenance and decommissioning of the offshore windfarm should be known to, and approved by the regulator on structures within 1nm (jurisdiction of WFD). For example potentially jacking grease, chemicals used on rollers for cable	The Applicant notes this comment and will ensure that all chemicals are listed within the CRA produced post consent.	MMO 4.3.3 and 4.3.4: The MMO welcomes the Applicant's assurance regarding all chemicals which have the potential to enter the marine environment to be listed within the Chemical Risk Assessment (CRA) produced post-consent.	The Applicant welcomes the MMO's agreement on the CRA.	The Applicant has noted our comments and has stated that that all chemicals proposed for use will be listed within the Chemical Risk Assessment (CRA) produced post-consent. The MMO considers that this is appropriate.	The Applicant advises that this comment is closed.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	pulling, may contain chemicals on the EA list. MMO recommends these types of chemical are added to the chemical risk assessment (CRA)					
RR-042.042	Paragraph Number: 4.3.4 Chapter 7 Point 93, describes the potential requirement for drilling. The chemicals that might be used for these works are not discussed within the ES (drill muds as well as paints, coatings, dye, tracer, cement etc.). OSPAR guidance on the environmental considerations for the development of offshore windfarms (2008-3) point 57 states that, "All chemicals, paints, coverings etc used in the construction should be approved for use in the marine environment and their ecotoxicological properties known". MMO considers that this includes drilling fluids including, tracers, cement, grout etc. The ES should outline how the Project intends to provide this information to the regulator. Similarly, the applicant describes the type of drilling fluid for the Horizontal directional drilling (HDD), however detailed information regarding these types of chemicals should be provided in the CRA, including the impact and likelihood/contingency for blow out. Currently all that is stated is that management measures to minimise the likelihood of unplanned release of drilling fluid is outlined in the Code of Construction Practice (CoCP). MMO notes that table 8.14 confirms the commitment to provide a Project Environment Management Plan (PEMP) that will include a Marine Pollution Contingency Plan (MPCP) that will provide protocols to cover accidental spills and potential contaminant release, and provide key emergency contact details, and therefore should include the chemical risk for substances used on the OWF with potential for entry into the marine environment (e.g. cleaning fluids, rigwash, cement or biocides used within gravity base structures etc.).	The Applicant notes this comment and will ensure that all chemicals and substances which have the potential to enter the marine environment are listed within the CRA (which will be contained within the PEMP) produced post-consent.	MMO 4.3.3 and 4.3.4: The MMO welcomes the Applicant's assurance regarding all chemicals which have the potential to enter the marine environment to be listed within the Chemical Risk Assessment (CRA) produced post-consent.	The Applicant welcomes the MMO's agreement on the CRA.	The Applicant has noted our comments and has stated that that all chemicals proposed for use will be listed within the Chemical Risk Assessment (CRA) produced post-consent. The MMO considers that this is appropriate.	The Applicant advises that this comment is closed.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
RR - 042.043	Paragraph Number: 4.3.5 In Chapter 8 Water and sediment quality, table 8.2, it identifies the need to consult with the MMO regarding contamination and benthic survey sample and analysis requirements and that "project specific sediment sampling has been discussed with the MMO reference, with further detail provided in Volume 1, Chapter 9". The MMO validated laboratories have been used to undertake appropriate analysis to be able to characterise the proposed dredge material sufficiently, and estimates of worst case scenarios for dredge volume for various phases of the construction and operation have been provided (Chapter 9 Appendix 9.2).	The comment is noted by the Applicant.			The MMO welcomes that the Applicant has noted this comment.	The Applicant advises that this comment is closed.
RR - 042.044	Paragraph Number: 4.3.6 For dredge and disposal, sources such as the UK Marine Monitoring and Assessment Strategy (UKMMAS, 2010) and OSPAR assessments (OSPAR, 2022) are identified. The full suite of baseline datasets used to inform the Marine Water and Sediment Quality (MW&SQ) aspects of the ES, including project specific surveys, are presented in Section 8.4 of this ES chapter (Table 8.2). For the array, 30 sediment samples were analysed and included Particle Size Analysis (PSA), total organic content, trace metals, organotins, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs) and organochlorine pesticides (OCPs) such as dichlorodiphenyltrichloroethane (DDT) and dieldrin, and 28 samples for the ECC. The MMO considers this to be appropriate.	The comment is noted by the Applicant.			The MMO welcomes that the Applicant has noted this comment.	The Applicant advises that this comment is closed.
RR - 042.045	Paragraph Number: 4.3.7 The applicant identifies embedded mitigation to physical process, namely with regard to dredge and disposal and chemical risks are those for Landfall using Horizontal Directional Drilling and the fact that for the foundations and offshore cables etc., the dredged material from construction will be deposited within an area of similar sediment characteristics in close	The comment is noted by the Applicant.			The MMO welcomes that the Applicant has noted this comment.	The Applicant advises that this comment is closed.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	proximity to the dredge location to retain sediment within the sediment transport system, which seems appropriate.					
RR-042.046	Paragraph Number: 4.3.8 The MMO notes that the assessment of impact as a result of contaminant release for scour and increase in suspended sediment concentration for cumulative assessments has been scoped out. The MMO is content with this conclusion.	The comment is noted by the Applicant.			The MMO welcomes that the Applicant has noted this comment.	The Applicant advises that this comment is closed.
RR-042.047	Paragraph Number: 4.3.9 There is a comprehensive list of nearby projects under construction/consideration. There is an adequate description of the potential cumulative and interrelated impacts and effects on the physical and biological environment in relation to impacts of dredge and disposal.	The comment is noted by the Applicant.			The MMO is satisfied that the Applicant has noted these comments.	The Applicant advises that this comment is closed.
RR-042.048	Paragraph Number: 4.3.10 Volume 1: Chapter 3: Project Description, section 6.11.5.5 second paragraph and Section 7.1 first paragraph has an error 'reference source not found'. MMO recommends that this is rectified.	This comment is noted by the Applicant. The Applicant also notes that this change would not alter the conclusions of the ES and therefore does not consider that it is necessary to update the submitted ES chapter.	MMO 4.3.10 to MMO 4.3.18: With regards to the Applicant's responses to MMO points 4.3.10 to MMO 4.3.18, the MMO is with our technical advisors and will provide comments on these sections at Deadline 2	The comment is noted by the Applicant.	The Applicant has noted our comments and has stated that the issues raised do not change the conclusions of the Environmental Statement (ES) which the MMO agrees with, however any document that will be certified should be correct to ensure anyone who reviews this document at a later date has full understanding of what is written. This should be either updated in the chapter or be part of the Errata document on the ES documents.	The Applicant welcomes the agreement from the Marine Management Organisation (MMO) and confirms that ES chapters are being updated at Deadline 5, and this error will be rectified.
RR-042.049	Paragraph Number: 4.3.11 Additionally, Chapter 8 point 58 refers to metals analysis in Table 8.10, this should read Table 8.9 (as Table 8.10 identifies PAH contaminant levels (µg/kg) as analysed from the Project-specific array survey, against Canadian guidelines). Chapter 8, point 59 States "59. The full suite of metals analysed at each of the 28	This comment is noted by the Applicant. The Applicant also notes that this change would not alter the conclusions of the ES and therefore does not consider that it is necessary to update the submitted ES chapter.	MMO 4.3.10 to MMO 4.3.18: With regards to the Applicant's responses to MMO points 4.3.10 to MMO 4.3.18, the MMO is with our technical advisors and will provide	The comment is noted by the Applicant.	The Applicant has noted our comments and has stated that the issues raised do not change the conclusions of the Environmental Statement (ES) which the MMO agrees with, however any document that will be certified should	The Applicant welcomes the agreement from the MMO and confirms that ES chapters are being updated at Deadline 5, and this error will be rectified.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	stations within the ECC are provided in Table 8.11". However, the heading for table 8.11 is "Table 8.11: PAH contaminant levels (µg/kg) as analysed from the Project-specific ECC survey, against Canadian guidelines". MMO recommends that these are rectified.		comments on these sections at Deadline 2.		be correct to ensure anyone who reviews this document at a later date has full understanding of what is written. This should be either updated in the chapter or be part of the Errata document on the ES documents.	
RR-042.050	Paragraph Number: 4.3.12 Volume 1: Chapter 8: Marine Water and Sediment Quality, Point 61, states that "The full suite of contaminants analysed at each of the 30 stations within the array area are provided in Table 8.12." However, this data is in the Table labelled 8.10. Similarly point 66 states that PAH for 28 stations within the ECC are in Table 8.13, this data is in Table labelled 8.11. Table 8.12 contains PAH data for the ECC not the Array -"Table 8.12: PAH contaminant levels as analysed from the Project specific ECC survey, against USEPA guidelines".	This comment is noted by the Applicant. The Applicant also notes that this change would not alter the conclusions of the ES and therefore does not consider that it is necessary to update the submitted ES chapter.	MMO 4.3.10 to MMO 4.3.18: With regards to the Applicant's responses to MMO points 4.3.10 to MMO 4.3.18, the MMO is with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO is satisfied that the Applicant has noted these comments.	The Applicant advises that this comment is closed.
RR-042.051	Paragraph Number: 4.3.13 Section 3.3 heading in the Offshore In-Principle Monitoring Plan (8.03), has a typo where 'benthic' is spelt incorrectly.	This comment is noted by the Applicant.	MMO 4.3.10 to MMO 4.3.18: With regards to the Applicant's responses to MMO points 4.3.10 to MMO 4.3.18, the MMO is with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO is satisfied that the Applicant has noted these comments.	The Applicant advises that this comment is closed.
RR-042.052	Paragraph Number: 4.3.14 The MMO notes the comprehensive discussions on the contaminants present and description of analysis and comparisons of results, which is welcomed. However, a minor point regarding concerns for levels of Arsenic exceeding Action level 2 (AL2) "One station in the survey area, ECC_51, had very high concentrations of arsenic, exceeding all thresholds detailed in	The Applicant welcomes the clarification provided on the Cefas Action Levels.	MMO 4.3.10 to MMO 4.3.18: With regards to the Applicant's responses to MMO points 4.3.10 to MMO 4.3.18, the MMO is with our technical advisors and will provide	The comment is noted by the Applicant.	The MMO is satisfied that the Applicant has noted these comments.	The Applicant advises that this comment is closed.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	Table 23, including Cefas action level 1 of 20mg.kg-1 and Cefas action level 2 (AL2) of 50 mg.kg" (Volume 3: Chapter 9: Appendix 9.2 page 82). The Project should note that the current published AL2 for Arsenic is 100 milligrams per kilogram (mg/kg) dry weight.		comments on these sections at Deadline 2.			
RR-042.053	Paragraph Number: 4.3.15 It is noted that 'ecological' scour protection may be used that would not exceed the footprint of the methods presented. Any scour protection method used should be notified to the MMO for review and approved prior to use.	Under condition 13(d)(iii) of Schedules 10 and 11of the dDCO, the Applicant must submit a Scour Protection and Cable Protection Management Plan (SPCPMP) to the MMO for approval prior to construction which must accord with the Outline SPCPMP (APP-295). The condition requires the SPCPMP to include details of the need, type, sources, quantity and installation methods for scour protection and cable protection and as set out in the Outline SPCPMP (APP-295), the SPCPMP will contain full details of the proposed protection materials, locations and volumes to be deployed.	MMO 4.3.10 to MMO 4.3.18: With regards to the Applicant's responses to MMO points 4.3.10 to MMO 4.3.18, the MMO is with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO notes that the Applicant will provide the MMO with a Scour Protection and Cable Protection Management Plan for approval post-consent, the MMO are currently reviewing the outline plan and will provide more comments at Deadline 4.	This comment is noted by the Applicant.
RR-042.054	Paragraph Number: 4.3.16 The applicant may wish to note that Volume 1: Chapter 3: Project Description, Section 6.11.5.1 describes rock placement and size of rock. All rock used for scour protection should be inert and free from fines.	This comment is noted by the Applicant.	MMO 4.3.10 to MMO 4.3.18: With regards to the Applicant's responses to MMO points 4.3.10 to MMO 4.3.18, the MMO is with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO is satisfied that the Applicant has noted these comments.	The Applicant advises that this comment is closed.
RR-042.055	Paragraph Number: 4.3.17 In Volume 1: Chapter 8: Marine Water and Sediment Quality, point 150 states that "Bentonite is a nontoxic, inert, natural clay material with a particle size less than 63µm. It is included in the List of Notified Chemicals	This comment is noted by the Applicant. As required under condition 13(1)(e) of the DMLs within Schedules 10 and 11 of the dDCO, the Applicant will submit a PEMP (which must	MMO 4.3.10 to MMO 4.3.18: With regards to the Applicant's responses to MMO points 4.3.10 to MMO 4.3.18, the MMO is with	The comment is noted by the Applicant.	The Applicant has noted our comments and has stated that all chemicals proposed for use will be detailed within the Project Environment Management Plan to be	The Applicant notes the Offshore Chemical Notification Scheme (OCNS) does not apply to chemicals that might otherwise be used on other offshore structure (such as an offshore wind farm),

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	approved for use and discharge into the marine environment and is classified as a Group E substance under the Offshore Chemical Notification Scheme. Substances in Group E are defined as the group least likely to cause environmental harm and are "readily biodegradable and non-bioaccumulative". This is further supported by bentonite being included on the OSPAR List of Substances Used and Discharged Offshore which are considered to Pose Little or No Risk to the Environment (PLONOR)". This list of chemicals is not an 'approved' list to denote chemicals approved for use in offshore wind and the wording should be amended.	accord with the Outline PEMP (APP-277)) containing details of all the proposed chemicals to be used for construction of the Project to the MMO for approval prior to works taking place.	our technical advisors and will provide comments on these sections at Deadline 2.		presented to the MMO for approval post-consent. The Applicant's response does not explicitly state that there will be no future references to the Offshore Chemical Notification Scheme (OCNS) which would be welcomed.	and that the OCNS applies only to chemicals that are intended for use and discharge in the exploration, exploitation and associated offshore processing of petroleum in the UK and Netherlands.
RR-042.056	Paragraph Number: 4.3.18 The list referenced in Chapter 8, point 26, is a list of chemicals that have had all their substance data (ingredient level) presented checked and verified as complete (includes all relevant persistence bioaccumulation and toxicity data per ingredient) and generic oil and gas platform parameters applied to rank them. It is therefore not appropriate to assume that this list can be used like-for-like within offshore wind applications. The operator can choose chemicals from the ranked list use, at which point they provide a site-specific risk assessment together with detailed justification for the use of each chemical (product) to the regulator (MMO) who then makes a determination whether to permit. Even chemicals that are on the PLONOR list have to be approved by the regulator prior to use. Therefore, all chemicals with a pathway to the marine environment used on the offshore windfarm (unless covered by other regulations e.g. MARPOL) including Bentonite quantities should be notified to MMO with their properties, including safety data sheets to the regulator for approval, prior to use in the marine environment. In addition, impacts of	This comment is noted by the Applicant. As required under condition 13(1)(e) of the DMLs within Schedules 10 and 11, the Applicant will submit a PEMP (which must accord with the Outline PEMP (APP-277)) containing details of all the proposed chemicals to be used for construction of the Project to the MMO for approval prior to works taking place.	MMO 4.3.10 to MMO 4.3.18: With regards to the Applicant's responses to MMO points 4.3.10 to MMO 4.3.18, the MMO is with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The Applicant has noted our comments and has stated that all chemicals proposed for use will be detailed within the Project Environment Management Plan to be presented to the MMO for approval post-consent. The Applicant's response does not explicitly state that there will be no future references to the Offshore Chemical Notification Scheme (OCNS) which would be welcomed. The Applicant notes the Offshore Chemical Notification Scheme (OCNS) does not apply to chemicals that might otherwise be used on other offshore structure (such as an offshore wind farm), and that the OCNS applies only to chemicals that are intended for use and discharge in the exploration, exploitation and associated offshore processing of	The Applicant notes the Offshore Chemical Notification Scheme (OCNS) does not apply to chemicals that might otherwise be used on other offshore structure (such as an offshore wind farm), and that the OCNS applies only to chemicals that are intended for use and discharge in the exploration, exploitation and associated offshore processing of petroleum in the UK and Netherlands.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	"blow out" should this occur and loss of drill string contingency should also be provided in the method statement. The PEMP will include a chemical risk assessment (CRA) "Where relevant, this will comprise a risk assessment for the use of these chemicals in the marine environment, including consideration of whether they are approved for use offshore (e.g. included on the PLONOR list)." As in the point above, the Cefas ranked list is not an 'approved list" for use. All chemicals for use at any phase in the life of the windfarm should be notified to MMO if there is a pathway to the marine environment and not covered by other regulations (e.g. used on vessels in closed systems (with no top up) or covered under other regulations e.g. MARPOL).				petroleum in the UK and Netherlands.	

1.2.5.5 Annex 5

Table 1.2.5.5 Detailing MMO and the Applicant's comments regarding Benthic Ecology raised within MMO's Relevant Representation (RR-042)

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
Benthic Ecology						
RR-042.057	Paragraph Number: 4.4.1 The acoustic data did not reveal any unique signatures that could be attributed to Sabellaria spinulosa reef, although the ground truthing showed the presence of patchy reef in several places although it was low lying. MMO raised concern that future geophysical surveys would not detect potential Sabellaria spinulosa reef and asked for clarification on how any pre-construction surveys would identify reef to avoid by micro-siting. MMO welcomes that the Project has committed to pre-construction surveys as outlined	This comment is noted by the Applicant. The Applicant will agree the methodology for any pre-construction monitoring with the MMO and its advisors prior to surveys being undertaken as required under condition 13(1)(c)(i) of the DML within Schedule 11 of the dDCO.	MMO 4.4.1 to MMO 4.4.9: With regards to the Applicant's responses to MMO points 4.4.1 and 4.4.9, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO notes the mitigation measures outline in the Schedule of Mitigation, Outline Cable Specification and Installation Plan, and Outline Biogenic Reef Mitigation Plan appear to be appropriate. However, the methodology for any pre-construction surveys must be agreed with the MMO and advisors prior to their commencement to ensure suitable evidence is provided as per condition 13(1)(c)(i) of the DML within Schedule 11 of the DCO. It would be welcomed if it could be clear in the outline	The Applicant has responded to this point at 1.5.3 of The Applicant's Comments on Deadline 2 Submissions (REP3-037). The Applicant intends to update the Outline Offshore In-Principle Monitoring Plan (8.03) at Deadline 5 and will consider whether the request from the MMO can be incorporated.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	within Outline Biogenic Reef Mitigation Plan March 2024 document (ref 8.22). However, this document does not provide any details on the methodology to be adopted. We would highly recommend the use of drop-down video at the previous areas where substantial low and medium reef was observed in still images as it is known to be difficult to distinguish reef from the surrounding coarse/mixed sediments (see Jenkins et al 2015, 2018).				offshore in-principle monitoring plan that drop-down video at the previous areas where substantial low and medium reef was observed in still images as it is known to be difficult to distinguish reef from the surrounding coarse/mixed sediments (see Jenkins et al 2015, 2018).	
RR-042.058	Paragraph Number: 4.4.2 Regarding the spread of invasive non-native species and the consideration of this impact in the cumulative effects assessment (CEA), The MMO notes that temporary increases in suspended sediment concentration (SSC) and sediment deposition during construction has only been considered under this assessment. We recognise that embedded measures have been considered within the PEMP, however this is restricted to vessel movements during construction and does not consider potential spread of Invasive Non-Native Species (INNS) during operation. MMO notes the acknowledgement of the lack of scientific knowledge regarding the spread of INNS and that the windfarm may act as stepping stones extending the impact beyond a local scale but has still assessed the magnitude as negligible. We therefore again advise reassessing this as above 'negligible' and advises scoping	The Applicant has reconsidered the risk of the spread of INNS as assessed within the ES Chapter 9 Benthic and Intertidal Ecology (APP-064) in the Environmental Report for the Offshore Restricted Build Area and Offshore Export Cable Corridor (document reference 15.9), with no change considered necessary with regard to the magnitude of "negligible" as determined in ES Chapter 9 Benthic and Intertidal Ecology (APP-064). The Applicant notes that a key consideration of the risk of the spread of INNS is the local sea area within which the Project will be situated, with offshore wind farm and other infrastructure present near to the Project (e.g. Triton Knoll OWF to the west, the Hornsea Zone OWFs to the north of the site, Dudgeon and Sheringham Shoal OWFs to the south and the numerous oil and gas platforms within this area). Further considered in reaching the magnitude conclusion was consideration of the presence of oil and gas assets within (the Malory platform and Galahad	MMO 4.4.1 to MMO 4.4.9: With regards to the Applicant's responses to MMO points 4.4.1 and 4.4.9, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO remains unconvinced that the impact on the spread of INNS will be negligible based on the Applicant's assertion that the Project is to be positioned within a previously unused area of seabed. The MMO requires more detailed information regarding the number of other developments in the area that introduce artificial hard seabed, the proximity of their structures to the Project, and the surface area of hard habitat introduced by the Project in comparison to the other developments. This should be provided in map format.	The Applicant has responded to this point at 1.5.4 of The Applicant's Comments on Deadline 2 Submissions (REP3-037).

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	INNS into the cumulative effects assessment during operation.	Tee) and immediately adjacent (Barque platform) to the array area, with the presence of these assets posing an existing risk of the spread of INNS, rather than were the Project to be positioned within a previously unused area of seabed. Therefore, the Applicant remains confident in the determination of a negligible magnitude for the risk of INNS from the Project alone and the consequent scoping out of this impact from the cumulative assessment and so does not consider that any update or reassessment is required.				
RR-042.059	Paragraph Number: 4.4.3 The MMO notes that there has been commitment to monitor INNS only if gravity base structures (GBS) are used. It is not clear why this is the only turbine base type that is being considered. All structure types can provide suitable colonisation substrate for INNS. MMO requests a response regarding this.	Whilst the Applicant acknowledges that all foundation types can provide suitable colonisation substrate for INNS, GBS are considered to pose the greatest risk as they provide the largest continuous surface area within the water column for settlement and colonisation by INNS, were this foundation type to be used. Furthermore, the commitment to monitor specifically this foundation type was linked to the lesser use of this type for OWFs and therefore was an acknowledgement of the reduced evidence base surrounding INNS colonisation risk.	MMO 4.4.1 to MMO 4.4.9: With regards to the Applicant's responses to MMO points 4.4.1 and 4.4.9, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO notes that further information is needed to support the Applicant's conclusions regarding the potential spread of invasive nonnative species (INNS) before it can be determined whether monitoring of INNS is required irrespective of the structure used.	The Applicant has responded to this point at 1.5.2 of The Applicant's Comments on Deadline 2 Submissions (REP3-037).
RR-042.060	Paragraph Number: 4.4.4 Annex I stony reef was scoped out of the assessment at Section 42 consultation. However, the MMO notes that reefiness assessments have been undertaken for this feature within the OWF and ECC.	The Applicant notes that the reefiness assessments were undertaken on the survey data collected prior to PEIR preparation and that the scoping out of stoney reef was based on the results of those survey data. As Appendix 6.3.9.1: Benthic Ecology Technical Report (Array) (Volume 3 Chapter 9 Appendix 1 Benthic Ecology Technical Report (Array) (APP154)	MMO 4.4.1 to MMO 4.4.9: With regards to the Applicant's responses to MMO points 4.4.1 and 4.4.9, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	Please see MMO response to Paragraph 4.4.7 below.	The MMO has referenced a comment relating to *Sabellaria spinulosa* reef, that is not relevant to original point regarding stony reef..

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
		and Volume 3 Chapter 9 Appendix 2 Benthic Ecology Technical Report (ECC) (APP155)) and Appendix 6.3.9.2: Benthic Ecology Technical Report (ECC) (APP-155) were not required to be updated between PEIR publication and DCO Application, the full survey results and the reefiness assessments undertaken within those documents remains. It would not be appropriate to update reports to exclude the analysis of stoney reef as it provides the evidence for the exclusion of that feature from the assessment.				
RR-042.061	Paragraph Number: 4.4.5 The MMO recognises that there has been commitment to mitigation for Sabellaria spinulosa reef via micrositing, however, the mitigation plan does not contain sufficient detail to assess whether it is appropriate.	The Outline Biogenic Reef Mitigation Plan (APP-296) provides information on the survey effort and potential mitigation measures which could be used by the project if potential S. spinulosa reef is identified prior to construction. The final mitigation measures (if required) and the details of such measures (e.g. buffer zones around reef if any is identified) would be agreed with the MMO prior to the construction of the Project. As all Project-specific survey data collected to date (Volume 3 Chapter 9 Appendix 1 Benthic Ecology Technical Report (Array) (APP-154) and Volume 3 Chapter 9 Appendix 2 Benthic Ecology Technical Report (ECC) (APP-155)) and the subsequent independent reanalyses (document 15.16) have not identified any qualifying Annex I reef within the proposed Order Limits, it is not possible, nor would it be appropriate, to provide details of theoretical mitigation measures for a habitat which is not recorded to be present.	MMO 4.4.1 to MMO 4.4.9: With regards to the Applicant's responses to MMO points 4.4.1 and 4.4.9, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	Please see MMO response to Paragraph 4.4.7 below.	Please see the Applicant's response to RR-042.063 Paragraph 4.4.7 below.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
RR-042.062	Paragraph Number: 4.4.6 The CEA should consider the spread of INNS during operation as per the comment in paragraph 4.4.2 above.	See response to paragraph 4.4.2 of RR-042 above.	MMO 4.4.1 to MMO 4.4.9: With regards to the Applicant's responses to MMO points 4.4.1 and 4.4.9, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO remains unconvinced that the impact on the spread of INNS will be negligible based on the Applicant's assertion that the Project is to be positioned within a previously unused area of seabed. The MMO requires more detailed information regarding the number of other developments in the area that introduce artificial hard seabed, the proximity of their structures to the Project, and the surface area of hard habitat introduced by the Project in comparison to the other developments. This should be provided in map format.	The Applicant has responded to this point at 1.5.4 of The Applicant's Comments on Deadline 2 Submissions (REP3-037).
RR-042.063	Paragraph Number: 4.4.7 The MMO agrees with Natural England in that the assessment seems to down weight the reefiness scores as they are averaged over the transect. Some of the transects show areas of continuous low/medium reef which should be considered as separate patches as per Jenkins et al, 2015, 2018. The technical report does not provide any information on the distance covered for these patches. In the absence of sufficient acoustic data, it should be assumed that any distance of 5 metres (m) or greater with continuous reef presence should be considered as Annex I reef and should not be averaged across the transect, especially considering the naturally patchy nature of Sabellaria spinulosa reef.	Averaging height and percentage cover scores recorded at every data point is the standard approach taken by BSL for assessment of potential S. spinulosa reef. This approach relies on it being possible to identify S. spinulosa aggregations signatures from the geophysical data (typically using SSS and MBES), which is something that BSL specialise in, with senior personnel having experience of doing this for >20 years. While delineation of S. spinulosa reef can be achieved in mobile sandy substrates, this is more difficult to achieve in mixed sediment habitats and often not possible to distinguish S. spinulosa aggregations from the surrounding ambient mixed sediment. As noted in Jenkins et al. (2018) "Delineating S. spinulosa reef extent was achievable for some areas within the study site, but not for all. The lack of	MMO 4.4.1 to MMO 4.4.9: With regards to the Applicant's responses to MMO points 4.4.1 and 4.4.9, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO acknowledges the difficulties highlighted by the Applicant in distinguishing Sabellaria spinulosa reef signatures from the surrounding sediment (coarse/mixed) in acoustic data when the reef has low-medium elevation and is patchy. The MMO does not question the review and interpretation of these data reported by the Applicant. The MMO would like to clarify that the comment related to the imagery data and do not suggest the Applicant should consider each single data point where Sabellaria aggregations were observed as reef, but rather that elevation and patchiness (% cover) should be averaged for contiguous 'patches' of reef. For example, in ECC_VID_66, there are	The Applicant has responded to this point at 1.5.5 to 1.5.8 of The Applicant's Comments on Deadline 2 Submissions (REP3-037). Due to the number and size of the files requested, the Applicant has provided the stills from the videos of the transects where *Sabellaria* aggregations were observed directly to the MMO.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
		a consistent, and replicable, acoustic signatures synonymous with reef presence across the study site made mapping reef extent at the site scale difficult.", this was also the case for the current survey. The consideration of single data points showing Low/Medium/High reef structure would not be appropriate as they do not cover sufficient area (25 m2) to be considered Annex I reef. Excluding these single reef structure data points, there were three transects where two or more adjacent data points showed Low/Medium/High reef structure. To assess what difference would be seen if each of the segments of Low/Medium reef structure were assessed as potential separate reefs. For this assessment, the same reefiness assessment method used in the technical report has been used here, so this is not repeated here. The difference is that this assessment calculates average (mean) reefiness levels and the corresponding reef 'structure' for each segment, which is then assessed against the estimated area of the patch. As noted previously, it is not possible to accurately assess the areas of the reef from the available geophysical data, so the patch has been assumed to be circular with the diameter of the circle taken, on a precautionary basis, to be the straight -line distance between adjacent nonreef data points either side of the potential reef segment. This 'circular' patch assessment method has been used by BSL for a number of S. spinulosa and stony reef assessment over the			several patches (3-5 observations at consecutive points along the transect) of low/medium reef interspersed with areas assigned as 'not a reef' or no Sabellaria (pages 300 -301 in Chapter 9 Benthic and Intertidal Ecology, Volume 3 Appendices, Appendix 9.2. Rev 1.0, March 2024. (Document reference: 6.3.9.2)). It appears that this approach has now been carried out in a reanalysis of the data, and that the patches did not exceed an average of 'Low Reef'. The Applicant should confirm whether this is the case. The Applicant should also provide the images of Sabellaria aggregations in cases where they were observed at consecutive points along a transect (i.e. the contiguous patches of reef) for review. The MMO welcomes the Applicant's approach to assessing the area of Sabellaria patches using the straight -line distance between non -reef data points either side of a potential reef segment. However, based on the information provided, it is unclear how many consecutive observations of Sabellaria aggregations would be required to be indicative of potential reef (i.e., ≥ 25 square metres (m^2) for 'Low' reef). To clarify this, the Applicant should provide information on the spacing of data points along the transect (i.e. the distance travelled	

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
		past decade with no negative feedback from clients, regulators or SNCBs. The results of this analysis show that the patches across all three transects would achieve overall 'reefiness' levels (incorporating patchiness, elevation and area measures) of 'Not a Reef' or 'Low Reef', for which strong justification would be needed for these areas to be considered Annex I reef. One image within ECC_66 was found to contain 'High Reef', due to high patchiness and elevation scoring however, the average result for this patch was still 'Low Reef, with the overall conclusion for ECC_66 being that this site was "Not a Reef" in line with the guidance for determining 'reefiness'.			between each 10 second screengrab image) and the area in m2implied if Sabellaria aggregations are observed at 1, 2, 3, etc consecutive points. If the distance between points is variable along a transect, then the minimum and maximum distance between adjacent points could be used instead. We note that if the distance between two non -reef data points either side of a single observation of a Sabellaria aggregation equates to an area of ≥ 25 m², then a single observation of a Sabellaria aggregation could indeed be indicative of potential 'Low' reef. A report on an independent analysis of the seafloor imagery by Envision, which used both video footage and stills and was supported by grab and sidescan sonar data, has been provided by the Applicant (Envision (2024) Outer Dowsing Offshore Wind – Offshore Export Cable Corridor Sabellaria Spinulosa Reanalysis and Report. Rev 1.0, September 2024. (PD1- 095)). It appears that the approach here was also to take the average of elevation and patchiness (% cover) over entire transects, in which case the same issue above would apply. Some example images of Sabellaria are provided for each transect in the report, but it's unclear based on the information provided whether these images are representative.	

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
					Whilst we recognise the difficulties in distinguishing Sabellaria reef signatures from the surrounding sediment when reefiness is 'Low', it is our understanding that 'Low' reef is nonetheless considered as Annex I reef by Natural England. The MMO defers to Natural England on this point but would be happy to discuss possible options for mitigating and monitoring impacts on 'Low' reef, if required.	
RR-042.064	Paragraph Number: 4.4.8 There is a discrepancy between Figure 54 on P188 of Volume 3: Appendices: Chapter 9 Benthic and Intertidal Ecology (ref: PP1- ODOW-DEV-CS-REP-0165) when compared to the text on P187. The text states that the Sabellaria spinulosa aggregations were not reef-forming at station OWF_76, but Figure 54 shows station OWF_76 to be classified as 'medium reef'. This should be checked.	The areas of medium and low reef mentioned by Natural England have been further investigated. In ECC_66, medium reef was not consistent for 150 m, the closest 2 stills assessed for S. spinulosa were 5 m apart (5 m – 110.5 m between 'medium reef' stills) and the same was evident for low reef stills. It should be noted that medium reef and low reef points are overlaid on top of the no reef/not a reef data points in Figure 54 to highlight their presence and avoid higher reefiness data points being obscured by no reef/not a reef, which explains the discrepancy between the Figure 54 and text on P187.	MMO 4.4.1 to MMO 4.4.9: With regards to the Applicant's responses to MMO points 4.4.1 and 4.4.9, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO acknowledges the Applicant's response.	The Applicant is awaiting further comments from the MMO.
RR-042.065	Paragraph Number: 4.4.9 On page 90 of Appendix 9.2 Benthic Ecology ECC Area Results Report. (Document Number: 6.3.9.2), there is referral to an ECC station (ECC_02), however there is no ECC_02 listed in Table 25 on pages 94/95. The MMO suggests that this be checked and corrected.	The Applicant confirms that the reference on page 90 of Volume 3 Chapter 9 Appendix 1 Benthic Ecology Technical Report (Array) (APP-155) to station "ECC_02" refers to the station labelled "FA_02" in Table 25 and also Figure 2	MMO 4.4.1 to MMO 4.4.9: With regards to the Applicant's responses to MMO points 4.4.1 and 4.4.9, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO acknowledges the Applicant's response.	The Applicant advises that this comment is closed.

1.2.5.6 Annex 6

Table 1.2.5.6 Detailing MMO and the Applicant's comments regarding Fish Ecology raised within MMO's Relevant Representation (RR-042)

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
Chapter 10 Fish and Shellfish Ecology						
Fish Ecology						
RR-042.066	Paragraph Number: 4.5.1 One of the concerns the MMO raised at PEIR stage was in relation to disturbance to herring at their spawning grounds from piling noise, and we had requested the inclusion of some further underwater noise (UWN) modelling, we have provided further comments on this issue in points 4.5.2 – 4.5.	The Applicant has provided responses to the issues raised in MMO paragraphs 4.5.2 to 4.5.4 of RR-042 below.	MMO 4.5.1 to MMO 4.5.4: With regards to the Applicant's responses to MMO points 4.5.1 to MMO 4.5.4, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	Please see the further MMO responses to paragraphs 4.5.2 to 4.5.4 below.	The Applicant provided the requested modelling results (specifically around the provision of noise modelling presenting the 135dB SELss contour from Hawkins *et al*. (2014)) within the Environmental Report for the Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor Appendix A Figures Part 1 (PD1-082). Regarding the points raised by the MMO in at Deadline 3 (points 4.5.2 to 4.5.4), the Applicant met with the Marine Management Organisation (MMO) and their scientific advisors Cefas on 16th January 2025. The focus of that meeting was to discuss the MMO's comments raised under point RR-042.087. The Applicant is currently considering the advice received during the meeting. During the meeting with the MMO and Cefas, the Applicant also discussed the potential implications of the forthcoming DEFRA policy on underwater noise (that was subsequently published on 21st January 2025) and the use of noise abatement systems, as the content of this policy document will influence the Applicant's consideration of

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
						this issue. The Applicant will provide an update on this matter at Deadline 5.
RR-042.067	Paragraph Number: 4.5.2 The MMO previously recommended the presentation of additional noise modelling for the received levels of single strike sound exposure levels (SELss) at the Banks herring spawning grounds based on the 135 decibel (dB) SELss startle response (as per Hawkins et al. (2014)). In the ES, the utility of the 135dB threshold has been challenged and it has been suggested that it is overly precautious, and that, as stated by Popper et al. (2014), it is not appropriate to determine the potential for behavioural effects quantitively due to the range of behavioural responses. Notwithstanding these comments, the potential behavioural impact ranges for 135dB as 5dB increments from the piling source in Figure 10.40 of the Volume 2: Chapter 10: Fish and Shellfish Ecology Figures, document (ref: PP1-ODOW-DEV-CS-FIG-0010) were presented. MMO welcomes this inclusion as per our request.	The Applicant notes this comment.	MMO 4.5.1 to MMO 4.5.4: With regards to the Applicant's responses to MMO points 4.5.1 to MMO 4.5.4, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	Please see the MMO's further response to Paragraph 4.5.3 below.	The Applicant has previously provided additional figures showing the modelled outputs for the 135dB SELss as supporting figures (PD1-082) to Environmental Report for the Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor (PD1-081) . The Applicant reiterates that the 135dB threshold was considered as part of the Application; however, and as set out in paragraph 222 of APP-065 and 'The Applicant's Responses to Relevant Representation' (PD1-071) and Deadline 2 Submissions (REP3-037), the Applicant considers that this threshold has no scientific validity for the purposes of the Environmental Impact Assessment (EIA) and hence it was not further discussed.
RR-042.068	Paragraph Number: 4.5.3 Although the 135dB modelling has been presented in the ES, it does not to include the 135dB impact range for behavioural effects in their impact assessment for herring and has provided a discussion in Section 10.6.1 in Volume 1: Chapter 10: Fish and Shellfish Ecology document (ref: PP1- ODOW-DEV-CSREP-0118) to support their decision. The discussion provided includes some valid points concerning the limitations of the study by Hawkins et al. (2014), such as the study being carried out in a quiet coastal sea loch where fish were	The Applicant is confident that a suitably precautionary assessment has been undertaken to establish the potential impacts from underwater noise on herring. The Applicant confirms that, as noted by the MMO, SELss noise contours have been presented in Figures 10.39 and 10.40 of Volume 2, Chapter 10: Fish and Shellfish Ecology Figures Part 2 of 2 (APP-098) in 5dB increments from the piling source up to 135dB SELss. The presentation of these contours is	MMO 4.5.1 to MMO 4.5.4: With regards to the Applicant's responses to MMO points 4.5.1 to MMO 4.5.4, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO maintains its position on the 135 decibels (dB) Single Strike Sound Exposure Level (SELss) threshold from Hawkins et al., (2014) which is the best current scientific evidence from which a quantitative threshold can be derived for the purposed of modelling behavioural responses in herring. This threshold has been widely used in Underwater Noise	In response to the MMO's Relevant Representation (RR-042), the modelling results of the 135dB threshold were presented as part of the Offshore Restricted Build Area documentation (Figure 3.5 and Figure 3.6 in PD1-082). As set out in our response to point RR-042.067 (Paragraph Number: 4.5.2) above, the Applicant does not support the application of the 135dB SELss contour to establish

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	not accustomed to heavy disturbance, and that the fish in the study (sprat) were not involved in any particular activity, i.e. spawning. MMO recognise that there are limitations with the study, and it is accurate that the Hawkins et al. (2014) 135dB SELss threshold was determined based on sprat schooling in the water column rather than sprat (or herring) engaged in spawning, however, sprat are a clupeid species, closely related and anatomically similar to herring, and similarly sensitive to underwater sound (sprats also possess a swim bladder involved in hearing), so are considered a suitable proxy species in terms of their hearing sensitivity. Given that there is an absence of suitable peerreviewed empirical evidence of behavioural responses in clupeid fishes to support an alternative threshold for impulsive noise, MMO considers the 135dB threshold from Hawkins et al. (2014) is the best current scientific evidence from which a quantitative threshold can be derived for the purposed of modelling behavioural responses in herring. Notwithstanding this, we would be willing to consider the use of an alternative quantitative threshold for modelling behavioural responses in herring (or a similar clupeid fish), should one be able to be provided, which is based on an appropriate species, suitable situation, and peer -reviewed literature.	further supported by a literature review in paragraph 213 et seq. of ES Chapter 10: Fish and Shellfish Ecology of the ES (APP-065) to present the range of potential behavioural responses of fish to underwater noise stimuli and the factors and life events (e.g., sex, age, season, individual condition) that may influence them. The Applicant however would like to highlight that they do not support the use of the 135dB SELss contour, as presented in Hawkins et al. (2014), to establish behavioural impact ranges for clupeids and other noise -sensitive fish species. Specifically, the Applicant points out that the 135dB SELss threshold is based on a study undertaken within a quiet sea loch, and it is therefore not considered appropriate to use this threshold within a much noisier area such as the central North Sea (which is subject to high levels of anthropogenic activity and consequently noise), as the fish within this area will be acclimated to the noise and would be expected to have a correspondingly lower sensitivity to noise levels. The Applicant considers that it is important to note that the authors of Hawkins et al. (2014) specifically conclude “However, these data cannot yet be used to define the sound exposure criteria”. Notwithstanding, the paper notes a range of response to the same sound level in the studied species (sprat Sprattus sprattus) from no reaction to a possible flee reaction. Hawkins et al. (2014) posit that this reflects the behaviour of the fish at			(UWN) modelling to inform the impact assessment for herring for many OWF and construction developments, and in the absence of an alternative quantitative threshold, it is considered the best available. The Applicant is aware of our current position on the use of a 135 dB threshold, which is recommended consistently for projects of a similar nature, and in reviewing the Applicant’s response, our position remains unchanged and the MMO requests that this threshold is applied and updated information relation to this is supplied.	behavioural impact ranges for herring. Regarding the requested ‘without prejudice’ assessment, the Applicant has reviewed the impact assessment for herring using the 135dB response threshold (Hawkins *et al.*, 2014) for behavioural effects. This assessment showed no demonstrable overlap of the 135dB behavioural response threshold with the key spawning ground for Banks herring off Flamborough Head to the north of the Project. The Applicant continues to engage with the MMO on this matter. The Applicant has discussed this matter further with the MMO and their scientific advisors Cefas during a meeting on 16th January 2025. The Applicant is currently considering the advice received during the meeting and will provide further detail on this matter to the Examining Authority at Deadline 5.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
		the time of exposure, as well as the presence or absence of predators. As such, the Applicant considers that the use of the threshold recommended by the MMO is not scientifically robust and the qualitative assessment of the risk of behavioural disturbance as presented by the Applicant better enables a consideration of the potential for significant impacts at a population level of the species considered. This is particularly the case for herring where the concern for this species focuses on the potential impacts on spawning activity, which cannot be sufficiently evaluated with the consideration of a single threshold value. Finally, the Applicant recognises the lack of any established quantitative threshold for disturbance effects to fish from underwater noise. Based on the available literature, the thresholds as presented within Popper et al. (2014), whilst acknowledged as limited by the studies which informed the review, are currently recommended as the most appropriate criteria to use for assessing the impacts of underwater noise effect to fish (Popper and Hawkins, 2019). Popper et al. (2014) advises the use of a qualitative risk assessment for behavioural effects, based on the hearing sensitivity of the species of concern, which is the approach the Applicant has followed within ES Chapter 10: Fish and Shellfish of the ES (APP-065). The Applicant notes that Hawkins was a co-author on Popper et al. (2014).				

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
RR-042.069	Paragraph Number: 4.5.4 The MMO welcomes the reference to the study by Skaret et al. (2005) which found herring to have a significantly reduced reaction to external stimulus when involved in spawning activity than when swimming/schooling. The MMO notes the suggestion that in light of this study, it is likely that any behavioural impacts to fish (herring) would be significantly reduced when spawning, with consequently limited impact on spawning potential. However, it must be recognised that the study by Skaret et al. (2005) investigated vessel avoidance responses in herring exposed to continuous noise exposures, which is entirely different to the impulsive noise exposure generated by the proposed piling works. More importantly, whilst herring may display a biological drive to spawn regardless of the impulsive piling noise exposures, it is equally possible that such disturbance may cause herring to abandon necessary migrations to the gravel beds on which they need to spawn, in order to avoid the disturbance, potentially resulting in reduced spawning success and limited recruitment of herring larvae into the Banks stock. In the absence of appropriate, empirical evidence indicating that herring will continue to spawn when subject to significant UWN disturbance, a precautionary approach, based on the best available, peer - reviewed evidence, should be adopted (ICES, 2003, 2015, 2018). For the reasons given above, we maintain that the 135dB threshold (as per Hawkins et al., 2014) is a precautionary, but appropriate threshold for the purpose of modelling behavioural responses in herring at their spawning ground and that the resulting impact range should be given due consideration in terms of whether the range of effect is	The Applicant reiterates that they do not support the application of the 135dB SELss contour to establish behavioural impact ranges for fish species, including species that are considered hearing specialists (e.g. herring) for the reasons set out above. With regard to the Skaret et al. (2005) results being from a continuous noise source, this is acknowledged; however, the Applicant does not consider that this invalidates the conclusions made in reference to that paper as set out in ES Chapter 10: Fish and Shellfish Ecology (APP-065), particularly as the importance of the motivational status of fish in determining their response to sounds is well established (as reviewed in Hawkins et al., 2014). In addition, recent studies on the range dependent nature of piling sounds show a marked change in the impulsiveness of piling noise with distance from the piling location, with piling sounds becoming more similar to non - impulse (continuous) sounds as the sounds propagate through the environment (e.g., Hastie et al., 20199 ; ORJIP, 202410). Available data indicate that the greatest change in the acoustic properties of sounds generated during piling occur within the first 5 to 10km from the pile location, which suggests that predicted impact ranges for TTS and behavioural reactions in fish, which for stationary receptors typically extend far beyond this range are not necessarily representative of the true risk of	MMO 4.5.1 to MMO 4.5.4: With regards to the Applicant's responses to MMO points 4.5.1 to MMO 4.5.4, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	In respect of the Applicant's comments on the change in the impulsiveness of piling noise over distance (becoming less impulsive), it is recognised that impulsive sound will likely lose its impulsive nature as the sound propagates and whilst there have been a few studies which speculate about the distance over which this occurs, there has been nothing concrete published or agreed to date. Thus, our recommendation is that until further criteria or guidance on this issue is published in peer-reviewed literature, the most relevant and recent noise exposure criteria should still be applied.	The Applicant maintains the position that the behavioural response of herring to a 135dB impulsive noise (from Hawkings *et al.*, 2014), where herring are close to the noise source (as was the case within Hawkins *et al.* (2014)), is likely to be different to the response to an impulsive source many kilometres away. Whilst there is no definitive distance at which an impulsive sound becomes non-impulsive, existing studies (Hastie *et al.*, 2019; ORJIP, 2024) show that the impulsivity of a sound is much reduced within 5 - 10km of the source. Whilst the sound source may contain elements of impulsivity at this distance, based on the results of Hastie *et al.* (2019), only one out of four impulsivity characteristics would still be present at this range. As such, the Applicant considers that assuming that a sound is fully impulsive at 45km from the source (the maximum predicted range of the 135dB contour for the Project) is overly conservative and unrealistic.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	likely to overlap the various herring spawning grounds near Flamborough head, or hinder the north -south migration of Banks herring in the Central North Sea.	these effects (which would be much smaller were this change to non -impulsive noise considered in modelling outputs). In this respect, the Applicant would like to highlight that the 135dB response threshold from Hawkins et al. (2014) is based on measurements of behavioural reactions very close to the emitted sound. Given the decrease of impulsiveness of piling sounds away from the source, there is therefore potential that the risk of behavioural reactions may be overestimated at the large ranges predicted for this noise level from the modelling, as current models are not able to account for changes in the impulsive nature of sound. Whilst the Applicant acknowledges the importance of not affecting the migration of herring to the spawning grounds, the herring that spawn on the Banks grounds migrate to the grounds from a general northerly direction. The migration of this species to its spawning grounds were considered within the assessment presented in ES Chapter 10: Fish and Shellfish of the ES (APP -065) and for the reasons set out above, the Applicant maintains that the conclusion of a minor adverse effect for all effects to herring which is not significant in EIA terms remains valid.				
RR - 042.070	Paragraph Number: 4.5.5 The MMO has no concerns regarding the scoping in/out of impacts or receptors. The fish species present in and around the project's study area have been correctly identified, as have the spawning and nursery grounds found within the vicinity	The Applicant welcomes the comment. The Applicant has no further comments on this matter.			The MMO acknowledges that the Applicant has welcomed this comment.	The Applicant advises that this comment is closed.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	of the project. The potential impacts to fish receptors and commercial fisheries have been appropriately scoped in/out of the ES. The list of impacts identified in the ES can be found in Annex 2.					
RR - 042.071	Paragraph Number: 4.5.6 As agreed at the PEIR stage, impacts arising from accidental pollution during the construction, operation and maintenance (O&M), and decommissioning phases have been scoped out of further assessment on the basis that a Project Environmental Management and Monitoring Plan (PEMMP) will be implemented to mitigate pollution events. Impacts from direct disturbance during the O&M phase have now been scoped in, which is appropriate. Impacts arising from changes in fishing pressure due to displacement have been scoped out of further assessment for fish ecology, but scoped into the assessment for commercial fisheries, which MMO supports. Transboundary impacts have been scoped into the assessment in respect of Annex II migratory fish species listed as features of European sites in other European Economic Area (EEA) States	The Applicant welcomes the comment. The Applicant has no further comments on this matter.			The MMO acknowledges that the Applicant has welcomed this comment.	The Applicant advises that this comment is closed.
RR - 042.072	Paragraph Number: 4.5.7 The MMO notes that some benthic compensation within an area of seabed for the creation and re -creation of biogenic reef habitat, located within the Biogenic Reef Restoration Area reviewed in document Volume 1: Chapter 3: Project Description, document (ref: PP1 -ODOW -DEV -CS -PDE -0001), has been proposed. Further comments on the potential impacts and suitability of creation / re -creation of biogenic reef habitat and the benefits to benthic ecology are found in	The Applicant notes this comment. The Applicant has provided responses to the MMO's further comments below.			The MMO acknowledges that the Applicant has welcomed this comment.	The Applicant advises that this comment is closed.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	the Benthic Ecology and Shellfish Ecology sections.					
RR - 042.073	Paragraph Number: 4.5.8 The MMO considers that overall, the assessment is proportionate for the nature and scale of the project. However, we do have some comments and recommendations that need to be addressed on the appropriateness of the assessment (see points 4.5.1, 4.5.2, 4.5.3, 4.5.4 above, and 4.5.10 below)	The Applicant welcomes the comment. Please see responses to specific points raised at paragraphs 4.5.1 to 4.5.4 above and paragraph 4.5.10.			The MMO acknowledges that the Applicant has welcomed this comment.	The Applicant advises that this comment is closed.
RR-042.074	Paragraph Number: 4.5.9 On the whole, the evidence sources and data that have been used to inform the assessment are all appropriate, and there are no signification gaps in evidence to give cause for concern.	The Applicant welcomes the MMO's confirmation that the Applicant has appropriately characterised the baseline environment.			The MMO acknowledges that the Applicant has welcomed this comment.	The Applicant advises that this comment is closed.
RR-042.075	Paragraph Number: 4.5.10 The 'heat' maps in Figures 10.14 – 10.17 in the Volume 1: Chapter 10: Fish and Shellfish Ecology document (ref: PP1-ODOW-DEV-CS-REP-0118) that show abundance of herring larvae across the study area, have used International Herring Larvae Surveys (IHLS) data from 2009/2010 - 2020/2021. The ES was finalised in March 2024, so there are 2 years of more recent IHLS data that could have been used to inform the assessment. MMO appreciates that the modelling is likely to have been completed prior to the ES submission and prior to all the internal checks, thus this is a minor comment to note. However, for a project of this size and nature, MMO would typically expect the most recent 10 years of IHLS data, up to year 2022/2023, to have been used, and recommend this is done in future.	The Applicant has produced revised figures showing IHLS 'heat' maps for the most recent 10 years of IHLS data, up to the year 2023/2024. These figures are included in Document 15.9A, which has been submitted to the ExA alongside these responses to the Relevant Representations. The Applicant notes that the methodology for the interpolation of the IHLS data has been updated following advice from the MMO to the consultants supporting the Applicant, and therefore the appearance of larval hot spots has changed slightly compared to Figures 10.14 to 10.17 within Volume 2, Chapter 10: Fish and Shellfish Ecology Figures Part 1 of 2 of the ES (APP-097). The Applicant confirms that the updated methodology does not change the identification of the areas of relative importance for herring spawning and considers that the conclusions presented in the ES remain valid.	MMO 4.5.10: The MMO welcomes the applicant's submission of revised figures showing IHLS heat maps for the most recent 10 years as requested by the MMO (RR042). the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO thanks the Applicant for providing revised figures showing International Herring Larvae Survey (IHLS) 'heat' maps for the most recent 10 years of IHLS data, up to the year 2023/2024.	The Applicant advises that this comment is closed.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
		The Applicant notes that the purpose of the heatmapping process (as first proposed within Boyle & New, 2018) is simply to inform the spatial extent of current spawning activity in herring. The revised methodology for the production of the heatmaps (as required due to a change in how the data are recorded for IHLS outputs), simply results in a slightly differing appearance of the maps, without changing the apparent importance of each area.				
RR - 042.076	Paragraph Number: 4.5.11 The baseline characterisation utilises a broad combination of datasets and provides temporal analysis and validation of regional monitoring datasets, for example Fisheries Sensitivity Maps (Coull et al., 1998 & Ellis et al., 2012), IHLS data, MMO landings data and International Bottom Trawl Surveys (IBTS) data, to name but a few. Further data and evidence has been acquired through site -specific benthic ecology surveys undertaken across the array area and offshore ECC. These surveys include sediment grabs, epibenthic trawls and Environmental DNA (eDNA) data. The data and evidence sources used to inform the assessment are consistent with those used for other OWF Environmental Impact Assessments (EIAs).	The Applicant welcomes the comment. The Applicant has no further comments on this matter.			The MMO acknowledges that the Applicant has welcomed this comment.	The Applicant advises that this comment is closed.
RR-042.077	Paragraph Number: 4.5.12 A series of 'best practice' embedded measures that aim to mitigate potential impacts of the proposed works to fish receptors has been proposed in (documents reviewed; Volume 1: Chapter 10: Fish and Shellfish Ecology, document (ref: PP1-ODOWDEVCS-REP-0118)). These include an MPCP, marine invasive and non-native species prevention measures,	The Applicant welcomes agreement from the MMO regarding the embedded mitigation measures.			The MMO acknowledges that the Applicant has welcomed this comment.	The Applicant advises that this comment is closed.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	the development of a decommissioning program to ensure impacts from decommissioning are minimised, the use of soft-start techniques on commencement of piling, the implementation of a PEMP and the burial of cables wherever possible. MMO supports the inclusion of these embedded mitigation measures.					
RR-042.078	Paragraph Number: 4.5.13 Concerning the effects of electro-magnetic fields (EMF) on electro-sensitive fish receptors such as elasmobranchs, eels and lampreys, the MMO notes that the intended average cable burial depth for array, interconnector and export cables will be between 0 - 3m. In line the with the National Policy Statement EN3 (Department of Energy & Climate Change, 2011)) the MMO recommends that where possible, cables are buried to a minimum depth of 1.5m (subject to local geology or seabed obstructions) as this will further increase the distance between electro - sensitive fish receptors and EMF, as well as reduce the risk of snagging and damage to cables by other marine vessels e.g. anchors, bottom - towed gear. The MMO also notes that a cable burial risk assessment has been undertaken in respect of the sections of export cables which cross through Annex 1 sandbanks. The MMO defers to Natural England as the SNCB for further comments on impacts to the features of the SAC.	The comments are noted by the Applicant. The Applicant also notes that the current NPS EN3 (DESNZ, 2023) does not include the requirement for a specific minimum burial depth. Notwithstanding this, the Applicant has committed to a target burial depth of 1m below the seabed. The Applicant confirms that cable burial will be the preferred option for cable protection, as set out in Section 6.11.5, paragraph 98 of ES Chapter 3: Project Description (APP -058). As detailed in Section 6.11.5, paragraph 99 of ES Chapter 3: Project Description (APP -058), the cable burial depth will be determined by a cable burial risk assessment as part of the final project design process. Where it is not possible to bury a particular section of cable to the desired burial depth, installation of cable protection will be considered as described in Section 6.11.5 of ES Chapter 3: Project Description (APP -058). A Cable Specification and Installation Plan (CSIP) will be developed prior to construction, informed by the cable burial risk assessment, which will specify the cable installation techniques and necessary minimum burial depths.	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2	The comment is noted by the Applicant.	The MMO notes the Applicant's response and may provide further comment at Deadline 4.	The Applicant is awaiting further comment from the MMO on this matter. The Applicant reiterates its commitment to bury cables to a target burial depth of 1m below the seabed and confirms that the cable burial depth will be determined by a cable burial risk assessment as part of the final project design process. The Applicant provided an updated Outline Cable Specification and Installation Plan (REP2-033), including the minimum cable depth of 1m, at Deadline 2.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
		An Outline CSIP has been submitted with the DCO application (APP -278), and the final CSIP will be submitted to the MMO post -consent for approval in accordance with the conditions of the dMLs. The proposed burial of the subsea cables and the application of additional cable protection if needed, will provide a separation between buried cables and the seabed surface, and therefore effects from EMF will be reduced.				
Herring						
RR-042.079	Paragraph Number: 4.5.14 The impacts to herring from UWN from piling have been assessed as 'minor' adverse which is not significant in EIA terms, so any specific mitigation measures for the species have not been proposed. MMO does not support the conclusion for a number of reasons which MMO will expand on in the following points.	The Applicant maintains the position that piling at the Project will not result in significant population level effects to Banks herring. Please see responses to paragraphs 4.5.15 to 4.5.23 below and the positions presented above.	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO maintains its position regarding the comments on the sensitivity and magnitude of impact for herring as a receptor. However, in light of the revised modelling and figures presented following the introduction of the Offshore Restricted Build Area (ORBA), the MMO has revised our original recommendation for a piling restriction (RR042), to reflect the reduced range of impacts from piling. Please see the MMO's further response to paragraph 4.5.22 below.	The Applicant maintains its confidence in the conclusions of the assessment as set out within the Fish and Shellfish chapter, for the reasons previously set out. The Applicant met with the MMO and their scientific advisors Cefas on 16th January 2025. The focus of that meeting was to discuss the MMO's comment raised under point RR-042.087. The Applicant is currently considering the advice received during the meeting and will provide further detail on this matter to the Examining Authority at Deadline 5.
RR-042.080	Paragraph Number: 4.5.15 In categorising the sensitivity of receptors, it is stated that herring are considered to be of high vulnerability, with low recoverability and of regional importance, and therefore have a 'medium' sensitivity rating. This is based upon the criteria provided in Table 10.10 (Volume 1: Chapter 10: Fish and Shellfish Ecology (APP	The Applicant considers the assessment of potential noise impacts to herring and their spawning grounds presented in ES Chapter 10: Fish and Shellfish Ecology (APP-065) is appropriate and adequate. As detailed in paragraphs 76 to 81 and summarised in Table 10.10 within	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	Please see the MMO's further response to paragraph 4.5.22 below.	The Applicant met with the MMO and their scientific advisors Cefas on 16th January 2025. The focus of that meeting was to discuss the MMO's comment raised under point RR-042.087. The Applicant is currently considering the advice

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	-65), document (ref: PP1 - ODOW -DEV -CS -REP -0118) – see Annex 3) which states that for a receptor to be of 'high' sensitivity it must also be internationally or nationally important. MMO also notes that hearing sensitivity group 3 has been categorised (Cod, sprat and whiting), group 2 fish species (salmonids) and group 1 fish species (flat fish and sandeels etc.) as all having a receptor sensitivity of 'low'. MMO's opinion is it is not appropriate to list all of these above -mentioned species, which have variable sensitivities to the impacts of underwater noise, as having the same sensitivity rating within the 4 stage receptor sensitivity criterion. The MMO agrees that herring are more sensitive to underwater noise impacts than fish in other hearing sensitivity groups, as well as fish within their own hearing sensitivity group (Cod etc.). However, the MMO does not agree with the criteria set out in Table 10.10 (see Annex 3) regarding the subjective categorisation of herring as a 'medium' sensitivity species. This is based on 3 main reasons: 1) Herring are of national importance, both ecologically by playing a critical role in the north sea food -web as a prey item for many Annex II species, rare and vulnerable species and species of conservation importance, as well as being commercially important for UK fisheries; 2) the timing of the impact (i.e. piling) overlapping with critical life stages (spawning etc.); 3) herring are highly sensitive in two ways, both physiologically with regard to them possessing a swim bladder involved in hearing (Popper et al., 2014) and ecologically with their reliance on a specific benthic location during their spawning and egg -yolk larvae life cycle stages. If piling works overlapped both spatially and temporally with herring	ES, Chapter 10: Fish and Shellfish of the ES (APP065), the determination of a receptor's sensitivity to an impact has been based on the receptor's vulnerability and recoverability together with its assigned value. Specifically, the 'medium' sensitivity definitions include nationally important species that have a high vulnerability and medium to low ability for recovery. Therefore, the Applicant considers that the sensitivity assessment for herring as 'medium' is appropriate. The Applicant also considers that an importance of regional is appropriate for herring when considering the Banks stock, which inhabits the Central North Sea. However, as noted above, even were herring to be considered as nationally important, then the sensitivity determination would not change, and the conclusions drawn within APP -065 would remain unchanged. With regards to the vulnerability assessment, the Applicant would draw attention to paragraphs 134 to 136 and paragraph 148 of ES Chapter 10: Fish and Shellfish Ecology (APP -065), in which herring have been assessed as being highly vulnerable to UWN from piling, based on their good hearing ability, their high susceptibility to pressure -related injuries, and their reliance on specific benthic locations for spawning. The assigned 'high vulnerability for herring represents the highest possible vulnerability score and considers that both survival and reproduction rates of herring could be affected during				received during the meeting and will provide further detail on this matter to the Examining Authority at Deadline 5.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	spawning it could result in limited or no capacity to avoid, adapt to, accommodate or recover from this impact. Therefore, it is MMO's opinion that herring, who are sensitive both physiological and ecologically, should be categorised as a 'high' sensitivity receptor.	piling through a combination of mortal and recoverable injuries, TTS and behavioural changes to spawning herring. The Applicant considers that the reference by the MMO to an overlap with herring spawning grounds is not an appropriate consideration within a sensitivity assessment, with that aspect of the significance of effect being more appropriately a consideration within the determination of the magnitude of effect. Specifically, a small overlap with an identified spawning ground could be considered to be of higher impact magnitude than a larger overlap with a less important habitat, but this does not affect the sensitivity of the receptor, which is dictated by its biology. Regarding the ability of herring to recover from noise -induced effects, the Applicant notes that piling itself will not change the characteristics of potential suitable spawning substrates and any potential lethal effects would be restricted to areas close the piling locations and would only affect a very small proportion of the Banks spawning population in areas outside the main spawning beds off Flamborough Head. Sublethal effects such as TTS and behavioural changes are likely to affect a larger proportion of the population, but these effects are anticipated to be temporary and reversible. In addition, given the intermittent nature of piling, herring may be able to spawn between individual piling events, even when previously disturbed. The Applicant also refers to the discussion				

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
		presented above in the response to paragraph 4.5.4 of RR-042 regarding the motivation of fish being a key consideration in determination of the likely reaction to external stimulus (e.g. noise). It is therefore the Applicant's view that herring have the potential to recover from noise effects. The Applicant acknowledges that recovery may take several years given the potential for localised lethal effects and a decrease in the reproductive output; therefore, the recoverability of herring to the impact has been assessed as 'low', as detailed in paragraph 136 within ES Chapter 10: Fish and Shellfish Ecology (APP-065).				
RR-042.081	Paragraph Number: 4.5.16 It is also important to remember that where a receptor is sensitive to an impact e.g., underwater noise or disturbance to habitat, such sensitivity is irrespective of the location. What matters is whether the receptor in question is at risk from the impact at that particular location and, if so, what the level / magnitude of risk is likely to be if there was (hypothetically) a spatial overlap. Taking herring as the receptor and noise disturbance in their spawning habitat as the impact; we know that herring rely on specific locations of gravel substrates on which to lay their eggs, therefore gravid females and the developing eggs and larvae attached to the gravel will have very limited to no capacity to avoid disturbance to their spawning habitat. As the impact has the potential to occur at the critical life stage of spawning, the sensitivity of the receptor is considered 'high'.	The Applicant is confident that the sensitivity assessment outcome reported within ES Chapter 10: Fish and Shellfish Ecology of the ES (APP-065) is appropriate. As stated in response to point 4.5.15 above, the potential for UWN to affect spawning herring has been assessed as part of the vulnerability assessment presented in paragraphs 134 to 136 and paragraph 148 of ES Chapter 10: Fish and Shellfish Ecology (APP -065). This assessment acknowledges both the demersal spawning nature of herring and the high susceptibility of herring to underwater noise. The vulnerability of herring to UWN from piling has therefore been assessed as 'high', which represents the highest possible vulnerability score. For the sensitivity assessment, several factors have been considered, namely a receptor's	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO thanks the Applicant for presenting the modelled noise contours for the effects of mortality and potential mortal injury (219 dB cumulative sound exposure level (SELcum)), recoverable injury (216 dB SELcum) and temporary threshold shift (TTS) (186 dB SELcum) for sandeel habitat from simultaneous piling of jacket (pin -pile) foundations and monopile foundations in Figures 3.9 and 3.10 respectively (Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor Appendix A Figures, Part 1 of 2 – PD1 - 082). As stated in (RR - 042, Section 4.5.28) disturbance to sandeel caused by piling	The Applicant welcomes the agreement from the MMO that no additional mitigation is required for sandeel.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
		vulnerability to an impact, its recovery potential and its ecological and/or commercial importance, as described in Table 10.10 in ES Chapter 10: Fish and Shellfish Ecology of the ES (APP - 065). The Applicant maintains that no change is required to the sensitivity determination for herring and therefore the conclusions of the ES remain unchanged.			noise and combined with the physical disturbance of their habitat (e.g. sandwave clearance) during the construction of Outer Dowsing OWF will result in adverse impacts to sandeels in the area, particularly during their winter hibernation period and spawning period. As previously stated, the project is located within a much wider area of sandeel habitat, so we do not believe that further mitigation to prevent significant impacts to sandeels at a population scale is necessary. The MMO notes the Applicant's comment that indirect impacts on protected marine mammal and bird species due to impacts on prey availability (i.e. sandeel) have been assessed in the ES in chapter 11: Marine Mammals, 12: Offshore and Intertidal Ornithology, and in the Report to Inform Appropriate Assessment (RIAA) and defers to the relevant Statutory Nature Conservation Body (SNCB) for further comments on this	
RR-042.082	Paragraph Number: 4.5.17 Based on the points discussed in 4.5.15 – 4.5.16, and using the matrix in Table 10.11 found in Volume 1: Chapter 10: Fish and Shellfish Ecology, document(ref: PP1-	The Applicant reiterates that they do not consider it appropriate to re-categorise the sensitivity of herring to UWN generated during piling from 'medium' to 'high' for the	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is	The comment is noted by the Applicant.	Please see the MMO's further response to paragraph 4.5.22 below.	The Applicant met with the MMO and their scientific advisors Cefas on 16th January 2025. The focus of that meeting was to discuss the

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	ODOW-DEV-CS-REP-0118), see Annex 4, to determine effect significance, when the receptor sensitivity for herring is re-categorised as 'high', with a 'low' magnitude of impact (as considered by the ES), it would result in a significance of effect of 'moderate' which is significant in EIA terms.	reasons presented in points 4.5.15 and 4.5.16 above.	consulting with our technical advisors and will provide comments on these sections at Deadline 2			MMO's comment raised under point RR-042.087. The Applicant is currently considering the advice received during the meeting and will provide further detail on this matter to the Examining Authority at Deadline 5.
RR-042.083	Paragraph Number: 4.5.18 In addition, MMO does not agree with the assessment of a 'low' magnitude of impact for the reasons outlined in points 4.5.19 – 4.5.22 below.	The Applicant maintains their position that piling at the Project will not result in significant population level effects to the Banks spawning component and that the magnitude of potential impacts to herring during piling is 'low'. Please see detailed responses to sections 4.5.19 to 4.5.22 below and points 4.5.3 and 4.5.4 above.	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2	The comment is noted by the Applicant.	Please see the MMO's further response to paragraph 4.5.22 below.	The Applicant met with the MMO and their scientific advisors Cefas on 16th January 2025. The focus of that meeting was to discuss the MMO's comment raised under point RR-042.087The Applicant is currently considering the advice received during the meeting and will provide further detail on this matter to the Examining Authority at Deadline 5.
RR-042.084	Paragraph Number: 4.5.19 In Figures 10.39 and 10.40 in document Volume 2: Chapter 10: Fish and Shellfish Ecology (APP-065) Figures, (ref: PP1-ODOW-DEV-CS-FIG-0010), see Annex 5, it is presented that the modelled noise contours for pin-piling and monopiling (respectively), including the 135dB SELss threshold alongside the 'heat' maps of herring larval abundance and the historic herring spawning grounds from Coull et al. (1998). Both figures show a significant overlap between the 135dB SELss noise contour and large areas of larval densities ranging 0 to 6,000 herring larvae per metres squared (m2), as well as overlaps with the historic spawning grounds. MMO has already highlighted in point 4.5.3, the reasons why we maintain that using the 135dB SELss threshold is appropriate for	The Applicant has provided updated heatmaps including the most recent years as part of Document 15.9A, which has been submitted to the ExA alongside these responses to the Relevant Representations. The Applicant reiterates that they do not support the application of the 135dB SELss contour to establish behavioural impact ranges for fish species, including species that are considered hearing specialists (e.g. herring), for the reasons as set out in response to point 4.5.3 above.	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	Please see the MMO's further response to paragraph 4.5.22 below.	The Applicant has conducted a 'without prejudice' review of the impact assessment for herring using the 135dB response threshold (Hawkins *et al.*, 2014) for behavioural effects. This assessment showed no demonstrable overlap of the 135dB behavioural response threshold with the key spawning ground for Banks herring off Flamborough Head to the north of the Project. The Applicant has discussed this matter further with the MMO and their scientific advisors Cefas during a meeting on 16th January 2025, which included a

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	determining the likelihood of behavioural impacts causing disturbance to gravid and spawning herring.					discussion about the importance of the southern portion of the Bank herring spawning ground. The Applicant is currently considering the advice received during the meeting and will provide further detail on this matter to the Examining Authority at Deadline 5.
RR-042.085	Paragraph Number: 4.5.20 Further modelling presented in the Figures 10.35, 10.36, 10.39 and 10.40 in Volume 2: Chapter 10: Fish and Shellfish Ecology Figures, document (ref: PP1-ODOW-DEVCS-FIG0010) demonstrates that noise disturbance from pin-piling and mono-piling of the Artificial Nesting Structures (ANS) and in the array, will cause mortality and potential mortal injury, recoverable injury and temporary threshold shift (TTS) in herring at the spawning grounds (and other fish species).	The comment is noted by the Applicant. The predicted impacts from the construction of the ANS have been fully assessed within ES Chapter 10: Fish and Shellfish Ecology of the ES (APP-065).	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	Please see the MMO's further response to paragraph 4.5.22 below.	The Applicant met with the MMO and their scientific advisors Cefas on 16th January 2025. The focus of that meeting was to discuss the MMO's comment raised under point RR-042.087. The Applicant is currently considering the advice received during the meeting and will provide further detail on this matter to the Examining Authority at Deadline 5.
RR-042.086	Paragraph Number: 4.5.21 The MMO notes the highlighted larval densities of herring around the array site (ranging 0 to 6,000 larvae per m2) are much lower than those that occur off Flamborough Head, which is considered to be the current focus of Banks spawning activity, as demonstrated by the IHLS data. Whilst the MMO agrees that the larval densities are much lower compared with areas around Flamborough Head, it is still important to consider the importance of the southern extent of the spawning ground around Outer Dowsing to the overall contribution to the Banks herring spawning population, as this location been shown to be of periodical importance to the Banks herring spawning population.	The Applicant has provided updated heatmaps including the most recent years as part of Document 15.9, which has been submitted to the ExA alongside these responses to the Relevant Representations. The Applicant notes that the ICES IHLS data sheets for the years 2020 and 2021 do not contain information about the volume of seawater filtered during sampling. It is therefore not possible to calculate larval densities and show heatmaps for the years 2020/2021 and 2021/2022 using the revised methodology (as detailed in response to point 4.5.10 above), and as such these years have been	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2	The comment is noted by the Applicant.	Please see the MMO's further response to paragraph 4.5.22 below.	The Applicant met with the MMO and their scientific advisors Cefas on 16th January 2025. The focus of that meeting was to discuss the MMO's comment raised under point RR-042.087. The Applicant is currently considering the advice received during the meeting and will provide further detail on this matter to the Examining Authority at Deadline 5.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	MMO notes the presented IHLS larval density plots for individual years in Figures 10.15, 10.16 and 10.17 in the Volume 2: Chapter 10: Fish and Shellfish Ecology Figures, document (ref: PP1 -ODOW - DEV -CS -FIG -0010). Increased larval densities were recorded in the IHLS data for years 2011 -2012, 2016 -2017 and 2019 -2020 which visually demonstrates the ongoing importance of the southern portion of the Banks spawning ground in certain years (see Annex 6). MMO notes the latest 2 years' IHLS data (2021/2022 and 2022/2023) have not been presented, so it is not known if herring relied more heavily on this southern portion of the Banks spawning ground during this period.	excluded, but the data for years 2022/2023 and 2023/2024 as the most recent data available are provided.				
RR-042.087	Paragraph Number: 4.5.22 In summary, the UWN modelling presented shows that the effects of UWN from piling is likely to cause behavioural impacts across a wide area of the southern portion of the Banks spawning ground, albeit where larval densities are lower, the UWN modelling also demonstrates that spawning herring will be affected by piling through impacts including mortality and potential mortal injury, recoverable injury and TTS. The IHLS data also demonstrate that the location of around Outer Dowsing OWF plays a more important role as a spawning habitat in certain years.	The Applicant refers to the responses set out in 4.5.3, 4.5.4 and 4.5.15 to 4.5.23.	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO highlights the main outstanding issue regarding our request on pilling during the Banks herring spawning season. The MMO's position on the requirement of a pilling seasonal restriction condition remains. However, it is not necessary to implement a project-wide restriction, as the modelling demonstrates that in some areas where piling will occur the impacts of noise will not extend into 'active' herring spawning habitat. Hence, we have recommended a spatial element could be applied to the temporal piling restriction. Figures 3.1 – 3.6 of PD1- 082 (Environmental Report for the ORBA and Revision to the ECC supporting Figures)	The Applicant welcomes the agreement from the MMO that piling at the Offshore Reactive Compensation Platform (ORCP) and SE ANS sites will not require any temporal mitigation during the herring spawning season. The Applicant met with the MMO and their scientific advisors Cefas on 16th January 2025. The focus of that meeting was to discuss the MMO's comment raised under point RR-042.087. During the meeting with the MMO and Cefas, the Applicant also discussed the potential implications of the forthcoming DEFRA policy on underwater noise (that was subsequently published on 21st January 2025) and the use of noise abatement systems, as the content of this policy document will influence the

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
					indicate that impacts of mortality and potential mortal injury, recoverable injury, TTS and behavioural responses are expected to occur in areas of herring spawning ground during piling activities which means that there is a risk of impact to spawning herring and their eggs and larvae if piling were to be carried out during their spawning season. The MMO has previously recommended that the following licence condition to protect spawning Banks herring and their eggs and larvae during their spawning season was included in the DML for Outer Dowsing OWF: No piling of any type shall be permitted between 1 September and 16 October each year. However, having reviewed the UWN modelling in Figures 3.1- 3.6, it is recognised that the impacts to herring and their eggs and larvae will only occur from certain locations where piling is carried out. For example, there is little to no overlap of the noise contours from piling at the ORCP) and SE ANS sites with 'active' spawning areas (based on IHLS data) and hence, piling at these locations does not require any temporal mitigation	Applicant's consideration of this issue. The Applicant is currently considering the advice received at this meeting and will provide further detail on its position on this matter to the Examining Authority at Deadline 5.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
					during the herring spawning season. Whereas noise contours from piling at the North ANS location and the NW and SW pile locations in the Array show an extensive overlap with the 'active' spawning area (based on IHLS data), so for these areas, temporal mitigation during the herring spawning season is still recommended. Given that the overlap of noise contours from piling in the array with the area of 'active' spawning ground is driven by piling in the western portion of the array, the MMO considers that the recommended temporal mitigation can be applied spatially, so that piling within the eastern portion of the array can be carried out at any time. This is likely to require some additional modelling to determine an east/west 'boundary' within the array which can be applied to the DML condition and attached as work plans. This is likely to require further discussion between the Applicant and the MMO and we will work with the Applicant to move this forward as much as possible. The MMO notes it would be in the best interest of the Applicant to engage in this process and provide additional	

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
					information for the ExA and Secretary of State (SoS) to consider as part of the determination process. For the North ANS as a standalone site, the MMO requests the following condition to protect spawning Banks herring and their eggs and larvae during their spawning season: No piling of any type shall be permitted between 1 September and 16 October inclusive. Please note that the duration of the requested piling condition is shorter than that typically recommended for the Banks herring spawning season (August to October inclusive). The requested condition is proportionate to the licence condition for Triton Knoll (TK) OWF (DCO/2013/00004), located ~10km west of Outer Dowsing OWF, and reflects the timing of when herring spawning typically occurs in this southerly part of the Banks spawning ground, relative to those areas of spawning ground further north, e.g. Flamborough Head. This refined spawning period was identified through interrogation of IHLS data during the consenting stage for TK OWF, and through the understanding that	

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
					herring migrate through the North Sea from north moving south during their spawning season (Cushing and Bridger 1966, and Burd, 1978). The MMO has previously requested that the Applicant considers the use of additional noise abatement systems for piling, such as bubble curtains (see Würsig et al. (1999)), or other alternative measures, as these may reduce the range of impact from piling, and could potentially allow for greater flexibility with regards to the spatial element of the temporal piling restriction. If this was provided by the Applicant or within a plan the MMO could update the condition wording to remove the restriction post consent if the correct evidence was provided. The MMO is open to further discussions on this point.	
RR-042.088	Paragraph Number: 4.5.23 For the reasons outlined in points 4.5.19 – 4.5.22, the MMO believes that is it appropriate and necessary to re-categorise the magnitude of impact from 'low' to 'medium', resulting in a significance of effect of 'major'. To conclude this point, it is in MMO's opinion that the presented current categorisation of herring sensitivity does not appropriately reflect their vulnerability to	The Applicant considers the magnitude assessment of potential noise impacts to herring and their spawning grounds presented in ES Chapter 10: Fish and Shellfish of the ES (APP-065) to be appropriate and adequate. The Applicant acknowledges that there is a partial overlap of the lethal and recoverable injury noise contours with the southern extent of the Banks spawning ground around	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	Please see the MMO's further response to paragraph 4.5.22 above.	The Applicant met with the MMO and their scientific advisors Cefas on 16th January 2025. The focus of that meeting was to discuss the MMO's comment raised under point RR-042.087. The Applicant is currently considering the advice received during the meeting and will provide further detail on this matter to the

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	the underwater noise impacts associated with the proposed works.	Outer Dowsing. However, as shown by annual IHLS data presented in Volume 2, Chapter 10: Fish and Shellfish Ecology Part 1 of 2 (APP-097) and in document 15.9, the main spawning of Banks herring consistently occurs north of the Project, off Flamborough Head. It is also recognised that there is annual variability in the areas used for spawning, with the southern portion of the Banks spawning ground being relatively more important for spawning in some years. However, even in years of higher spawning activity, the relative importance of the areas surrounding Outer Dowsing for herring spawning remains low when compared to both the spawning intensity observed off Flamborough Head and the extent of areas over which peak spawning takes place. In addition, there is no overlap between the areas of highest larval abundances off Flamborough Head and piling noise at a level that will induce TTS (186dB cumulative Sound Exposure Level (SELcum)). It is therefore the Applicant's view that the proportion of Banks spawning herring stock that would be impacted by piling is minimal when compared to the areas of peak herring spawning off Flamborough Head and that this level of impact will not lead to material changes to the Banks spawning stock. On this basis, the Applicant does not consider it appropriate to re-categorise the magnitude of impact from 'low' to 'medium'				Examining Authority at Deadline 5.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
RR-042.089	Paragraph Number: 4.5.24 Points 4.5.14 – 4.5.23 have outlined our position and concerns regarding the presented assessment for impacts of UWN on herring. For these reasons, we believe that there is potential for significant impacts to occur to Banks herring at a population level, if suitable mitigation is not employed. The MMO therefore recommends that the following licence condition is included in the deemed marine licence (DML): • No piling of any type shall be permitted between 01 September and 16 October each year. Reason: To protect spawning Banks herring and their eggs and larvae during their spawning season.	The Applicant maintains their position that piling at the Project will not result in significant population level effects to Banks herring. Therefore, no additional mitigation measures in the form of seasonal piling restrictions are deemed necessary.	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2	The comment is noted by the Applicant.	Please see the MMO's further response to paragraph 4.5.22 above.	The Applicant met with the MMO and their scientific advisors Cefas on 16th January 2025. The focus of that meeting was to discuss the MMO's comment raised under point RR-042.087. The Applicant is currently considering the advice received during the meeting and will provide further detail on this matter to the Examining Authority at Deadline 5.
RR-042.090	Paragraph Number: 4.5.25 It is worth noting that the duration of the recommended piling condition is shorter than that typically recommended for the Banks herring spawning season (August to October inclusive). The recommended condition is proportionate to the licence condition for Triton Knoll OWF (DCO/2013/00004), located ~10km west of Outer Dowsing OWF, and reflects the timing of when herring spawning typically occurs in this southerly part of the Banks spawning ground, relative to those areas of spawning ground further north, e.g. Flamborough Head. This refined spawning period was identified through interrogation of IHLS data during the consenting stage for Triton Knoll OWF, and through the understanding that herring migrate through the North Sea from north moving south during their spawning season (Cushing and Bridger 1966, and Burd, 1978).	The Applicant notes the MMO's comment but maintains that no seasonal restriction is necessary in this instance.	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	Please see the MMO's further response to paragraph 4.5.22 above.	The Applicant met with the MMO and their scientific advisors Cefas on 16th January 2025. The focus of that meeting was to discuss the MMO's comment raised under point RR-042.087. The Applicant is currently considering the advice received during the meeting and will provide further detail on this matter to the Examining Authority at Deadline 5.
Sandeel						

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
RR-042.091	Paragraph Number: 4.5.26 The MMO notes the recognition of the increased sensitivity of sandeels to offshore construction and disposal activities and that a species-specific assessment has been undertaken, which is appropriate. For the UWN impact assessment, sandeel have been categorised as Group 1 (fish without swim bladder) and are assessed as a stationary receptor, which is appropriate. For the impacts of mortality and potential mortal injury, from sequential pinpiling in the array area, an impact range of up to 1.5km is predicted. However, under the scenario of pin piles for jacket foundations being installed simultaneously at both the North East (NE) and South West (SW)piling locations, a larger impact range is predicted, with a maximum area of 9km2 . For simultaneous piling of two monopile foundations at the NE and S W piling locations, the range of effect for potential for mortality and potential mortal injury in sandeels equates to a maximum area of up to 6.4km2 . Figures 10.25, 10.26, 10.29, 10.30, 10.34, 10.37 and 10.38 in Volume 2: Chapter 10: Fish and Shellfish Ecology Figures, document (ref: PP1-ODOW-DEV-CSFIG-0010) present the modelled noise contours for pin-piling and monopiling within the Array and ANS search areas including sequential and simultaneous piling scenarios. With the exception of Figure 10.34, the Figures largely show the overlaps between the effects of mortality and potential mortal injury and TTS in sandeels with sandeel habitat in the Outer Dowsing study area.	The Applicant welcomes the comment. Please see response to point 4.5.27 below.	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO thanks the Applicant for presenting the modelled noise contours for the effects of mortality and potential mortal injury (219 dB cumulative sound exposure level (SELcum)), recoverable injury (216 dB SELcum) and temporary threshold shift (TTS) (186 dB SELcum) for sandeel habitat from simultaneous piling of jacket (pin-pile) foundations and monopile foundations in Figures 3.9 and 3.10 respectively (Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor Appendix A Figures, Part 1 of 2 – PD1-082). As stated in (RR042, Section 4.5.28) disturbance to sandeel caused by piling noise and combined with the physical disturbance of their habitat (e.g. sandwave clearance) during the construction of Outer Dowsing OWF will result in adverse impacts to sandeels in the area, particularly during their winter hibernation period and spawning period. As previously stated, the project is located within a much wider area of sandeel habitat, so we do not believe that further mitigation to prevent significant impacts to sandeels at a population	The Applicant welcomes the comment that no further mitigation to prevent significant impacts to sandeels at a population scale are necessary. The Applicant notes that comments RR-042.092 and RR-042.093 also relate to sandeel and as such are considered resolved following this confirmation from the MMO.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
					scale is necessary. The MMO notes the Applicant's comment that indirect impacts on protected marine mammal and bird species due to impacts on prey availability (i.e. sandeel) have been assessed in the ES in chapter 11: Marine Mammals, 12: Offshore and Intertidal Ornithology, and in the Report to Inform Appropriate Assessment (RIAA) and defers to the relevant Statutory Nature Conservation Body (SNCB) for further comments on this.	
RR-042.092	Paragraph Number: 4.5.27 Please note that Figures 10.29, 10.30, 10.31 and 10.32 do not present the spawning grounds for sandeel or any other species that are spawning in the area, so are of little value in their current form. The figures with the relevant spawning grounds and/or habitats included should be re-presented.	Revised underwater noise modelling associated with the Environmental Report for the Offshore Restricted Build Area and Offshore Export Cable Corridor (document 15.9) has been undertaken and the equivalent figures have been updated as advised by the MMO.	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	Please see MMO further response to paragraph 4.5.26 above.	
RR-042.093	Paragraph Number: 4.5.28 On the whole, the UWN modelling indicates that there will be injurious effects to sandeels across much of the array area where habitat is suitable. This is likely to be of greatest concern during their winter hibernation period and spawning period (November to February inclusive). In addition, disturbance to sandeel habitat across the Outer Dowsing area will result in further disturbance to the species, again this will be of greatest concern during their winter hibernation period and spawning period. Whilst MMO agrees with the presented statement that	The Applicant welcomes the MMO's confirmation that no further mitigation is required to prevent significant impacts to sandeels at a population scale. The Applicant also acknowledges MMO's concerns about the implications of impacts to fish populations for protected species that may rely on fish as prey. The Applicant highlights that indirect impacts on protected marine mammal and bird species due to impacts on prey availability have been assessed in Volume 1, Chapter 11: Marine Mammals (APP-	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	Please see MMO further response to paragraph 4.5.26 above.	

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	sandeel habitat is widely distributed across the central North Sea, it is reasonable to assume that impacts of UWN and habitat disturbance to sandeel will occur at a local scale. MMO does not believe this warrants any further mitigation to prevent significant impacts to sandeels at a population scale. However, as highlighted in our previous comment, there are a number of protected areas which overlap or are in close proximity to the Outer Dowsing study area which include Annex II species that may rely on sandeels as part of their diet whilst foraging in the area and therefore, may experience reduced foraging success and/or incur greater energy expenditure travelling to new feeding grounds as a result of localised impacts to fish populations during the construction of the wind farm, especially those receptors with relatively small and/or coastal restricted foraging areas. The MMO defers to the relevant SNCB on whether localised reductions in sandeel will cause significant effects to any of the annex II species, however, the MMO notes that the impacts of prey availability has been assessed in Chapter 12, Intertidal and Offshore Ornithology.	066) and ES Chapter 12: Offshore and Intertidal Ornithology (APP-067), respectively, as well as within the RIAA (AS1-095).				
RR-042.094	Paragraph Number: 4.5.29 The approach to the assessment of cumulative and inter-related impacts outlined in the Offshore Cumulative Effects Assessment in Volume 1: Chapter 10: Fish and Shellfish Ecology (APP-065), document (ref: PP1-ODOWDEV-CS-REP-0118) follows a standard approach of identifying the impacts which have potential to cause an effect. The study area for the range of effect is 12km around the array area and 15km around the ECC (for sedimentary impacts, based on	The Applicant welcomes the comment. The Applicant has no further comments on this matter.	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2	The comment is noted by the Applicant.	The MMO acknowledges that the Applicant has welcomed this comment.	The Applicant advises that this comment is closed.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	physical processes). For underwater noise the range of effect is 100km due to the larger range of effect from noise generating activities such as piling. All other offshore operations (OWFs, subsea cables and aggregate areas) within the study area in the planning, consented, construction and operational activities have been identified.					
RR-042.095	Paragraph Number: 4.5.30 The cumulative behavioural effects to fish from underwater noise between different OWFs and the proposed works to fish have been assessed. However, from our understanding, the underwater noise impact ranges for behavioural responses in fish have been based on the conclusions of the ES of those windfarms, which may quantify behavioural responses in a different way, therefore appropriate comparisons cannot be made. For example, the ES states that the Hornsea Project Three OWFs (Ørsted, 2018) assessment assumed a maximum of 319 monopiles across the site and predicted behavioural effects up to 10.8km from the piling locations. However, the Hornsea Project Three OWF ES did not include modelling of the 135dB threshold for behavioural effects in herring, therefore discussing the potential overlapping cumulative effects with the proposed works is not appropriate; especially when the Applicant's behavioural effects assessment for fish has not been modelled using the 135dB threshold either (Hawkins et al., 2014). Secondly, MMO recommends that the cumulative impact range contours are presented, for all the projects discussed in the cumulative impact assessment, as a figure to help better visualise any potential cumulative impacts between OWF projects .	The Applicant acknowledges MMO's concerns but maintains their position that the use of the 135dB SELss threshold for behavioural responses in herring (and other clupeids) during piling is not appropriate.	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO maintains its position on the 135 decibels (dB) Single Strike Sound Exposure Level (SELss) threshold from Hawkins et al., (2014) which is the best current scientific evidence from which a quantitative threshold can be derived for the purposed of modelling behavioural responses in herring. This threshold has been widely used in Underwater Noise (UWN) modelling to inform the impact assessment for herring for many OWF and construction developments, and in the absence of an alternative quantitative threshold, it is considered the best available. The Applicant is aware of our current position on the use of a 135 dB threshold, which is recommended consistently for projects of a similar nature, and in reviewing the Applicant's response, our position remains unchanged and the MMO requests that this threshold is applied and updated	In response to the MMO's Relevant Representation (RR-042), the modelling results of the 135dB threshold were presented as part of the Offshore Restricted Build Area documentation (Figure 3.5 and Figure 3.6 in PD1-082). Regarding the requested 'without prejudice' assessment, the Applicant has reviewed the impact assessment for herring using the 135dB response threshold (Hawkins *et al.*, 2014) for behavioural effects. This assessment showed no demonstrable overlap of the 135dB behavioural response threshold with the key spawning ground for Banks herring off Flamborough Head to the north of the Project. The Applicant has discussed this matter further with the MMO and Cefas during a meeting on 16th January 2025. The Applicant is currently considering the advice received during that meeting and will provide further detail on this matter to the Examining Authority at Deadline 5.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
					information relation to this is supplied. The MMO would highlight to the Applicant that in many Examinations the Examining Authority (ExA) request information on a without prejudice basis. The MMO would advise the Applicant provides the information requested at the earliest opportunity and not leave this to the latter Deadlines of examination to ensure there is enough time to review and provide comments to the ExA.	The Applicant maintains the position that the use of the 135dB SELss threshold for behavioural responses in herring during impact piling is not appropriate.
RR-042.096	Paragraph Number: 4.5.31 The MMO reiterates a comment made at PEIR stage, concerning cumulative impacts of UWN from piling; We are becoming increasingly concerned about the increase in hammer energies being used to install monopiles at OWFs. Monopile hammer energies have typically been in the region of 4,000 – 5,000 kilojoules (kJ), but we are seeing an increasing number of OWF licence applications proposing the use of 6,000 – 7,000kJ. These higher hammer energies are likely to result in noise impacting a larger area. Whilst receptorspecific mitigation is recommended by MMO when the evidence suggests that significant impacts to a particular species of fish are likely to occur, we do have general concerns regarding impacts to all fish (and other marine fauna in general) from unmitigated noise disturbance during piling at sea, especially given the recent surge in OWF development in the North Sea. For example, the MMO notes in Table 10.19 in	The Applicant maintains that no further mitigation is required as no significant effects have been predicted for fish and shellfish receptors ES Chapter 10: Fish and Shellfish Ecology (APP-065), both for the project alone and cumulatively.	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	Please see the MMO's further response to paragraph 4.5.22 above.	The Applicant met with the MMO and their scientific advisors Cefas on 16th January 2025. During the meeting with the MMO and Cefas, the Applicant also discussed the potential implications of the forthcoming DEFRA policy on underwater noise (that was subsequently published on 21st January 2025)), and the use of noise abatement systems, as the content of this policy document will influence the Applicant's consideration of this issue. The Applicant is currently considering the advice received at the meeting and will provide further detail on its position on this matter to the ExA at Deadline 5.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	Volume 1, Chapter 10: Fish and Shellfish Ecology, document (ref: PP1- ODOW-DEV-CS-REP-0118) that there may be temporal overlaps in the construction phases of Norfolk Boreas, Sheringham Shoal Extension, Dudgeon Extension, Hornsea Three and Hornsea Four OWFs, all of which require piling as part of their construction activities. It is therefore the MMO's opinion that additional noise abatement measures should be implemented for piling at this development as standard. With this in mind, the Project should consider the use of additional noise abatement measures for piling, such as bubble curtains (see Würsig et al. (1999)), or other alternative measures.					
RR-042.097	Paragraph Number: 4.5.32 The worst-case scenario for simultaneous piling of two monopile foundations at the SW and NE piling locations in the array area has been modelled. MMO requests an explanation as to why this scenario has been chosen as the 'worst-case'? In our opinion, modelling simultaneous piling from the SW and NE locations is indeed the worst- case scenario in terms of geographical spread, but not necessarily for fish receptors, specifically herring. The most vulnerable herring spawning grounds in relation to the project array are located northwest of the site. Therefore, in our opinion for a worst-case simultaneous piling scenario, the NE and NW locations should also be modelled as these locations are the most critical in terms of impacts to herring at their spawning grounds and consequently are where greatest overlap in noise disturbance will occur. The MMO asks for a more detailed explanation on why these locations (SW and NE) were chosen for	The Applicant welcomes the agreement from the MMO as to the SW and NE locations representing the worst-case scenario for the spatial impact from piling. The worst-case location for piling effects to herring spawning grounds is the NW location, which has also been modelled. All the modelling locations used to inform the ES were agreed through the ETG, and those used for ES match those used at PEIR, which the MMO were content with. Notwithstanding, the Applicant considers that remodelling of the NE and NW locations, specifically for herring, is not required, as it is possible to predict what the combined overlap would be from these two modelling locations based on the individual modelling locations, with the Applicant having given due consideration to this within the interpretation of the	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2	The comment is noted by the Applicant.	The MMO notes the Applicant's response and may provide further comments at Deadline 4.	The Applicant met with the MMO and their scientific advisors Cefas on 16th January 2025. This meeting included a discussion on the MMO's comment raised under point RR-042.097. The Applicant is currently considering the advice received during the meeting and will provide further detail on this matter to the Examining Authority at Deadline 5.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	their worst-case scenario for simultaneous piling for fish receptors, herring specifically. The MMO additionally requests the presentation of the modelled results for simultaneous piling of two monopiles from the NE and NW locations.	modelling outputs and the determination of the magnitude of effect to herring. Furthermore, the Applicant notes the MMO's preferred methodology to assess underwater noise disturbance, which is based on "single strike" thresholds. These do not combine or increase with exposure from multiple locations and thus the effective worst-case location for single strike disturbance is an overlay that leads to the greatest geographical area, which is NE and SW. In reference to the disturbance at herring spawning grounds, the 'reach' of the zone of disturbance would be no greater than the two individual (and separately modelled) NE and NW locations.				
RR-042.098	Paragraph Number: 4.5.33 In paragraph 247 of the ES Volume 1, Chapter 10: Fish and Shellfish Ecology, document (ref: PP1-ODOW-DEV-CS-REP-0118) it states that the migration circuit for herring in the North Sea has been mapped alongside the herring larval hotspots, and noise contours from piling in the array area, the ORCPs and ANSs in Volume 2, Figure 10.38. Please note that Figure 10.38 of the Volume 2 Figures chapter presents UWN modelling relating to sandeel. The MMO considers that the figure for herring should be presented as described, or signposting provided to the correct volume/chapter it can be found in.	The Applicant acknowledges the incorrect reference to Figure 10.38. The migration circuit of herring in the North Sea is presented in Figure 10.1 within Volume 3, Appendix 10.1: Fish and Shellfish Ecology Technical Baseline (APP-159).	MMO 4.5.13 to MMO 4.5.33: With regards to the Applicant's responses to MMO points 4.5.13 to MMO 4.5.33, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO welcomes the signposting by the Applicant	The Applicant advises that this comment is closed.

1.2.5.7 Annex 7

Table 1.2.5.7 Detailing MMO and the Applicant's comments regarding Shellfish Ecology raised within MMO's Relevant Representation (RR-042)

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
Shellfish Ecology						
RR-042.099	Paragraph Number: 4.6.1 The MMO notes the use of several data sources for shellfish and shellfisheries. These are a combination of desk sources and additional opportunistic surveys. However, the listed data sources do not cover the array or cable corridor, and several are over 10 years old, which could be considered outdated. Furthermore, as acknowledged by ODOW, the surveys conducted are not shellfish targeted surveys and are therefore only indicative of presence and absence of shellfish species. It is acknowledged that the report states "the MMO agreed that the baseline datasets identified in the Scoping Report (Outer Dowsing Offshore Wind, 2022) were appropriate for characterisation and the MMO confirmed no need for site-specific surveys." However, the MMO would expect more recent data to inform the baseline environment for shellfish receptors and shellfisheries.	The Applicant highlights that, as detailed in Table 10.2 of Volume 3, Appendix 10.1: Fish and Shellfish Ecology Technical Baseline (APP-159), the baseline description of shellfish receptors within the Project fish and shellfish study area draws on a wide range of recent and historic data, including site-specific survey data, regional datasets, and monitoring studies undertaken for a number of existing and proposed OWFs in the southern North Sea region. Site-specific benthic ecology baseline data, including from benthic grabs, Drop Down Video and epibenthic trawls, were collected within the AfL array area and offshore ECC in April and July 2022 respectively (Volume 3 Chapter 9 Appendix 1 Benthic Ecology Technical Report (Array) (APP-154) and Volume 3 Chapter 9 Appendix 2 Benthic Ecology Technical Report (ECC) (APP-155)), with the results relevant to shellfish receptors presented in Section 10.3.2 of Volume 3, Appendix 10.1: Fish and Shellfish Ecology Technical Baseline (APP-159). The Applicant also highlights that information on the current status of commercially important shellfish stocks within the Project fish and shellfish study area is presented in Section 10.5 of Volume 3, Appendix 10.1: Fish and Shellfish Ecology Technical Baseline (APP-159). The Applicant is therefore confident that	MMO 4.6.1 to MMO 4.6.8: With regards to the Applicant's responses to MMO points 4.6.1 to MMO 4.6.8, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2	The comment is noted by the Applicant.	The MMO appreciates the comments addressed by the Applicant (Page 169, RR-042.099 of PD1-071). The Applicant has resolved the comment raised that the baseline data relating to shellfish species is outdated and does not cover the array or cable corridor. The Applicant directed us to the evidence provided for the presence of commercially important shellfish species within the array and surrounding areas (Volume 3, Appendix 10.1: Fish and Shellfish Ecology Technical Baseline, GoBe, 2024, V.1.0) from MMO landings data between 2018 to 2021, species identified include brown crab, common whelk, common cockle, scallop, European lobster and brown shrimp. The MMO considers this to be sufficient as supporting information to address the comments.	The Applicant advises that this comment is closed.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
		the data used to characterise the baseline environment for shellfish receptors and shellfisheries are robust and sufficient for the purposes of EIA.				
RR-042.100	Paragraph Number: 4.6.2 The MMO acknowledges that the specific benthic ecology surveys including Particle Size Analysis of sediment samples, epibenthic trawls and eDNA have since been conducted. As acknowledged within the ES, the site-specific surveys vary in their effectiveness in capturing shellfish. The MMO notes the use of several data sources, including existing surveys from other developments and desk-based literature. In our opinion, although some data sources are relevant, these are not recent (some over 10 years old). Furthermore, although site-specific surveys have been conducted, no shellfish targeted surveys have been undertaken to inform the baseline for shellfish receptors.	The Applicant reiterates that they are confident that the data used to characterise the baseline environment for shellfish receptors and shellfisheries are robust and sufficient for the purposes of EIA, for the reasons presented in point 4.6.1 above.	MMO 4.6.1 to MMO 4.6.8: With regards to the Applicant's responses to MMO points 4.6.1 to MMO 4.6.8, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	Please see MMO's further response to Paragraph 4.6.1 above.	The Applicant advises that this comment is closed.
RR-042.101	Paragraph Number: 4.6.3 The MMO defers to Eastern Inshore Fisheries & Conservation Authority (EIFCA) for comments on potential impacts of the development on cockle and whelk features in The Wash	This is noted by the Applicant.	MMO 4.6.1 to MMO 4.6.8: With regards to the Applicant's responses to MMO points 4.6.1 to MMO 4.6.8, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO welcomes that the Applicant has noted this comment.	The Applicant is awaiting further comments from the Marine Management Organisation (MMO).
RR-042.102	Paragraph Number: 4.6.4 It is noted that the impacts that have been considered in the Cumulative Impact Assessment are, during the construction phase, cumulative mortality, injury and behavioural changes resulting from underwater noise; and Cumulative increase in Suspended Sediment Concentration and sediment deposition.	The Applicant welcomes the comment. The Applicant has no further comments on this matter.	MMO 4.6.1 to MMO 4.6.8: With regards to the Applicant's responses to MMO points 4.6.1 to MMO 4.6.8, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant	The MMO acknowledges that the Applicant has welcomed this comment.	The Applicant is awaiting further comments from the MMO.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
RR-042.103	Paragraph Number: 4.6.5 For the UK potting fishery, the "implementation of evidence-based mitigation in line with Fishing Liaison with Offshore Wind and Wet Renewables guidelines, following procedures to be set out within the outline Fisheries Liaison and Coexistence Plan" has been proposed. The MMO agrees with the mitigation measure proposed.	The Applicant welcomes agreement from the MMO regarding the proposed mitigation measures for the UK potting fishery.	MMO 4.6.1 to MMO 4.6.8: With regards to the Applicant's responses to MMO points 4.6.1 to MMO 4.6.8, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO acknowledges that the Applicant has welcomed this comment. The mitigation measures proposed, in relation to shellfish receptors include "implementation of evidence-based mitigation in line with Fishing Liaison with Offshore Wind and Wet Renewables guidelines, following procedures to be set out within the outline Fisheries Liaison and Coexistence Plan" for the UK potting fishery. Additional mitigation measures are the burial of subsea cables as the preferred option, a Project Environmental Management Plan (PEMP) which will include a Marine Pollution Contingency Plan (MPCP) and minimising the risk of introduction or spread of marine invasive nonnative species. The MMO agrees with all mitigation measures proposed.	The Applicant advises that this comment is closed.
RR-042.104	Paragraph Number: 4.6.6 A comprehensive list of nearby projects under construction/consideration has been provided. The MMO considers that there is an adequate description of the potential cumulative and inter-related impacts and effects on the physical and biological environment for shellfish and shellfisheries.	The Applicant welcomes agreement from the MMO regarding the description of the potential cumulative and interrelated impacts and effects on the physical and biological environment for shellfish and shellfisheries.	MMO 4.6.1 to MMO 4.6.8: With regards to the Applicant's responses to MMO points 4.6.1 to MMO 4.6.8, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO acknowledges that the Applicant has welcomed this comment.	Based on the MMO's Relevant Representation (RR-042), the Applicant considers that this comment is closed. The Applicant will consider any further comments submitted by the MMO on this matter.
RR-042.105	Paragraph Number: 4.6.7 There are some scientific names which are incorrect. For example, In the document Appendix 10:1 Fish and Shellfish Ecology Technical Baseline (APP-159), p23 "European lobster Homarus 23ubulate", the scientific name should be Homarus gammarus. On p24 of the same document "European common squid Alloteuthis 24ubulate". The European common squid scientific name is Alloteuthis subulata. MMO requests that these are amended.	The Applicant acknowledges the incorrect species names which were a typographic error during document finalisation. The Applicant notes that the common names used sufficiently identify the species of concern and so no update is required.	MMO 4.6.1 to MMO 4.6.8: With regards to the Applicant's responses to MMO points 4.6.1 to MMO 4.6.8, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO reiterates that it is recommended that the Applicant addresses typographical errors within their application and provides the correct Latin species names. The Applicant has acknowledged this comment (Page 169, RR-042.105 of PD1-071) and responded that they consider the common names to be sufficient in identifying the species name, without requiring the alteration of the Latin	The Applicant confirms that Environmental Statement (ES) chapters are being updated at Deadline 5 and this error will be corrected.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
					name. The MMO considers that it is best practice to provide the correct Latin species names but notes this is for the ExA to request.	
RR-042.106	Paragraph Number: 4.6.8 The MMO advises that scientific names of the shellfish species should be presented in brackets next to the common name. This has been done in some cases but not all. This is a minor comment, for the applicant to consider.	The Applicant notes this comment but does not consider that this requires amendment.	MMO 4.6.1 to MMO 4.6.8: With regards to the Applicant's responses to MMO points 4.6.1 to MMO 4.6.8, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO considers that it is best practice to provide the correct Latin species names but notes this is for the ExA to request.	The Applicant confirms that ES chapters are being updated at Deadline 5 and this error will be corrected.

1.2.5.8 Annex 8

Table 1.2.5.8 Detailing MMO and the Applicant's comments regarding Underwater Noise raised within MMO's Relevant Representation (RR-042)

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
Underwater Noise						
RR-042.107	Paragraph Number: 4.7.1 The MMO considers that the relevant impacts have largely been scoped in. The impacts of relevance to underwater noise that have been considered include the following: Construction: • Impact 1: Unexploded Ordinance (UXO) Clearance – Permanent Threshold Shift (PTS); • Impact 2: UXO Clearance – Disturbance; • Impact 3: Pile driving – PTS; • Impact 4: Pile Driving –TTS; • Impact 5: Pile driving – Disturbance;	The Applicant welcomes this comment.	MMO 4.7.1 to MMO 4.7.5: With regards to the Applicant's responses to MMO points 4.7.1 to MMO 4.7.5, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO acknowledges that the Applicant has welcomed this comment.	The Applicant understands that this matter is closed, however, will consider and respond to any further comments from the Marine Management Organisation (MMO).

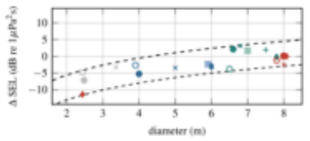
Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	• Impact 6: PTS from other construction activities; • Impact 7: TTS from other construction activities; • Impact 8: Disturbance from other construction activities; • Impact 10: Vessel disturbance; Operation: • Impact 14: Operational noise; • Impact 16: Vessel disturbance					
RR-042.108	Paragraph Number: 4.7.2 It was raised during the PEIR consultation that MMO would expect the impact of UXO Clearance and TTS to be listed as a specific impact in Volume 1: Chapter 11: Marine Mammals, document (ref: PP1- ODOWDEV-CS-REP-0119), alongside PTS and disturbance (see section 11.5.1.1, for example). It is still unclear why this impact isn't specifically listed with the other impacts. Nevertheless, predicted TTS ranges for fish and marine mammals have been provided in the underwater noise assessment (currently Appendix 11.2, document reference 6.3.11.2), which is appropriate.	The Applicant confirms that, as set out In ES Chapter 11 Marine Mammals (APP-066): TTS is used as a proxy for disturbance in the UXO assessment (impact 2); TTS for pile driving is presented as impact 4; and The range and number of animals predicted to be impacted are presented in full for both.	MMO 4.7.1 to MMO 4.7.5: With regards to the Applicant's responses to MMO points 4.7.1 to MMO 4.7.5, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2	The comment is noted by the Applicant	The MMO does not support the use of TTS as a proxy for disturbance. The assessment of UXO clearance should appropriately consider the potential risk of PTS, TTS and disturbance.	The UXO assessment in section 11.6.1.1 and 11.6.1.2, Chapter 11: Marine Mammals (APP-066) does consider the potential risk of PTS, Temporary Threshold Shift (TTS) and disturbance. The following were assessed: ▪ PTS (SPL_{peak} & SEL_{ss}) ▪ TTS-onset as a proxy for disturbance (SPL_{peak} & SEL_{ss}) ▪ 26 km Effective Deterrence Range (EDR) ▪ 5 km EDR The Applicant notes the MMOs position on the use of TTS-onset as a proxy for disturbance. TTS-onset as a proxy for disturbance for disturbance has been presented alongside the 26km EDR approach in acknowledgement that there is no empirically based threshold to assess disturbance from high-order UXO clearance currently available.
RR-042.109	Paragraph Number: 4.7.3 The MMO notes that a detailed UXO survey will be completed prior to construction. The type, size and number of possible detonations and duration of UXO clearance operations is not known at this	This comment is noted by the Applicant.	MMO 4.7.1 to MMO 4.7.5: With regards to the Applicant's responses to MMO points 4.7.1 to MMO 4.7.5, the MMO is consulting with our technical advisors and	The comment is noted by the Applicant.	The MMO acknowledges that the Applicant has noted this comment.	The Applicant is awaiting further comments from the MMO.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	stage. It is noted that the Project is not seeking to license the disposal of UXO in this application, but it is included in the impact assessment.		will provide comments on these sections at Deadline 2.			
RR-042.110	Paragraph Number: 4.7.4 The MMO considers that the approach to identify and assess the potential impacts is largely appropriate. Detailed underwater noise modelling is provided in Volume 3: Appendix 11.2 Underwater Noise Assessment, document (ref: PP1-ODOW-DEVCSREP-0170). This appendix presents the predicted impact ranges for PTS and TTS (for marine mammals), and mortality, recoverable injury and TTS for fish species. Volume 1: Chapter 11 Marine Mammals, document (ref: PP1-ODOW-DEV-CS-REP-0119) provides further details and consideration of the effects of underwater noise including disturbance. For assessing disturbance from pile driving, a species-specific dose response approach has been adopted, which is appropriate. Noise contours at 5dB intervals were generated by noise modelling and were overlain on species density surfaces to predict the number of animals potentially disturbed.	This comment is welcomed by the Applicant.	MMO 4.7.1 to MMO 4.7.5: With regards to the Applicant's responses to MMO points 4.7.1 to MMO 4.7.5, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO acknowledges that the Applicant has welcomed this comment	The Applicant understands that this matter is closed, however, will consider and respond to any further comments from the MMO
RR-042.111	Paragraph Number: 4.7.5 The Outline mitigation plans for piling and Unexploded Ordnance Clearance (UXO) have been submitted. An In Principle Southern North Sea (SNS) SAC Site Integrity Plan (SIP) has also been submitted.	This comment is noted by the Applicant.	MMO 4.7.1 to MMO 4.7.5: With regards to the Applicant's responses to MMO points 4.7.1 to MMO 4.7.5, the MMO is consulting with our technical advisors and	The comment is noted by the Applicant.	The MMO acknowledges that the Applicant has noted this comment.	The Applicant is awaiting further comments from the MMO.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	Overall, at this stage, Please see below for specific comments.		will provide comments on these sections at Deadline 2.			
Appendix 11.2 Underwater Noise Assessment (Document reference: 6.3.11.2)						
RR - 042.112	Paragraph Number: 4.7.6 The map in Figure 1 -1 (on page 1) is lacking any coordinates and has little geographical context. The bathymetry layer is not very informative either (no legend or contours and using a single colour). This is also the case for all the other maps presented in the report. We don't expect that bathymetry should be shown in great detail on the maps that otherwise focus on presenting modelling impacts (e.g., TTS and PTS contours). However, it would be useful if the bathymetry was shown (together with coordinates / more geographical context) perhaps on the first map, since they all appear to show the same domain	The Applicant notes the comments, although the context of the site location is expected to be clear and no additional clarification of the location of the site was thought necessary. Coordinates and specific bathymetry values are provided in Table 3 -1, next to Figure 3 -3, and it is felt that for image presentation this level of detail would clutter the figures. However in the Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor Appendix C Underwater Noise Modelling Report (document reference 15.9C), a bathymetry colour scale has been added to the two relevant figures.			The MMO appreciates that the co -ordinates and specific bathymetry values of the modelling locations are provided within a table in the report. However, it would be helpful if more context could be added for future reports to better understand the bathymetry and locations across the modelled domain. The MMO believes that this is a reasonable request, especially as we only requested this additional information to be included on the first map of the report (rather than requesting that all figures are amended). The co - ordinates should also be provided in the figure, particularly since the maps currently lack a shoreline or land, and we are of the opinion that adding coordinates to any axis enhances any figure, rather than cluttering it. The MMO notes the following comment: *"…in the Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor Appendix C Underwater Noise Modelling Report (document reference 15.9C), a bathymetry colour scale has been added to the two relevant figures".* Please note that we cannot see any bathymetry colour scale on these figures.	The Applicant confirms that Environmental Statement (ES) chapters are being updated at Deadline 5 and this will be amended.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
RR - 042.113	Paragraph Number: 4.7.7 A number of scenarios (covering monopile and jacket pin -pile foundations) have been modelled including three locations within the array area, two locations for the Offshore Reactive Compensation Platform (ORCP) and two locations for the Artificial Nesting Structures (ANS). Additional modelling has also been carried out to investigate the potential impacts of two piling installations occurring simultaneously at separated foundation locations. Using the monopile and jacket pile foundation piling scenarios, separately, modelling has been carried out for simultaneous piling at the SW and NE locations. We understand that the SW and NE locations have been chosen as this represents the maximum geographical spread of locations. Indeed, the maximum separation between piles will likely lead to the greatest risk of disturbance. However, other (additional) scenarios may also need to be considered, such as locations which are in closer proximity to important habitats (i.e., spawning or nursery grounds). Please also refer to comment 4.5.32.	The Applicant notes the concerns and would draw attention to the MMO's preferred methodology to assess underwater noise disturbance for fish, which is based on "single strike" thresholds. These do not combine or increase with exposure from multiple locations and thus the effective worst case location for single strike disturbance is an overlay that leads to the greatest geographical area, which is NE and SW. In reference to (for example) the disturbance at herring spawning grounds, the 'reach' of the zone of disturbance would be no greater than the two individual (and separately modelled) NE and NW locations.			The MMO agrees that in the case of instantaneous effects, the noise disturbance contours (based on the "single strike" sound exposure level thresholds) do not combine or increase with exposure from multiple locations. Thus, in this regard, the effective worst - case location is indeed an overlay that leads to the greatest geographical area (NE and SW) (e.g. maximum separation between piles will likely lead to the greatest risk of disturbance). Thus, for simultaneous piling, overlaying noise contours from separate piling events to assess effects is acceptable. The MMO agrees with the Applicant on that point. However, this comment was not solely concerning simultaneous piling. The salient point we were raising was that there may be WTGs situated closer to important habitats than those locations modelled in the assessment. Thus, if this is the case then we may expect a greater overlap of noise with these habitats.	A total of 7 under water noise (UWN) modelling locations were assessed within the ES: ▪ Array SW [UWN Report] section 4.2.1.1 ▪ Array NW [UWN Report] section 4.2.1.2 ▪ Array NE [UWN Report] section 4.2.1.3 ▪ ORCP N [UWN Report] section 4.3.1.1 ▪ ORCP S [UWN Report] section 4.3.1.2 ▪ ANS NW [UWN Report] section 4.4.1.1 ▪ ANS SE [UWN Report] section 4.4.1.2 Following the introduction of the ORBA, updated modelling was required for new locations for the Array NE to account for the updated location of piling in this area (Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor Appendix C Underwater Noise Modelling Report (PD1-085). Concurrent modelling was provided for Array NE & Array SW. These are the two locations in the Array furthest away from each other thus resulting in the largest concurrent impact area. The concurrent modelling was updated within PD1-085 to account for the revised location of Array NE. Following the revision of the ECC, the ORCP N location is no longer relevant to the assessments. For Marine Mammals – these locations represent the worst case locations: ▪ Array NW is the closest Wind Turbine Generator (WTG) to the

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
						Humber Estuary SAC for grey seals ▪ Array SW is the closest WTG to the Wash SAC for harbour seals ▪ Array NE is a WTG within the Southern North Sea SAC for porpoise. ▪ For fish these locations represent the worse case locations for piling in the Array Area: ▪ Array NW is the closest WTG to the main Banks herring grounds (International Herring Larvae Survey (IHLS) data). ▪ Array NW and Array SW both overlap with the less frequently used secondary herring spawning area (IHLS Data). ▪ Habitat suitable for sandeel is well represented by all modelled WTG locations. ▪ Array NW and Array SW are both close to rivers containing migratory species. The Applicant met with the MMO and their scientific advisors Cefas on 16th January 2025 to discuss outstanding matters in relation to Banks herring. This meeting included a discussion on the MMO's comment raised under point RR-042.113. The Applicant is currently considering the advice received at the meeting and will provide further detail on this matter to the ExA at Deadline 5.
RR-042.114	Paragraph Number: 4.7.8 Table 4-2 (in section 4.1) shows a summary of the maximum predicted unweighted peak sound pressure level (SPLpeak) and the SELss noise levels at a range of 750 m from the source. This section	The Applicant welcomes this comment. The Applicant agrees that the presentation of noise levels at 750m is more useful than the source levels.	MMO 4.7.8: The MMO welcomes the agreement that the presentation of noise levels at 750 metres is more useful than the source levels.	The Applicant welcomes the MMO's agreement on the presentation of noise levels.	The MMO acknowledges that the Applicant has welcomed this comment.	The Applicant advises that this comment is closed.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	(section 4.1) is a new addition to the report. MMO appreciates the inclusion of this information. It is very informative (we would say more than the source levels (SLs), since the SLs only have meaning within the particular context of the propagation model – while the values at 750 m, should, in principle at least, correspond to true noise values that could be verifiable by field measurements).					
RR-042.115	Paragraph Number: 4.7.9 The values (focusing on the SELss) do not seem to be particularly very high, given the large pile diameters and hammer energies. The monopile foundation values (for a 14 m diameter pile and 6600 kJ hammer energy) are only 1-1.5 dB above the corresponding jacket pile foundation values (5 m diameter pile and 3500 kJ hammer energy) at the same locations. The increase of hammer energy alone from 3500 kJ to 6600 kJ might plausibly explain these differences; however, the substantial increase in pile diameter (from 5 to 14 m) does not seem to have a very important role. This is somewhat at odds with the emerging evidence from literature, which suggests that the pile dimeter is a very important factor in the scaling of the piling noise (von Pein et al., 2022). In this context, we also note that the report acknowledges that the INSPIRE model is based on existing empirical data (which allegedly does not exist for the	The Applicant notes the MMO's reasonable comments: on the face of it (and as per von Pein et al. 2022) the significant increase between the pile diameters under consideration (5m vs 14m) should lead to a big increase in their noise output. However, we consider that von Pein et al (2022) has overestimated the significance of the diameter as a determining parameter and its effect is much lower. Figure 7 in von Pein et al. shows the fit of the predicted noise levels to empirical data. Although the best fit does tend towards an asymptote, which we agree with, our analysis indicates a much shallower curve: indeed, the difference between noise data points shown at pile diameter 4m and 8m is the same, and beyond 6.5m indeed appears to be trending downwards. We consider that the pile energy input has the greatest effect on the noise output, although, of course, it is complicated. Section 3.1 of Chapter 11 Appendix 2 Underwater Noise Assessment (APP-161) discusses the confidence in the modelling against historic data and how current parameters have been extrapolated.  Fig 7 (top) from von Pein et al. 2022.	MMO 4.7.9 to MMO 4.7.10: With regards to the Applicant's responses to MMO points 4.7.9 to MMO 4.7.10, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO acknowledges the response from the Applicant. However, the MMO believes it is important to highlight recent and relevant findings from the peer-reviewed literature. The von Pein study used finite element models (FEM) to simulate the acoustic emissions from pile driving, and these models were then validated against real-world measurement data. Thus, it is important to note that the scaling laws presented in von Pein et al. (including the dependency on pile dimeter) are derived from theoretical considerations verified against results of a state-of-the-art finite element model for pile driving noise radiation (rather than based on empirical observations). These theoretical / numerical scaling laws are illustrated in Figure 2 in the paper, while Figure 7 serves only as an overall validation of the laws.	The Applicant agrees that recent, relevant references are worth highlighting. All models are attempts to represent reality as accurately as possible, and some are more sensitive to particular factors than others. Although the validation points presented by von Pein et al. (2022) fit within the boundaries of the proposed scaling laws it presents, we believe their analysis would significantly overestimate the risk for larger piles beyond this data, such as those which are intended at the Project. The Applicant is confident that the UWN assessment for the ES and subsequently updated to reflect the ORBA (APP-161 and PD1-085 respectively) represents a realistic assessment that avoids being excessively over-precautionary.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	parameters relevant for the foundation at this windfarm) which need to be extrapolated, based on the existing trends, up to the scale of piling anticipated for the current application.					
RR-042.116	Paragraph Number: 4.7.10 Section 4.5 Multiple location modelling (on page 49): The report states that "It is assumed that a fleeing animal in the model starts at both piling locations". We are unsure what this means. The meaning of an impact zone (such as those enclosed by the TTS contours in Figure 4-1) is that of showing all starting positions of fleeing animals that eventually accumulate noise exposure above the particular threshold level of that respective impact. As such, the model needs to consider animals starting to flee from all points within the model domain in order to establish which starting points fall within the impact zone and which fall outside - not only starting at the two piling locations. This comment does not necessarily require any action as such; however, we wanted to highlight that this statement could be seen as confusing.	The Applicant would like to clarify the multiple modelling location methodology. The sound field set up around the two piles is calculated by the model, accounting for the simultaneous noise sources. In this combined sound field, the fleeing receptor starts from each pile location as this represents the highest overall potential noise level, much greater than (for example) the middle of the two piling locations. The impact ranges in the combined sound field are modelled, and this is then repeated at the second location (or third etc where relevant). The two impacted areas are then overlaid, and a combined area is calculated. Previous methodologies used a central or other locations, which resulted in odd figure-8 patterns where the receptor gained maximum exposures by fleeing directly from a relatively quiet area directly towards a piling location, which was implausible and generally led to smaller overall areas.	MMO 4.7.9 to MMO 4.7.10: With regards to the Applicant's responses to MMO points 4.7.9 to MMO 4.7.10, the MMO is consulting with our technical advisors and will provide comments on these sections at Deadline 2.	The comment is noted by the Applicant.	The MMO thanks the Applicant for this additional clarification, and we are content that this comment has been addressed.	The Applicant advises that this comment is closed.

1.2.5.9 Annex 9

Table 1.2.5.9 Detailing MMO and the Applicant's comments regarding Other ES Chapters raised within MMO's Relevant Representation (RR-042)

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response	Applicant Deadline 2	MMO Response	Applicant Comment Deadline 4)

			(REP1-056)	Response (REP2-053)		
Chapter 12 Offshore and Intertidal Ornithology						
RR-042.117	Paragraph Number: 4.8.1 The MMO defers to Natural England as SNCB and supports any comments raised in relation to the Ornithology. The MMO will continue to be part of the discussions relating to securing any mitigation and monitoring or other conditions required within the DMLs.	The Applicant notes this comment.				The Applicant advises that this comment is closed.
Chapter 13 Marine and Intertidal Archaeology						
RR-042.118	Paragraph Number: 4.9.1 The MMO defers to the Historic England on matters of marine archaeology and supports any comments raised. The MMO will continue to be part of the discussions relating to securing any mitigation, monitoring or other conditions required within the DMLs.	The Applicant notes this comment.				The Applicant advises that this comment is closed.
Chapter 14 Commercial Fisheries						
RR-042.119	Paragraph Number: 4.10.1 It is likely that there will be an impact to fishing operations and to other legitimate users of the sea, as temporary exclusion zones will be in force around the worksite for the duration of any proposed works. This could result in temporary restrictions of access to fishing grounds or navigation routes. MMO notes the inclusion of such safety zones within ES Volume 1: Chapter 14: Commercial Fisheries, document (ref: PP1 - ODOW -DEV - CS -REP -0122) MMO defers to the National Federation of Fishermen's Organisations and Sussex Inshore Fisheries and Conservation Authorities, along with standalone representatives on matters of commercial fisheries. The MMO will continue to be part of	The Applicant notes this comment. The potential impacts of temporary exclusion of fishing activity during construction are assessed in Chapter 14: Commercial Fisheries (APP -069), Section 14.7.1, with mitigation proposed where potentially significant impacts are identified. The Applicant has and will continue to engage with the NFFO, IFCA and local fishers			The MMO acknowledges that the Applicant has noted this comment. The MMO highlighted to the ExA and the Applicant within our Deadline 2 response (REP2 -092) that the MMO has published a report called 'Spatial distribution of under 12m fishing activity and sensitivity to offshore wind development in the east marine plan areas (MMO1382).' The report outlines the findings of the evidence project with the aim to increase the spatial resolution and understanding of the under 12m fishing fleet's activity in the east marine plan areas and their sensitivity to Offshore Wind Farms. The MMO believes the Applicant should review the report and discuss how the Project can use the findings to supplement	The Applicant has responded to the point regarding the "Spatial distribution of under 12m fishing activity and sensitivity to offshore wind development in the east marine plan areas (MMO1382)" report in 3.1.1 and 3.1.2, Table 1.6 of The Applicant's Comments on Deadline 2 Submissions (REP3-037).

	the discussions relating to securing any mitigation, monitoring or other conditions required within the DMLs.				the best available evidence being put forward in this Examination.	
Chapter 15 Shipping and Navigation						
RR - 042.120	Paragraph Number: 4.11.1 The MMO defers to the Maritime and Coastguard Agency and Trinity House on matters of shipping and navigation and supports any comments raised. The MMO will continue to be part of the discussions relating to securing any mitigation, monitoring or other conditions required within the DMLs.	The Applicant notes this comment.			The MMO acknowledges that the Applicant has noted this comment.	The Applicant advises that this comment is closed
Chapter 17 Seascape Landscape and Visual						
RR-042.121	Paragraph Number: 4.12.1 MMO defers to Natural England as the SNCB, along with Historic England and the Local Planning Authorities on matters of Seascape, Landscape and Visual Resources and supports any comments raised. The MMO will continue to be part of the discussions relating to securing any mitigation and monitoring or other conditions required within the DMLs	The Applicant notes this comment.			The MMO acknowledges that the Applicant has noted this comment.	The Applicant advises that this comment is closed

1.2.5.10 Annex 10

Table 1.2.5.10 Detailing MMO and the Applicant's comments regarding Other Application Documents raised within MMO's Relevant Representation (RR-042)

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
Other Application Documents						
Other Application Documents In Principle Southern North Sea Special Area of Conservation Site Integrity Plan						
RR-042.122	Paragraph Number: 5.1.1	The assessments within the relevant documents in the ES Chapter 10: Fish(			The need to reduce noise at source (noise abatement) is especially pressing	Following publication of the recent Policy Paper: Reducing Marine Noise (Defra,

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	As advised during the PEIR consultation, the need to implement effective alternatives to unmitigated piling – i.e. measures to reduce noise at source (noise abatement) is especially pressing given the wider context of the current ramp up of offshore wind development at unprecedented scale in the North Sea. To ensure adequate preparations are made and potential delays avoided, it is therefore in the applicant's interest to plan for noise abatement measures at the earliest opportunity and to incorporate such measures into relevant mitigation plans.	Ecology (APP-065) and marine mammals (APP-066)) and the RIAA (AS1- 095) have not identified any potential effects requiring additional mitigation in the form of Noise Abatement Systems (NAS) and as such the Applicant does not consider it necessary to commit to such mitigation at this stage. Notwithstanding, the Applicant has identified NAS as a potential measure within the Outline SIP (document reference 8.7) and Outline MMMP (document reference 8.6.1) which may be identified as required prior to the construction of the Project through the development of the final Site Integrity Plan and/or the final Marine Mammal Mitigation Protocol.			given the wider context of the current ramp up of offshore wind development at unprecedented scale in the North Sea. The MMO maintains that reducing noise at source is the most effective measure to reduce the risk of potential impact. Thus, the MMO reiterates that it is in the Applicant's interest to plan for noise abatement measures at the earliest opportunity and to incorporate such measures into relevant mitigation plans.	2025), the Applicant has committed to use best endeavours to deliver noise reductions through the use of primary and/or secondary noise reduction methods, with this commitment secured through the submission of an updated Outline MMMP for Piling (document 8.6.1) and In-Principle SIP (document 8.7) at Deadline 4.
RR-042.123	Paragraph Number: 5.1.2 The MMO defers to Natural England and other SNCBs for further comment on SIPs. As per paragraph 23 of the SIP, the MMO does agree with the JNCC, Natural England & DAERA (2020) guidance in that it is important to allow sufficient time between assessment and construction to implement additional mitigation measures if necessary.	The Applicant will discuss the need for additional mitigation at the post -consent stage should it be required.			The MMO acknowledges the Applicant's response.	This comment is noted by the Applicant.
Outline Marine Mammal Mitigation Protocol (MMMP) for Piling Activities						
RR - 042.124	Paragraph Number: 5.2.1 It is noted that page 12 states that the maximum number of piling events (for multi -leg pin piled jackets) in a single day is eight, assuming two piling rigs, each installing four piles. For the purposes of the underwater noise modelling to inform the MMMP, 6 piling events at a single location have	The Applicant confirms this is an error within the Outline Marine Mammal Mitigation Protocol (MMMP) for Piling Activities (APP -279). The correct number of multi -leg pin piled jackets installed in a day is 12 when assuming simultaneous piling, 2 rigs with 6 pin piles. The Applicant			The MMO welcomes the response from the Applicant who confirms this is an error within the Outline Marine Mammal Mitigation Protocol (MMMP) for Piling Activities (APP -279). The correct number of multi - leg pin piled jackets installed in a day is 12 when assuming simultaneous	The Applicant advises that this comment is closed.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
	been modelled to inform the maximum injury ranges. Indeed, the worst -case stated in the underwater noise modelling is 6 piles to be installed in a 24 -hour period (and a total of 12 piles in 24 hours for the simultaneous piling) (4 hours per pin pile equating to a total of 24 hours).	has amended the error in the Outline Marine Mammal Mitigation Protocol (MMMP) for Piling Activities (document reference 8.6.1).			piling, 2 rigs with 6 pin piles. The Applicant has amended the error in the Outline Marine Mammal Mitigation Protocol (MMMP) for Piling Activities (document reference 8.6.1). The MMO is satisfied that this comment has been addressed.	
RR - 042.125	Paragraph Number: 5.2.2 The specific mitigation measures that will be implemented during the construction of the Project will be determined, in consultation with relevant SNCBs, following the appointment of the installation contractors (and therefore, confirmation of final hammer energies and foundation types), collection of additional survey data (further geophysical and/or geotechnical data) and/or information on maturation of emerging technologies. This additional data and information will allow the noise modelling to be updated and feed into discussions on the appropriate mitigation measure(s) in the Final Piling MMMP (if required). The MMO considers this approach to be appropriate.	The Applicant welcomes this comment.			The MMO acknowledges that the Applicant has welcomed this comment.	The Applicant advises that this comment is closed
RR-042.126	Paragraph Number: 5.2.3 The Outline MMMP identifies the standard mitigation measures that are commonly employed, including: pre -piling deployment of Acoustic Deterrent Devices (ADDs), Marine Mammal Observers (MMObs), Passive Acoustic Monitoring (PAM) system and a piling soft start procedure. Noise abatement is also considered (section 4.4). MMO notes that the specific protocol for handling piling breaks would be determined in collaboration with the piling contractor and SNCBs and documented in the final piling MMMP.	The Applicant will detail the specific protocol for handling planned and un-planned breaks in the final post consent piling MMMP. The Applicant will seek advice from the SNCBs and the piling contractor on the appropriate measures for inclusion in the final post-consent piling MMMP.			The MMO acknowledges the Applicant's response.	The Applicant advises that this comment is closed

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
Outline Marine Mammal Mitigation Protocol for UXO						
RR - 042.127	Paragraph Number: 5.3.1 As with the Outline MMMP for piling, this MMMP for UXO only provides a high -level outline of the information which would be contained within the UXO MMMP that will accompany a future Marine Licence application. The document identifies the standard mitigation measures that are commonly employed for UXO clearance, including: prepiling deployment of Acoustic Deterrent Devices (ADDs), Marine Mammal Observers (MMOb), Passive Acoustic Monitoring (PAM) system, low order techniques and noise abatement .	The final UXO clearance MMMP will be submitted as part of the separate Marine Licence Application for UXO clearance in the post -consent stage. The final UXO clearance MMMP will refer to the measures identified in the Outline MMMP for UXO clearance, however, would be subject to any updated or new guidance and advice from SNCBs at the time of drafting.			The MMO acknowledges the Applicant's response.	The Applicant advises that this comment is closed
RR - 042.128	Paragraph Number: 5.3.2 Of relevance, paragraph 27 states that "Technologies are available which attenuate the amount of noise emitted at the source (noise abatement). The use of bubble curtains during high -order UXO clearance activities is now standard best - practise for UXO clearance campaigns for offshore wind projects, with all projects since East Anglia One being required to use bubble curtains (subject to certain environmental limitations) for UXO detonations with combined charge sizes of greater than 50 kilogram (kg) (TNTequivalent)". MMO considers that bubble curtains should be deployed for all high - order detonations, including those under 50 kg.	This is noted by the Applicant. The final UXO clearance MMMP will be submitted as part of the separate Marine Licence Application for UXO clearance in the post -consent stage, which will follow the guidance and best -practice at the time of drafting.			As advised in point 5.3.2 of RR -042, the MMO recommends that bubble curtains are deployed for all high -order detonations, including those under 50 kilograms (kg). The MMO expects this to be clear in future iterations of the Marine Mammal Mitigation Protocol (MMMP) for Unexploded Ordinance (UXO). The MMO would like to reiterate that the final mitigation plans for piling and UXO clearance will need to be agreed post -consent to consider appropriate mitigation for cumulative noisy activities occurring at the time of construction. The MMO expect s this to be clear in future iterations of the MMMP for UXO.	The Applicant acknowledges the Marine Management Organisation (MMO) recommendations surrounding bubble curtains. The Applicant is aware of another post-consent project (East Anglia THREE) within the SNS SAC utilising bubble curtains for high-order UXO clearance of devices that are 35 kg and above. The Applicant would consider agreeing to a similar approach, and would welcomes the MMO's view on this approach. The Applicant plans to make any updates to the UXO MMMP at the point of applying for the UXO marine licence, which would occur relative to the post-consent stage for the Development Consent Order (DCO). The final UXO MMMP will be drafted considering the latest guidance in effect at the time of construction.

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
Offshore In -Principal Monitoring Plan (IPMP)						
RR - 042.129	Paragraph Number: 5.4.1 The IPMP has been produced to provide the basis for delivering the monitoring measures required by the conditions of the deemed Marine Licences (dMLs) contained within the draft Development Consent Order (DCO). The monitoring plan to be submitted to the MMO for approval post consent must accord with this IPMP. Final detailed plans for monitoring work will be produced post consent closer to the time that the actual work will be undertaken, in line with the conditions proposed within the dMLs.	This comment is noted by the Applicant.			The MMO acknowledges that the Applicant has noted this comment.	The Applicant advises that this comment is closed
RR - 042.130	Paragraph Number: 5.4.2 Paragraph 31 (section 3.5.2) appropriately identifies that if piled foundations are used in the final project design, underwater noise monitoring of the first four piles of each piled foundation type will be undertaken with the methods agreed with the MMO and relevant SNCBs in the pre - construction period. This is in keeping with the standard monitoring requirements for offshore wind farms. Monitoring of the first four piled foundations (during the construction phase) is required for validation purposes – to check whether the noise predictions in the ES are reasonable/appropriate	This comment is noted by the Applicant.			The MMO acknowledges that the Applicant has noted this comment.	The Applicant advises that this comment is closed
RR-042.131	Paragraph Number: 5.4.3 The MMO notes that monitoring (in the form of MMObs and PAM) will also be undertaken in order to manage to the risk of auditory injury to marine mammals from underwater noise.	This comment is noted by the Applicant.			The MMO acknowledges that the Applicant has noted this comment.	The Applicant advises that this comment is closed

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
RR - 042.132	Paragraph Number: 5.4.4 The MMO will continue discussions on monitoring throughout examination. MMO also encourages preengagement at the earliest stages once consented to allow for any issues to be resolved.	This comment is noted by the Applicant.			The MMO acknowledges that the Applicant has noted this comment.	The Applicant advises that this comment is closed
Outline Fisheries Liaison and Coexistence Plan						
RR - 042.133	Paragraph Number: 5.5.1 The MMO welcomes and notes that an Offshore Fisheries Liaison Officer (OFLO) will be appointed, alongside a Company FLO and a Marine Coordinator for Outer Dowsing OWF	This comment is welcomed by the Applicant.			The MMO acknowledges that the Applicant has welcomed this comment.	The Applicant advises that this comment is closed
RR - 042.134	Paragraph Number: 5.5.2 Advice should be sought via the FLO when the timetable of works is known so that the local industry can provide real -time advice	The Applicant has provided an updated Outline FLCP (document reference 8.14) to include the updates recommended by the MMO.			The MMO acknowledges the Applicant's response	The Applicant advises that this comment is closed
RR - 042.135	Paragraph Number: 5.5.3 The MMO would note that the MMO will not act as arbitrator in regard to compensation and will not be involved in discussions on the need for or amount compensation being issued. This needs to be made clear within the Outline Fisheries Liaison and Coexistence Plan.	The Applicant has provided an updated Outline FLCP (document reference 8.14) to include the updates recommended by the MMO.			The MMO acknowledges the Applicant's response and welcomes the amendment to the Outline FLCP.	The Applicant advises that this comment is closed
Report to Inform Appropriate Assessment						
RR - 042.13	Paragraph Number: 5.6.1 The MMO defers to and supports Natural England as SNCB regarding impacts to international designated sites and the HRA for the Project.	The Applicant notes the MMOs deference to Natural England in relation to HRA matters. The Applicant has responded to Natural England's comments separately.			The MMO acknowledges that the Applicant has noted this comment.	The Applicant advises that this comment is closed

Ref	MMO Relevant Representation (RR-042)	Applicant Response (PD1-071)	MMO Deadline 1 Response (REP1-056)	Applicant Deadline 2 Response (REP2-053)	MMO Response	Applicant Comment Deadline 4
RR - 042.137	Paragraph Number: 5.6.2 The MMO will keep a watching brief on these documents and would remind the Applicant that any mitigation secured through these assessments will need to be included within the conditions on the DML.	The Applicant notes the comment regarding the inclusion of mitigation within the DMLs. The Applicant has clearly identified where relevant where mitigation measures are secured within the DMLs or within specific Outline Plans.			The MMO acknowledges that the Applicant has noted this comment.	The Applicant advises that this comment is closed
Habitats Regulations Assessment Derogation Case						
RR - 042.138	Paragraph Number: 5.7.1 The MMO defers to and supports Natural England as SNCB regarding the derogation case proposed.	The Applicant notes the MMOs deference to Natural England in relation to derogation case matters. The Applicant has responded to Natural England's comments separately.			The MMO acknowledges that the Applicant has noted this comment.	The Applicant advises that this comment is closed
RR - 042.139	Paragraph Number: 5.7.2 The MMO will keep a watching brief on these documents and would ask for any compensation requirements to be included within the DCO at this stage to ensure all parties have reviewed the wording, should the Secretary of State be minded to include compensation .	The Applicant notes the comment regarding the inclusion of compensation information within the DCO at this stage.			The MMO acknowledges that the Applicant has noted this comment.	The Applicant advises that this comment is closed
Outline Offshore Operations and Maintenance Plan						
RR - 042.140	The MMO would like to see details of Operation and Maintenance (O&M) activities from both within and outside the designated sites. This is to ensure details of cable protection required within designated sites are provided for further comment.	The Applicant would welcome clarification from the MMO regarding the details of what they wish to see in response to this query.			The MMO are currently reviewing and will provide comments at Deadline 4.	The Applicant notes this position and is awaiting comments at Deadline 4.

1.3 Natural England's Deadline 3 Submission Response

1.3.1 Natural England Cover Letter to Deadline 3 Submissions

Table 1.3.1 Natural England Cover Letter to Deadline 3 Submissions

Ref No	Natural England's Comment	Applicant Response
Application by GT R4 Limited (trading as Outer Dowsing Offshore Wind) for an Order Granting Development Consent for the Outer Dowsing Offshore Wind Project **The following constitutes Natural England's formal statutory response for Examination Deadline 3.**		
1. Natural England's Deadline 3 Submissions		
1	For Deadline 3, Natural England has reviewed the documents relevant to our statutory remit submitted by the Applicant at Deadline 2 on 27 November 2024. An update of Natural England's position regarding these documents is provided in Annex 1, including anticipated timing of responses where these are deferred. Natural England is also submitting the following Appendices, which include advice deferred from previous deadlines, as signposted from Annex 1: • EN010130 495640 ODOW Appendix C2 - Natural England's Potential Evidence Based Approach to Defining Supporting Habitats for Sabellaria spinulosa Reef v1.0 Deadline 3 • EN010130 495640 ODOW Appendix C3 - Impacts on Supporting Habitats and Processes for Annex I Sabellaria spinulosa reef within Inner Dowsing Race Bank and North Ridge SAC Deadline 3 • EN010130 495640 ODOW Appendix E2 - Natural England's Advice on Marine Mammals Deadline 3 • EN010130 495640 ODOW Appendix F2 - Natural England's Advice on Offshore and Intertidal Ornithology Deadline 3 • EN010130 495640 ODOW Appendix G1 - Natural England's Advice on Seabird Compensation Calculations Deadline 3 • EN010130 495640 ODOW Appendix H2 - Natural England's Advice on Onshore Ecology - Noise and Vibration Management Plan [REP2-032] Deadline 3 • EN010130 495640 ODOW Appendix I2 - Natural England's Advice on Onshore Ornithology Mitigation/Functionally Linked Land Deadline 3 • EN010130 495640 ODOW Appendix J3 - Natural England's NE Risk and Issues Log Deadline 3 • EN010130 495640 ODOW Appendix L - Natural England's Comments on the In Principal Monitoring Plan [APP-276] Deadline	The Applicant has provided responses to each of the Annexes supplied at Deadline 4.
2. Natural England's Engagement through Examination		
2	Natural England continues to highlight to the Examining Authority (ExA) and the Applicant that the focus of our engagement during Examination will be on reviewing relevant updated Environmental Statement (ES) chapters/technical documents/outline plans or thematic clarification notes. We will not be responding to commentary on our submissions, other interested parties' representations/submissions or to comments from the Applicants or other stakeholders on the Risk and Issues Log, unless the ExA questions direct us to do so.	Following the acceptance of the Offshore Restricted Build Area (ORBA) and the revisions to the offshore Export Cable Corridor (ECC), an updated Report to Inform Appropriate Assessment (RIAA) (document reference 7.1) has been provided at Deadline 4. An updated ES will be provided at Deadline 5. Where issues have been resolved, the text within both sets of documents has been amended to reflect this.
3	Where the Applicant considers their response to be sufficient, we reiterate that for issues to be considered resolved, an amendment or commitment will need to be included within the relevant secured named technical document or plan and reviewed within the wider context of the Application.	

Ref No	Natural England's Comment	Applicant Response
4	Natural England welcomes the resolutions of issues so far. However, we are keen to see the Applicant making further substantial progress earlier in Examination, rather than pushing back on aspects of our advice, which will leave outstanding issues unresolved until later in Examination.	
3. Natural England's Advice Following Acceptance of the Offshore Restricted Build Area (ORBA)		
5	Natural England welcomes the ExA's acceptance on 03 December 2024 for the Applicants Change Request to include an Offshore Restricted Build Area (ORBA) within the array area, given the primary mitigation aim was to reduce impacts on auks through restricting the area in which above water infrastructure can be installed. We note this is now secured in the DCO (including ORBA) [REP2-009].	The RIAA and associated appendices have been updated and both tracked changed and clean versions of the updated documents have been submitted into the Examination at Deadline 4 to reflect the changes during Examination, updates to the in-combination assessment to reflect the current status and any updated information for other known plans, projects and activities and other minor typographical updates as relevant. The Applicant will provide updated versions of the relevant ES chapters (and appendices where required) to reflect the changes made during Examination, an update to the cumulative assessment to reflect the current status, and any updated information, for other known plans, projects and activities and other minor typographical updates as relevant at Deadline 5.
6	In light of this acceptance, Natural England also welcomes the action from the Examining Authority at the December Issue Specific Hearings for the Applicant to update all HRA and ES documentation by Deadlines 4 and 5 respectively. In our Deadline 1 cover letter [REP1-057], we advised key ES chapters, in particular Offshore Ornithology and Marine Processes, should be updated to reflect the specific impacts of the 'post-ORBA' development, with clean and tracked change versions submitted into the Examination once the impact assessment has been significantly progressed. The Report to Inform Appropriate Assessment (RIAA) should also be updated in the same fashion. This will allow the ES to inform the post-consent phase as the key reference document for all parties and allow future developments to include an accurate quantification of the ODOW proposal in their cumulative and in-combination assessments, the ES being the standard source of such information. The Applicant's own cumulative and in-combination assessments should also be updated to reflect the post-ORBA development.	
7	Following the ExA's acceptance of the ORBA, in our Deadline 3 submission Natural England sets out in Appendix F2 our initial advice regarding the impacts of the ORBA on Intertidal and Offshore Ornithology. It is important to note that there are still methodological issues that remain unresolved. These are set out in Annex 1 of Appendix F2, in the form of an updated table of the summary of disagreements for offshore assessment methodology provided as a response to ExA Q1 OR 1.2, from the First ExA Written Questions [REP2-095].	The Applicant has responded to all the points set out in Appendix F2 within our Deadline 4 submission (Document Reference 21.3).
8	Natural England also refers the ExA and the Applicant to our Deadline 1 cover letter [REP1-047] and advice within Appendix B1 [REP1-058] regarding our concerns in relation to the potential implications of the ORBA on the Marine Processes impact assessment. Natural England's advice regarding Marine Processes remains unchanged.	The Applicant has responded to all Deadline 1 submissions in REP2-053. The Applicant's response to advice regarding Marine Processes remains unchanged (Table 1, Paragraph 4 and Table 2, Section B1.1 – 1.5 within Document REP2-053 submitted at Deadline 2).
4. Offshore Ornithology Compensation		
9	Natural England understands, through correspondence with the Applicant, that it would be useful for Natural England's preferred approach to calculating the number of breeding pairs required for seabird compensation measures to be provided into Examination, in particular our position regarding species other than kittiwake. Appendix G1, sets out Natural England's current position that Hornsea 3 Stage 2 method should be used for all compensatory measures where it is considered necessary.	The Applicant has responded to all the points set out in Appendix G1 within our Deadline 4 submission (Document Reference 21.3). The Applicant has highlighted specific concerns with the Hornsea Three Stage 2 methodology within previous submissions, specifically REP2-057 Levels of precaution in the assessment and compensation calculations for offshore ornithology and Guillemot and Razorbill Compensation Quanta (REP3-049).
10	We note the Applicant's Deadline 2 submissions on Predator Control Evidence Base and Roadmap (Tracked) [REP2-026], Levels of precaution in the assessment and compensation calculations for offshore ornithology [REP2-057] and Lead-in periods for kittiwake breeding on Artificial Nesting Structures [REP2-060]. As indicated in Table 1 of Annex 1, due to our focus on offshore ornithology impacts with the introduction of the ORBA, Natural England	This comment is noted by the Applicant.

Ref No	Natural England's Comment	Applicant Response
	defers our advice on these documents to Deadline 4, or a later deadline for REP2-060 depending on the status of the change request application.	
5. Benthic Ecology – Impacts on Supporting Habitats and Processes for Annex I Sabellaria spinulosa Reef		
11	In our Deadline 1 advice, Natural England advised our position remains as set out in our relevant representations [RR-045] that even if the Applicant is able to fully microsite the cable to avoid known Annex I reef features, there remains the risk of lasting change/loss of supporting habitat for Annex I Sabellaria spinulosa reef from the placement of cable protection. We advise that the loss of supporting habitat will hinder the designated sites restore conservation objectives. Unless mitigation measures can be identified and secured we advise that adverse effect to the Inner Dowsing Race Bank and North Ridge (IDRBNR) Special Area of Conservation (SAC) can't be excluded. We advised that an updated a derogations case for Annex I reef would be required.	The Applicant has responded to all the points set out in Appendix C2 and C3 within our Deadline 4 submission (Document Reference 21.3). The Applicant is processing the recent advice in relation to defining supporting habitat for *Sabellaria spinulosa*, as presented and will seek to discuss this further with Natural England with the aim of providing a more detailed response at Deadline 5. The Applicant does not agree that the proposed scale of rock protection within the SAC would adversely affect the conservation objectives relating to supporting habitat for *S. spinulosa* reef, given the relatively small impact from the Project and the availability of reef forming habitats within the SAC. The Applicant has provided further information on this point in the Applicants response to Natural England Appendix C3 to Deadline 3 Submission (Document Reference 21.3) point 10.
12	As per our Deadline 1 commitment to provide further advice on this matter; Appendix C2 to Natural England's Deadline 3 submission, sets out a potential evidence-based approach to defining Supporting habitats for Annex I Sabellaria spinulosa reef. Appendix C3 provides further context in relation to the IDRBNR SAC Conservation Advice package, including guidance on supporting processes attributes on which qualifying natural habitats and the habitats of qualifying species rely. The intention is that the advice in both documents will assist the Applicant in their assessment of impacts on supporting habitats and processes for Annex I Sabellaria spinulosa Reef.	
6. Potential for a Lincolnshire Heritage Coast		
13	When responding to the ExA's first set of Written Questions, Natural England did not have sufficient information to be able to provide an answer to question Q1 SV 1.2, concerning the status of the proposed Heritage Coast.	The Applicant has noted this comment.
14	Natural England has been informed that the proposed Lincolnshire Heritage Coast designation is currently on hold and there is no timeframe for when further progress will be made. We will advise if there is any further update during the timeframe for examination.	The Applicant has noted this comment.
7. Soil Management Plan		
15	Natural England welcomes the commitment to provide a Soil Management Plan (SMP) within the DCO [REP2-009]. However, Natural England queries the Applicant on the reasoning behind its removal from the list of secured plans within the Code of Construction Practice (CoCP) in the updated Outline CoCP [REP2-030].	The Applicant has split out the commitment to provide a Soil Management Plan upon the request of Lincolnshire County Council (LCC) however the Applicant notes that the Examining Authority may choose to reinstate this requirement within the original Requirement as a secured plan within the Code of Construction Practice.
16	Natural England acknowledges the new requirement as part of Schedule 1 Part 3 Requirement 31 [REP2-009], which requires submission of a SMP, which must accord with the Outline SMP. Nevertheless, Natural England requests the requirement is amended to include a condition to consult the relevant Statutory Nature Conservation Body (SNCB), as it does not stipulate that the relevant Local Planning Authority (LPA) should consult the relevant SNCB on the submitted document prior to its approval.	The Applicant has noted this comment and the DCO has been updated accordingly at this Deadline (document reference 3.1 v7).
8. Development Consent Order – Design Plan		
17	Natural England acknowledges and welcomes the amendment as per our request to enable us as consultees on the Design Plan, in Schedule 10 Part 2 Condition 13 (1)(a).	This comment is noted by the Applicant.
9. Onshore Ornithology		
18	As advised at Deadline 1, Natural England has reviewed the Applicant's documentation with respect to mitigation for onshore ornithology. Our advice is set out in Appendix I2.	The Applicant has responded to the advice set out in Appendix I2.
10. Water Quality Management and Mitigation Plan		

Ref No	Natural England's Comment	Applicant Response
19	Natural England welcomes that a Groundwater Risk Assessment will be included within the Water Quality Management and Mitigation Plan, as highlighted in the Outline Code of Construction Practice [REP2-030]. Natural England will review the Groundwater Risk Assessment once it is submitted into Examination.	This comment has been noted by the Applicant.

1.3.2 Appendix C2 to the Natural England Deadline 3 Submission

Table 1.3.2 Appendix C2: A Potential Evidence-based Approach to Defining Supporting Habitats for *Sabellaria Spinulosa* Reef

Ref No	Summary	Applicant Response
Overview		
This document has been drafted to assist applications proposing activities within the marine subtidal environment where there is a potential risk of hindering a restore conservation objective for Annex I *Sabellaria spinulosa* reef within designated sites. It is intended to support consideration of a less precautionary approach to impact assessments, inform a more targeted use of the mitigation hierarchy, and ultimately assist the Competent Authority in their decision making, by using an evidence-based approach to refine down potential areas of supporting habitats for S. spinulosa reef, rather than assume that reef could arise across any area of suitable sedimentary habitat.		
1. Sabellaria spinulosa Growth Forms and Environmental Requirements		
1.1 Growth forms		
1	Sabellaria spinulosa is a tube-building polychaete which can develop extensive biogenic reefs extending 20+ km2 (Pearce et al., 2011). However, 'reef' formation (as defined by Gubbay, 2007) is not an obligate growth form and S. spinulosa populations are often present in numbers which are not sufficient to develop reef structures. Throughout most of the UK's S. spinulosa geographic range, the species is found inhabiting sediments as a component of the infaunal communities present, or encrusting mixed sediments, shell and bedrock (OSPAR, 2010). Crusts or veneers (<2cm elevation) can also form over extensive areas, but these may only last for a season before being broken up by winter storms and reforming the next spring through new larval settlements (JNCC, 2016).	The Applicant has provided an overarching response to this document at line 18.
2	S. spinulosa aggregations, whether reef forming or encrusting, are often described as ephemeral, exhibiting highly variable temporal stability capable of forming, disintegrating and disappearing on an inter-annual basis (Limpenny et al., 2010; Jackson & Hiscock, 2003; Jones et al., 2000); this means their presence can be highly variable both spatially and temporally. However, when conditions are favourable (including where pressures have been removed) dense aggregations may be found to persist over several years (Roberts et al., 2016) forming biogenic reefs up to 60cm in elevation (OSPAR, 2010) and extending over large areas of seabed. Reports of reef extent range from 'several hectares' to 'tens of kilometres squared' (OSPAR, 2010, Pearce et al., 2011).	
1.2 Measuring Extent and Distribution		
3	To address challenges associated with spatially describing, managing and providing nature conservation advice on S. spinulosa reef, Natural England developed a 'core reef' approach to map the distribution of the reef in the '2010 Wash S. spinulosa synthesis' study (Bussell & Saunders, 2010). This approach utilised a 'reef index' which appraised and synthesised historic data, assessing the techniques used to determine the presence of S. spinulosa and crediting results with a confidence score. Areas which most consistently supported reef, evidenced by datasets with the highest confidence, were identified as 'core reef', and this information was used to inform management.	The Applicant has provided an overarching response to this document at line 18.
4	The work of Bussell & Saunders (2010) has since been further developed in a Natural England research report (Roberts et al., 2016) which further describes the process involved in identifying areas of core reef. Roberts et al., (2016) concluded that the core reef approach provides a useful tool for mapping areas likely to support reef and informing management, noting that the method requires historical datasets of suitable confidence. However, Roberts et al., (2016) also concluded that the uncertainty associated with detecting and mapping S. spinulosa reef raises questions as to how appropriate it is to target management at specific, small-scale patches of reef and suggests that it would be more appropriate to use reef index outputs to identify wider areas that consistently support reef, and target management at this broader scale.	
5	Recognising that the availability of temporal data sets is often limited, Natural England has developed the conclusions of Roberts et al., (2016) further and have sought protection of these 'wider areas' of reef-supporting sediments through conservation advice. The approach is intended to allow the natural cycle of reef development to occur, and to facilitate restore conservation targets where the feature is considered to be in unfavourable condition.	

Ref No	Summary	Applicant Response
6	NB: To date, the adoption of the 'core reef' approach has only been viable in The Wash where the datasets have been gathered at different points in time and also spatially overlap, thus facilitating the temporal analysis necessary to implement the core reef approach. Attempts to adopt this approach at other sites has led to more precautionary approaches being identified due to gaps in spatial and/or temporal overlap in the available datasets.	
1.3 Existing pressures and effects on reef		
7	Although it is acknowledged the reefs are the least common growth form, it is not clear to what extent the ephemeral nature, and fewer observations of 'reef' growth form may be skewed due to ongoing pressures. Currently, it is uncertain whether low-lying structures constitute a separate or sub-habitat type, a phase in the development of a reef, or a reef which is developmentally moderated by one or more environmental or anthropogenic stressors (NRW, 2019). Trawling for oysters and mussels, trawling for shrimp or fin fish, net fishing and potting can all cause physical damage to erect S. spinulosa reef communities (JNCC, 2008).	The Applicant has provided an overarching response to this document at line 18.
8	The physical impact of the mobile gear breaks down the reef structures, damaging and removing the niches and habitat complexity required for the establishment of rich infaunal and epifaunal communities. It is these rich communities associated with the biogenic reef which form the rationale for the protection of reef under the Habitats Regulations (2017). Aggregate dredging also often takes place and targets removal of substrate in areas of mixed sediment where S. spinulosa reefs occur. Such activities are conducted within licenced areas and therefore impacts on areas of existing S. spinulosa reef are mitigated to some degree via licence conditions. However, there is the risk that mitigation does not extend to the protection of areas with the potential to support S. spinulosa reef, which may also already be subject to fishing pressures.	
9	In recognition of the benthic impacts caused by specific types of fishing gear within Inner Dowsing Race Bank North Ridge (IDRBNR) Special Area of Conservation (SAC), the MMO implemented a prohibited fishing gears byelaw which was specifically aimed at limiting fishing impacts on benthic features including S. spinulosa reef (MMO, 2022). An aggregates monitoring report for a site within IDRBNR SAC reports that "the Side Scan Sonar (SSS) data clearly shows trawl scars through reefs and the ground-truth data acquired after the geophysical survey shows damaged and fragmented S. spinulosa tubes and small reef clumps with areas of mobile sand". The location the report refers to is outside of the areas which are now protected by the byelaws (MarineSpace, 2013).	
1.4 Environmental requirements		
10	Sabellaria spinulosa requires only a few environmental conditions to be met in order to proliferate. There is accumulating evidence that dense S. spinulosa reefs might favour a combination of a suitable substratum for settlement, together with a supply of sand for tube building (UK Biodiversity Group, 1999). Sand is suspended in the water column by strong water movement, and whilst the relative importance of tidal versus wave induced movements is unclear (Connor et al., 1997), S. spinulosa reef communities are typically associated with moderately strong tidal flows (Jones et al., 2001).	The Applicant has provided an overarching response to this document at line 18.
11	Accordingly, evidence suggests that S. spinulosa aggregations appear more prevalent in locations such as the periphery of sandbanks in the southern North Sea (Limpenny et al., 2010), and within areas of sandwaves and/or sandbanks (Foster-Smith, 2001, Karin et al., 2019). Karine et al.,(2019) went further to report that S. spinulosa reefs were found within the sandbank troughs specifically, and that the depressions in between sandwaves both offer suitable substrate for settlement of S. spinulosa larvae and refuge from abrasion by fishing activities, enabling reefs to persist despite high fishing intensities. Thus, gravel ribbons next to mobile sand features, thin veneers of mobile sand over gravel lags and sides of shelly sand banks, all appear to favour the development of dense S. spinulosa (Limpenny et al., 2010). These observations are supported by the results of analysis of fauna from different topographic areas within, and beyond, designated sandbanks within Haisborough Hammond and Winterton Special Area of Conservation (HHW SAC). The analysis demonstrated that, despite intentional avoidance of reef within grabbing surveys, the data from grabs demonstrated an apparent preference by S. spinulosa to inhabit medium to coarse sand dominated areas within the more stable 'beyond sandbank' areas (where 'beyond sandbank' was defined as between 600m and 1600m beyond designated sandbank boundaries (Natural England, In draft 2024).	
1.5 Substrate		
12	Numerous studies have reported on the sediment characteristics of areas observed to support S. spinulosa reef. These are listed in Table Abelow, together with the sediment characteristics described as supporting reef in each study. The evidence shows that S. spinulosa reef can develop on a broad range of sediment substrates ranging from medium sand to coarse mixed sediments. This supports the hypothesis that other environmental factors, such as supply of sand, are likely to be more important than specific in-situ particle size ranges.	The Applicant has provided an overarching response to this document at line 18.
13	It is likely that the stability of reefs is to some degree a function of stability of the substratum (Connor et al., 1997, Holt et al., 1997 Holt et al., 1998 and Foster-Smith and Hendrick 2003); it therefore follows that the longevity, quality (elevation etc.) and associated ecological value of reef could be enhanced	

Ref No	Summary	Applicant Response
	by more stable substrates. However, Pearce et al., (2011c) found that in the East Coast Regional Environmental Characterisation (REC) study area, S. spinulosa reefs on sand provided an attachment surface which facilitated colonisation by epifauna such as blue mussel Mytilus edulis, which could not otherwise exist in the sand dominated habitats. George and Warwick (1985) found that enhancement of diversity within the sandy sediments of the Bristol Channel was far greater than that reported by Pearce et al., (2007), who assessed changes in diversity associated with S. spinulosa reefs on mixed sediments.	
14	Although a degree of firmness/stability in the substrate is likely required for the establishment of a colony (Foster-Smith and Hendrick, 2003), reef can subsequently increase in extent by more S. spinulosa larvae attaching to the existing tubes rather than requiring secondary anchor points, allowing the colony to extend over large areas of sediment in some cases (Holt et al., 1997; JNCC, 2016). Several studies have reported extensive S. spinulosa colonies in essentially sandy areas (Schäfer, 1972; Warren, 1973; Warren and Sheldon, 1967). Sand stabilised by the sand mason Lanice conchilega creates an environment stable enough for colonisation by Sabellaria alveolate in the intertidal, and Foster-Smith and Hendrick (2003) postulate that the same stabilisation process for reef formation may also be provided by L. conchilega in the subtidal environment, as L. conchilega and S. spinulosa are sometimes found to co-exist (Holt et al., 1997).	
15	A final, but important note to consider is that although S. spinulosa larvae will settle on any suitable substrate after 2 – 3 months (JNCC, 2008), larvae are strongly stimulated to settle on both living or dead S. spinulosa colonies in response to proteins released by adult worms (Wilson, 1970). This chemical attractant remains present and active even in the absence of live worms and as such, small satellites of reef, or areas outlying the main reef, may act as reef precursors (JNCC and NE, 2010).	
16	**Table A. Review of sediment characteristics reported to support *S. spinulosa* reef** **Sediment character** — **Reference** **"Mixed sediment"** — Connor *et al.*, (1997); Gibb et al., (2014); OSPAR (2010); NRW (2019) **"Typically shell (especially oyster valves), sandy gravel"** — Rees and Dare (1993) **"Sandy gravel"** — Newell *et al.*. (2001); Seiderer and Newell (1999) **"Sandy and mixed coarser sediments"** — Gubbay (2007) **"Essentially sandy"** — Schäfer (1972); Warren (1973); Warren and Sheldon (1967) ***"Medium fine sand, but favours silty, cobble/gravel habitats'rather than purely sandy habitats"*** ***"Gravel ribbons next to mobile sand features, thin veneers of mobile sand over gravel lags and sides of shelly sand banks"*** — Limpenny *et al.*, (2010) ***"Medium to coarse sand dominated"*** — Natural England *In draft* (Due for publication 2025) ***"Sandy and coarse sediments"*** — Natural England (2019)	
2. Defining Supporting Habitat for Sabellaria spinulosa		
17	In considering the review of evidence and information presented in the preceding sections of this document, Natural England considers that any area of sediment within a Marine Protected Area (MPA) which has S. spinulosa reef listed as a feature/sub-feature, could be considered likely to support Annex I S. spinulosa reef where: **BOTH of the 'essential' environmental parameters listed below are present together with at least one of the 'optional' parameters** (Please see footnotes for further information and/or rationale). Note that the greater the number of additional 'optional' parameters met within a given area, the higher the quality the supporting habitat is likely to be. ▪ ESSENTIAL - Location is subject to moderate to strong tidal flows/wave action. ▪ ESSENTIAL - Sediment character meets one or more of the descriptions within Table A above. ▪ OPTIONAL – Location is within an area of sand waves/sandbanks OR within 2 km of sandbanks in any direction OR within 3km in direction of tidal stream, whichever is the greater 2 .	The Applicant has provided an overarching response to this document at line 18.

Ref No	Summary	Applicant Response
	▪ OPTIONAL – Location is within an area where S. spinulosa reef may currently be absent, but where reef OR the SS.SBR.PoR.SspiMx biotope (EUNIS A5.611) has been previously identified in one or more sampling events (with a moderate or high level of confidence). ▪ OPTIONAL - Individual S. spinulosa count is >375 per 0.1m2 within a given sediment type polygon 3,4 ▪ OPTIONAL – Location is within an area/polygon mapped as the SS.SBR.PoR.SspiMx biotope(EUNIS A5.611) 5 . ▪ OPTIONAL - Elevation of dead OR living tubes is ≥ 5cm (average) but where reef has not been defined, owing to low percentage cover/patchiness 6 . ▪ OPTIONAL – Where extent of encrusting S. spinulosa tubes (dead OR alive) are >10,000m2 but where average elevation has not been sufficient to categorise the area as Annex I reef according to Gubbay (2007)[7] . 2 These distances have been based on results from a review of sandy sediment transport studies conducted by Spearman (2015), as well as the results of data analysis within HHW SAC (Natural England, 2024 – In draft). 3 Abundance threshold has been based on a study by Envision in The Wash (Foster-Smith and Sotheran, 1999 in Limpenny et al., 2010) which reported that reef structures were associated with samples containing densities of S. spinulosa individuals greater than 375 per 0.1m2 . 4 Count data should not be overruled by DDV evidence because positional accuracy during surveys is highly unlikely to be sufficient to permit a direct cross reference between the data generated from the two different survey methods. 5 Where the SS.SBR.PoR.SspiMx (EUNIS A5.611) biotope appears transitional and/or questionable, the precautionary approach should be applied and the area should be considered potentially supporting if the 'essential' parameters above are present. 6 This optional parameter has been added on the basis that areas of reef which are sufficiently elevated to qualify as reef according to Gubbay (2007) but demonstrate a high degree of patchiness could represent areas of reef that have been moderated by fishing impacts. Greater elevation suggests greater potential as high quality supporting habitat. 7 This optional parameter has been added on the basis that extensive areas of encrusting S. Spinulosa may suggest that the location has good potential as supporting habitat in the absence of anthropogenic pressures. However, we suggest that at least one other 'Optional' parameter would also be required to provide the necessary weight to any decision making.	
3. Conclusion		
18	Natural England hopes that this document provides a robust and common basis from which S. spinulosa reef supporting processes including areas with conditions suitable for reef formation can be defined. To mitigate impacts and avoid hindering designated sites conservation objectives, it is anticipated that this approach to defining supporting habitat would be used to further consider, and where relevant, amend project design parameters within applications. We are keen that the definition is precautionary and protects relevant areas based on their ecological merit, but is also practical to implement, and as such, this document is likely to evolve as the parameters listed in Section 2 above are applied within casework, and any ambiguities teased out. Natural England therefore welcomes any feedback, on the usefulness and application of this document.	The Applicant acknowledges and appreciates Natural England's guidance on defining the conditions suitable for reef formation, noting that this is the first instance of such supporting habitat information being presented to the offshore wind industry. However, it is observed that this information has been introduced late in the examination process. Furthermore, some of the data sources provided have limited coverage and the descriptions of sediment characteristics remain broad and lack the necessary specificity. The Applicant is processing the recent advice in relation to defining supporting habitat for *Sabellaria spinulosa,* as presented within Natural England Appendix C2 and C3 and will seek to discuss this further with Natural England with a view to providing a more detailed response at Deadline 5.
4. References		

Ref No	Summary	Applicant Response
19	▪ Connor, D.W., Dalkin, M.J., Hill, T.O., Holt, R.H.F. & Sanderson, W.G. (1997). Marine Nature Conservation Review: marine biotope classification for Britain and Ireland. Volume 2. Sublittoral biotopes (Version 97.06). JNCC Report No. 230, JNCC, Peterborough, ISSN 0963- 8091. ▪ JNCC (2008). UK Biodiversity Action Plan Priority Habitat Descriptions Sabellaria spinulosa Reefs. [Online] URL: https://jncc.gov.uk/our-work/uk-bap-priority-habitats/. Accessed 06.12.24 • JNCC and NE (2010). Inner Dowsing, Race Bank and North Ridge Selection Assessment Document Version 5.0. [Online] URL: https://data.jncc.gov.uk/data/a29c186f-6241-47dd-8077- 58bbb0819522/IDRBNR-SAC-selection-assessment-v5-0.pdf ▪ Karin J. Van Der Reijden*, Leo Koop, Sarah O'flynn, Silvia Garcia, Oscar Bos, Christiaan van Sluis, David J. Maaholm, Peter M.J. Herman, Dick G. Simons, Han Olff, Tom Ysebaert, Mirjam Snellen, Laura L. Govers, Adriaan D. Rijnsdorp, Ricardo Aguilar (2019). Discovery of Sabellaria spinulosa reefs in an intensively fished area of the Dutch Continental Shelf, North Sea. [Online] URL: https://research.wur.nl/en/publications/discovery-of-sabellaria-spinulosareefs-in-an-intensively-fished-. Accessed 06.012.24 ▪ Gibb, N., Tillin, H.M., Pearce, B. & Tyler-Walters H. (2014). Assessing the sensitivity of Sabellaria spinulosa to pressures associated with marine activities. JNCC report No. 504 ▪ Gubbay, S., (2007. Defining and managing Sabellaria spinulosa reefs. JNNC Report No. 405 [Online] URL: https://data.jncc.gov.uk/data/ecdbc5ba-e200-47e3-b7c6-adf464287712/JNCCReport-405-FINAL-WEB.pdf. Accessed 06.12.24 ▪ Holt, T., Rees, E.I., Hawkins, S., & Seed, R. (1998). Biogenic Reefs (volume IX): an overview of dynamic and sensitivity characteristics for conservation management of marine SACs. Oban, Scottish Association for Marine Science (UK Marine SACs Project). ▪ Limpenny D.S., Foster-Smith, R.L., Edwards, T.M., Hendrick, V.J., Diesing, M., Eggleton, J.D., Meadows, W.J., Crutchfield, Z., Pfeifer, S. and Reach, I.S. (2010). Best methods for identifying and evaluating Sabellaria spinulosa and cobble reef, Marine Aggregate Levy Sustainability Fund ▪ MarineSpace Ltd (2013). Area 480 Annual Monitoring Review – Year 4, 2012. ▪ atural England (in draft – due March 20205). The Extent of Annex I Sandbank Habitat in Haisborough, Hammond and Winterton SAC Evidence Review. ▪ Natural England (2019)> Definition of Favourable Conservation Status for Reefs Defining Favourable Conservation Status Project. [Online] URL: https://publications.naturalengland.org.uk/publication/5127115176673280. Accessed 06.12.24. • Newell, R.C., Seiderer, L.J., & Robinson, J.E. (2001). Animal: sediment relationships in coastal deposits of the eastern English Channel. Journal of the Marine Biological Association of the United Kingdom, 81(1), 1-9. ▪ NRW (2019). [Online] URL: https://naturalresources.wales/media/695526/gn030d-sabellariafinal-accessible.pdf. Accessed 06.12.24 ▪ OSPAR (2010). Sabellaria spinulosa Reefs – List of Threatened and/or declining habitats. [Online] URL: https://www.ospar.org/work-areas/bdc/species-habitats/list-of-threateneddeclining-species-habitats/habitats/sabellaria-spinulosa-reefs. Accessed 06.12.24 ▪ Pearce, B., Hill, J.M., Wilson, C., Griffin, R., Earnshaw, S. & Pitts, J. (2011). Sabellaria spinulosa Reef Ecology and Ecosystem Services. The Crown Estate. [Online] URL: [redacted] ▪ Pearce, B., Hil,l J., Grubb, L., & Harper, G. (2011). Impacts of Marine Aggregate Dredging on Adjacent Sabellaria spinulosa Aggregations and other benthic fauna.[Online] URL: https://www.researchgate.net/publication/323855265_MEPF_09P39_Impacts_of_Marine_Aggr egate_Extraction_on_Adjacent_Sabellaria_spinulosa_aggregations_and_Other_Benthic_Faun a. Accessed 06.12.24. ▪ Rees, H.L. & Dare P.J. (1993) Sources of mortality and associated life-cycle traits of selected benthic species: a review. MAFF Fisheries Research Data Report, no. 33. Publisher: Lowestoft: MAFF Directorate of Fisheries Research. ▪ Roberts, G., Edwards, N., Neachtain, A., Richardson, H. & Watt, C. (2016). Core reef approach to Sabellaria spinulosa reef management in The Wash and North Norfolk Coast SAC and The Wash approaches. Natural England Research Reports, Number 065. ▪ Schafer, W. (1972). Ecology and Palaeoecology of Marine Environments. Chicago: University of Chicago Press IN Holt, T., Hartnoll, R. & Hawkins, S. 1997. Sensitivity and vulnerability to 9 man-induced change of selected communities: intertidal brown algal shrubs, Zostera bedsand Sabellaria spinulosa reefs. English Nature Research Reports, No. 234. ▪ Seiderer, L. J. and Newell, R. C. (1999). Analysis of the relationship between sediment composition and benthic community structure in coastal deposits: Implications for marine aggregate dredging. – ICES Journal of Marine Science, 56: 757–765.	

Ref No	Summary	Applicant Response
	▪ Warren, P. (1973). The fishery for the pink shrimp Pandalus montagui of the Wash. Laboratory Leaflet (New Series) No. 28. Lowestoft, Ministry of Agriculture, Fisheries and Food IN Holt, T., Hartnoll, R. & Hawkins, S. 1997. Sensitivity and vulnerability to man-induced change of selected communities: intertidal brown algal shrubs, Zostera bedsand Sabellaria spinulosa reefs. English Nature Research Reports, No. 234. ▪ Warren, P and Sheldon, R. (1967). Feeding and migration patterns of the pink shrimp Pandalus montagui in the estuary of the River Crouch, England. Journal of Fisheries Research. Canada 24, 569-580. IN Holt, T., Hartnoll, R. & Hawkins, S. 1997. Sensitivity and vulnerability to man-induced change of selected communities: intertidal brown algal shrubs, Zostera bedsand Sabellaria spinulosa reefs. English Nature Research Reports, No. 234.	

1.3.3 Appendix C3 to the Natural England Deadline 3 Submission

Table 1.3.3 Appendix C3: Impacts on Supporting Habitats and Processes for Annex I Sabellaria spinulosa reef within Inner Dowsing Race Bank and North Ridge (IDRBNR) Special Area of Conservation (SAC)

Ref No	Natural England Response	Applicant Response
General Comments		
1	Natural England's conservation advice package for IDRBNR SAC can be found within 'Designated Sites View' on GOV.UK. The conservation advice on site features/sub features can be found here, with further advice within the 'Supplementary Advice on Conservation Objectives (SACO)' on the attributes which are ecological characteristics or requirements of the designated species and habitats within a site. The listed attributes are considered to be those which best describe the site's ecological integrity and which if safeguarded will enable achievement of the Conservation Objectives and in turn the legally binding Marine Protected Area (MPA) target under the Environment Act 2023 as well as other UK Government commitments.	The Applicant has provided an overarching response to this document at line 10.
2	IDRBNR SAC conservation objectives apply to the site and the habitats for which the site has been designated namely Annex I Sandbanks which are slightly covered by seawater all the time and Annex I Reef (the "Qualifying features").	
3	The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and that the site contributes to achieving the Favourable Conservation Status of its qualifying features, by maintaining or restoring: ▪ the extent and distribution of qualifying natural habitats and habitats of the qualifying species ▪ the structure and function (including typical species) of qualifying natural habitats ▪ the structure and function of the habitats of the qualifying species ▪ the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely ▪ the populations of each of the qualifying species ▪ the distribution of qualifying species within the site *Natural England has emphasised the particular objectives which relate to Annex I Sabellaria spinulosa reef and in particular the Conservation Objective to maintain the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely	
4	As well as providing information on the attributes relevant to Annex I Reef, within the conservation advice package, there is also information specifically on Subtidal biogenic reefs: *Sabellaria* spp. This can be located through clicking on the 'Reefs' drop-down list. This information on attributes provides site context to inform designated site management measures and provide context to decision-makers on sustainable development proposals within IDRBNR SAC. Within the SACO, it is clear that not only are **Subtidal biogenic reefs** including *Sabellaria* spp. to be conserved within the designated site, but due to the ephemeral nature of *Sabellaria spinulosa* reef, '**Supporting processes'** including areas with conditions suitable for reef formation are also a key attribute included for this feature. **Under the Supporting Processes attributes there is a 'Restore' target for the**	

Ref No	Natural England Response	Applicant Response
	environmental conditions in those locations that are known, or which become known, to be important for *Sabellaria spinulosa* reef formation.	
5	The physical and biological processes which, on present understanding, are needed to allow reef formation within IDRBNR SAC are in line with those set out in 'A Potential Evidence-based Approach to Defining Supporting Habitats for Sabellaria Spinulosa Reef' [Deadline 3 Appendix C2] As highlighted in the IDRBNR SAC SACO these include favourable ground conditions, temperature, a supply of larvae, supply of sediment, supply of food, and the water movements conveying these to the reef (Further details are also included within attributes for physiochemical properties and water movement). These attributes serve to highlight the importance of wider processes for both the distribution of reef within the site, and its ability to form. While a combination of these processes is required for Annex I Sabellaria spinulosa reef establishment within the SAC, favourable ground conditions are essential to reef development. Natural England notes within the SACO that pressures from a range of human activities, including sustainable development are already limiting the availability of suitable ground conditions	
6	**Example 1**: Fisheries using bottom towed gear are active in some parts of this site. This has the potential to disrupt the establishment of new reefs, and to reduce the longevity of existing reefs. Therefore, the first step is to introduce site management measures to restore areas of known reef. Specifically, '*The Inner Dowsing, Race Bank and North Ridge Special Area of Conservation (Specified Areas) Prohibited Fishing Gears Byelaw 2022'* (Marine Management Organisation, 2022) prohibits the use of both bottom towed fishing gear and static gear within areas of Annex I Reef in the site, beyond 6nm. However, it should be noted that byelaws are not yet in place within 6nm for areas of known reef and/or new areas of identified reef (Eggleton et al., 2016) and timelines for their implementation remain undetermined.	
7	**Example 2:** Lincs, Lynn and Inner Dowsing Offshore Windfarms (OWFs) were constructed prior to site designation, and whilst we do not believe that there was a loss of Annex I reef at that time, we consider that there was likely to have been a loss of suitable sediment for Sabellaria spinulosa reef establishment. This is not a direct quantitative impact on Annex I feature extent, but the addition of hard substrate as part of the construction may have altered the environmental conditions in locations that are known, or which become known to be important for Sabellaria spinulosa reef formation.	
8	The Supporting Processes attribute also clarifies that Sabellaria spinulosa which colonises on introduced materials, for example hard infrastructure used for cable protection, is not considered natural reef as the reef is not found on the natural soft sediments of the site and therefore does not contribute to reaching favourable condition of the feature and/or site. Statutory Nature Conservation Bodies (SNCB's) generic advice in relation to colonisation of Sabellaria spinulosa reef on artificial substrate being considered as Annex I reef and contributing to the favourable condition status for reef has been provided in Natural England's Relevant/Written Representation for Outer Dowsing offshore windfarm [RR-045].(Please see Appendix C Annex 5 page 103 of the pdf.)	
Favourable Condition Status		
9	Any reduction in the extent of *S. spinulosa* reef, or loss of suitable conditions for reef formation within IDRBNR SAC risks compromising the achievement of FCS for this feature (Johnston and Mousley, 2021). Whilst FCS relates to features within the national sites network, there is a published IDRBNR SAC condition assessment for biogenic reef which is included within Annex 2 of this document. Whilst a review of the condition assessment is required, Natural England highlights that the impacts on the site features identified in the present condition assessment remain.	The Applicant has provided an overarching response to this document at line 10.
Conclusion		
10	We advise that additional non-trivial reductions to the extent of this site feature and losses of supporting processes/suitable habitat would further hinder the restore targets and therefore the ability to meet the conservation objectives for the site and the legally binding MPA target. Further, we advise that future applications should make every effort to support existing site management measures designed to meet restore conservation objectives for supporting habitat attributes. The target has	The Applicant is processing the recent advice in relation to defining supporting habitat for *Sabellaria spinulosa,* as presented within Natural England Appendix C2 and C3 and will seek to discuss this further with Natural England with a view to providing a more detailed response at Deadline 5.

Ref No	Natural England Response	Applicant Response
	been set using expert judgement based on knowledge of the sensitivity of the features to activities that are occurring or have previously occurred within the site.	The Applicant does not agree that the proposed scale of rock protection within the SAC would adversely affect the conservation objectives relating to supporting habitat for *S. spinulosa* reef, given the relatively small impact from the Project and the availability of reef forming habitats within the SAC. Furthermore, it should be emphasized that while rock protection may limit the potential for 'natural' *S. spinulosa* reef formation in an area, it would not generate additional negative impacts beyond the affected footprint. The structural complexity of the rock protection would support epifaunal 'influential species' or communities similar to those found in biogenic reef habitats, unlike other pressures (such as fishing). Furthermore, *S. spinulosa* is known to form on silty turbid circalittoral rock (Tillin *et al.* 2024; Connor *et al*., 2004) and whilst we understand that this is not seen as 'natural' reef (by Natural England) it would provide the presence and spatial distribution of reef communities.
11	It is Natural England's view that once impacts from cable installation have ceased there is a potential for Annex I Sabellaria spinulosa to establish over the cable (as we do for the cessation of fishing activities). However, we do not believe that there is this potential where ground conditions have or will be fundamentally changed by the lasting placement of hard infrastructure on the seabed. Therefore, unless the placement of cable protection can avoid areas of suitable ground conditions, we advise that lasting habitat change/loss cannot be excluded. Accordingly, Applicants should, as well as presenting information on the presence and extent of S. spinulosa, seek to provide and appraise evidence regarding the suitability of habitats for Annex I reef development along the cable routes, where the route falls within the SAC[1] . Where such evidence has not been provided, a precautionary approach for protecting suitable sediment habitat for reef establishment within the SAC should be taken. [1] Please see Deadline 3 Appendix C2 for further advice on how to define suitable habitats	
Annex 1: Site-Specific Details to Help Inform Suitable Habitat for Annex I Reef within IDRBNR SAC:		
12	As highlighted in ''A Potential Evidence-based Approach to Defining Supporting Habitats for Sabellaria Spinulosa Reef' [Deadline 3 Appendix C2]' Sabellaria spinulosa require high suspended sediment loads and current velocities in the range of 0.5 ms-1 for optimal growth. Where higher velocity currents exist, these can begin to negatively impact upon reefconstruction activities and the worm's ability to feed (Gibb et al., 2014). Tidal currents are locally strong and become complex in the approaches to The Wash (Kenyon and Cooper, 2005). The water depths are relatively shallow in large parts of the site (less than 30m below chart datum), meaning that near-bottom velocities are only slightly lower than those at the surface (Tappin et al., 2011). Strong tidal currents and wave action lead to high levels of suspended sediment (Brutto, 2009). Sotheran et al. (Sotheran et al., 2005) found some of the best examples of Sabellaria spinulosa reef that they encountered within the site were in areas of sandy gravel and gravel, where there was a good supply of mobile sand.	The Applicant has provided an overarching response to this document at line 10.
13	There is a central channel leading from the Silver Pit, south into the inner Wash. Suspended sediments are carried southwards along this channel, as well as east across Docking Shoal. This suspended sediment transport provides building material and a food source for Sabellaria spinulosa reefs, which have been recorded along this central channel at Silver Pit South and Lynn Knock, as well as on Docking Shoal (Brutto, 2009), (Roberts et al., 2016), (Foster-Smith, 2003), (Eggleton et al., 2016)	
14	The dominant substrata of Inner Dowsing bank and many of the deeper trough and channel areas within the site are subtidal mixed sediments (Barrio Froján et al., 2013), (Tappin et al., 2011). These provide a suitable attachment substrate for S. spinulosa to aggregate and form a reef.	

Ref No	Natural England Response	Applicant Response
Annex 2 – IDRBNR SAC Condition Assessment		
15	Inner Dowsing, Race Bank and North Ridge SAC - H1170 Reefs - Subtidal biogenic reefs: *Sabellaria spp.* - Supporting processes: areas with conditions suitable for reef formation. **Target:** Restore the environmental conditions in those locations that are known, or which become known, to be important for Sabellaria reef formation. **Attribute category:** Secondary — **Site discretionary:** No **Assessment date:** 29/07/2019 **Baseline exists:** True — **Monitoring against baseline occurred:** False **Baseline dataset reference:** (Barrio Froján et al., 2013) (HR Wallingford et al., 2002) (Ke et al., 1996); (Tappin et al., 2011); evidence of infrastructure on the seabed. These surveys can be used together to form an incomplete baseline of the attribute. **Reference for post baseline monitoring:** n/a **Additional data used in assessment:** Knowledge of activities occurring in the site which are damaging to the reef **Target met?:** False — **Confidence:** Low	The Applicant has provided an overarching response to this document at line 10.
16	Rationale for judgement: Lincs, Lynn and Inner Dowsing offshore windfarms are in an area that would be likely to support Sabellaria spinulosa reef (Centrica Energy, 2009). Each turbine is surrounded by mattressing. This hard substrate in a sediment habitat reduces the area available which is suitable for reef formation. This is an impact for at least the lifetime of the windfarm, with recovery not expected to begin until full decommissioning occurs, and recovery is allowed to happen, therefore the target has failed. Fisheries using bottom towed fishing gear are active in the site (Department for Environment Food & Rural Affairs (Defra), 2016). S. spinulosa reef is considered highly sensitive to a number of pressures exerted by bottom towed fishing gear (Marine Management Organisation (MMO), 2014) for example; abrasion at the surface of S. spinulosa reefs is likely to damage the tubes and result in sub-lethal and lethal damage to the worms, structural damage to the seabed sub-surface is likely to damage and break-up tube aggregations leading to the loss of reef within the footprint of direct impact (Gibb et al., 2014). This may also lead to disturbance of the upper layers of the seabed, changes in suspended solids; direct removal of or damage too target and non-target species, and the alteration of habitat structure (Gubbay and Knapman, 1999), (Sewell and Hiscock, 2005), (Bergmann and Moore, 2001) (Catchpole et al., 2008), (Alverson et al., 1994), (Kaiser et al., 2001). Fishing effort with bottom towed gear is likely to be greatest on Lynn Knock reefs, based on information from Fishermap. There are currently Marine Management Organisation Byelaws in place within this site (Marine Management Organisation (MMO), 2014), however these byelaws do not cover all of the Sabellaria core reef within these areas of Lynn Knock. There is an MMO byelaw banning the use of bottom towed gear on Docking Shoal reef so this reef will not be subject to this pressure. Other management measures have been proposed, if these are implemented the assessment will be updated. As the byelaws do not protect all of the reef from bottom towed gear the target has failed. This assessment has been made using expert judgement based on knowledge of the sensitivity of the feature to activities that are occurring / have occurred on the site.	
17	Rationale for confidence: The target has been set based only on proxy information and expert judgement	The Applicant has provided an overarching response to this document at line 10.

1.3.4 Appendix E2 to the Natural England Deadline 3 Submission

Table 1.3.4 Appendix E2: Natural England's comments and updated advice on Marine Mammals [REP2-036 and REP2-038]

Ref No	Natural England's Comment	Applicant Response
In formulating these comments, the following documents submitted by the Applicant at Deadline 2 have been considered in relation to the impacts of Outer Dowsing Offshore Wind Farm (ODOW) on marine mammals: • [REP2-036] 8.6.1 Outline Marine Mammal Mitigation Protocol for Piling Activities (Tracked) • [REP2-038] 8.6.2 Outline Marine Mammal Mitigation Protocol for Unexploded Ordnance Clearance (Tracked) 7• [REP2-040] 8.13 Schedule of Mitigation (Tracked) • [REP2-053] 19.4 The Applicant's Comments on Deadline 1 Submissions		
Introduction		
1	Natural England welcomes the resolution of issues, identified within our Deadline 1 Submission [REP1-060], within the Outline Marine Mammal Mitigation Protocol for Piling Activities Tracked [REP2-036] and the Outline Marine Mammal Mitigation Protocol for Unexploded Ordnance Clearance Tracked [REP2-038]. See our advice in Sections 2 and 3.	The Applicant welcomes Natural England's recognition of the resolution of the issues identified within their Deadline 1 submission (REP1-060) through the updates to the Outline Marine Mammal Mitigation Protocol for Piling Activities Tracked (REP2-036) and the Outline Marine Mammal Mitigation Protocol for Unexploded Ordnance Clearance Tracked (REP2-038).
2	The key points raised below in Sections 4, 5 and 6 focus on issues that remain unresolved. Natural England reiterates advice regarding these issues already provided in our Relevant Representations [RR-045], Deadline 1 Submission [REP1-060] and Response to Examiners First Written Questions [REP2-074], reflecting the Applicant's response to Natural England's Deadline 1 Submission [REP2-053].	Please see responses provided in 8, 9 and 10 below.
3	Natural England would like to see progress made on the outstanding issues that remain. Please also refer to Natural England Appendix J3 Risk and Issues Log to see resolved and outstanding issues.	The Applicant notes that 11 out of the 25 issues raised by Natural England within Appendix J3 Risks and Issues Log have been resolved, three of which were resolved at Deadline 3. The Applicant is endeavouring to progress and reach resolution with Natural England on the remaining 14 issues during the course of the Examination. Regarding Issue E19, the Applicant notes that the Outline Marine Mammal Mitigation Protocol for UXO Clearance (REP2-038) (and Outline Marine Mammal Mitigation Protocol for Piling Activities (Document Reference 8.6.1 V4 submitted at Deadline 4)) have been updated to include a 30 minute watch prior to Acoustic Deterrent Device (ADD) activation. The Applicant considers that this will resolve the issue, however Natural England has not yet confirmed acknowledgement of this update.
Outline Marine Mammal Mitigation Protocol (MMMP) for Piling Activities [REP2- 036] and UXO Clearance [REP2-038]		
4	4.3.1 Paragraph 19 - Natural England welcomes the removal of the text 'if this mitigation measure is adopted'. We are therefore content with the Applicant's commitment to adopt a pre-piling search by a qualified MMOb in line with the minimum requirement from JNCC guidelines. Natural England considers this issue is resolved.	The Applicant welcomes Natural England's confirmation that this issue has been resolved within both the Outline Marine Mammal Mitigation Protocol for Piling Activities Tracked (REP2-036) and the Outline Marine Mammal Mitigation Protocol for Unexploded Ordnance Clearance Tracked (REP2-038).
5	4.3.7 Paragraph 34 - Natural England welcomes the Applicant's commitment for the soft-start to commence at no higher than 10% of the maximum hammer energy. Natural England considers this issue is resolved.	The Applicant welcomes Natural England's confirmation that this issue has been resolved within the Outline Marine Mammal Mitigation Protocol for Piling Activities Tracked (REP2-036).
Outline Marine Mammal Mitigation Protocol (MMMP) for UXO Clearance [REP2- 038]		
6	4.2 Paragraph 14 - Natural England welcomes the commitment to increase the number of marine mammal observers if required. PAM detections of marine mammals, particularly harbour porpoise, decline at a distance greater than 300 m (and this decline is worse in sea state >2). Natural England advises the Applicant needs to ensure all marine mammals within the mitigation zone can be detected. If effective monitoring cannot cover the mitigation zone, other methods of mitigation or sound	The Applicant welcomes Natural England's confirmation that the issue regarding the increase in the number of marine mammal observers, if required, has been resolved. The Applicant acknowledges Natural England's advice regarding mitigation measures for Unexploded Ordnance (UXO) clearance, UXO clearance is not within the scope of the DCO application and the Applicant will apply for a marine licence post consent. The Applicant has provided further clarification

Ref No	Natural England's Comment	Applicant Response
	reduction at source will be required. We therefore advise further clarification to the MMMP is required.	in the Outline Marine Mammal Mitigation Protocol (MMMP) for UXO Clearance (REP2-038). Specifically, (REP2-038) states that Passive Acoustic Monitoring (PAM) will be used solely to supplement visual monitoring, not as a stand-alone mitigation measure, as UXO clearance can only be carried out in conditions that allow for visual monitoring. The inclusion of additional qualified Marine Mammal Observers (MMObs) if required will ensure the entire mitigation zone can be effectively monitored, in line with Joint Nature Conservation Committee (JNCC) guidance (2010). Furthermore, the implementation of ADDs as an additional mitigation measure will help ensure that marine mammals are not within the mitigation zone and/or injury range before the commencement of any UXO clearance. REP2-038 also outlines measures that may be undertaken by the Applicant to reduce the impact ranges, and therefore the mitigation zone, from UXO clearance. These mitigation options include the use of low order clearance methods, and the use of bubble curtains if any high order detonation is required. The Applicant highlights that the final UXO MMMP will need to be agreed by the Marine Management Organisation (MMO) in consultation with Natural England prior to undertaking UXO clearance. The final MMMP will provide a refined suite of mitigation measures, in line with the Outline MMMP, so that all marine mammals within the mitigation zone can be detected, informed by a refined mitigation zone based on UXO size and clearance method.
7	4.3 Paragraph 15 - Natural England welcomes the removal of the text 'if this mitigation measure is adopted'. We are therefore content there is commitment within the MMMP to pre-detonation search by a qualified MMOb as per the minimum requirement from the JNCC guidelines. Natural England considers this issue is resolved.	The Applicant welcomes Natural England's confirmation that this issue has been resolved within the Outline Marine Mammal Mitigation Protocol for Unexploded Ordnance Clearance Tracked (REP2-038).
Noise Abatement Systems (NAS) - Noise Reduction at Source Mitigation		
8	Natural England reiterates our previous advice regarding Noise Abatement Systems (NAS) or noise reduction at source as mitigation, remains unchanged. Natural England expects to see the Applicant make a commitment to the use of primary and/or secondary noise mitigation methods.	Following publication of the recent Policy Paper: Reducing Marine Noise (Defra, 2025), the Applicant has committed to use best endeavours to deliver noise reductions through the use of primary and/or secondary noise reduction methods, with this commitment secured through the submission of an updated Outline MMMP for Piling (document 8.6.1) and In-Principle SIP (document 8.7) at Deadline 4.
Harbour Seal Population in the Wash and North Norfolk Coast (WNNC) Special Area of Conservation (SAC)		
9	The cause of the decline of harbour seals in the Wash and North Norfolk Coast (WNNC) SAC is unknown; until the cause of the decline is found, any activities that have the possibility to hinder recovery need to be carefully assessed for less impactful alternatives. In this case, the use of NAS, or other suitable alternative to reduce sound at source, and planning noisy activities to avoid sensitive timings has the potential to reduce disturbance to the population. Therefore, Natural England is committed to and reiterates the advice provided at Relevant Representations [RR-045] and in our Deadline 1 submission [REP1-060].	The Applicant notes Natural England's advice and acknowledges their concern regarding the decline of harbour seals in the WNNC SAC. The Applicant maintains the previous response outlined within the Applicant's Comments on Deadline 1 Submissions (REP2-053). As the reasons for the decline of the Wash harbour seal colony remain unknown and require further investigation, the Applicant appreciates the need for cautious assessment of any activities that could potentially impact the population. However, it is important to note that this decline has not been linked to the effects from offshore wind development, nor is there evidence that the trajectory of the population (decline and/or recovery) would be affected by potential activities outlined from this project. The Interim Population Consequences of Disturbance (iPCoD) modelling submitted to support the application (PD1-094) concluded that no population-level effects on harbour seals are predicted as a result of the project's construction. Following publication of the recent Policy Paper: Reducing Marine Noise (Defra, 2025), the Applicant has committed to use best endeavours to deliver noise reductions through the use of primary and/or

Ref No	Natural England's Comment	Applicant Response
		secondary noise reduction methods, with this comment secured through the submission of an updated Outline MMMP for Piling (document 8.6.1) and In-Principle SIP (document 8.7) at Deadline 4.
Interim Population Consequences of Disturbance (iPCoD) Modelling		
10	Natural England reiterates that although the model can be used as a tool alongside other methods for assessing the impacts of disturbance, it does not mean the results of the modelling should dictate the final significance conclusion. Please refer to Natural England's response to ExQ1 MM 1.5 [REP2-074] for further clarification.	The original Environmental Statement (ES) chapter came to the same significance conclusion in the absence of iPCoD modelling. The iPCoD modelling simply provided further justification for the significance conclusions obtained in the ES chapter and was conducted at the request of Natural England for this reason.

1.3.5 Appendix F2 to the Natural England Deadline 3 Submission

Table 1.3.5 Appendix F2: Natural England's Advice on documentation submitted and updated related to Offshore and Intertidal Ornithology following acceptance of the Offshore Restricted Build Area (ORBA).

Ref No	Natural England's Response	Applicant Response
In formulating these comments, the following documents have been considered: • **[PD1-087] ORBA and Revision to the Offshore ECC Appendix E Offshore Ornithology Collision Risk Modelling** • **[PD1-088] ORBA and Revision to the Offshore ECC Appendix F Offshore Ornithology Displacement Assessment** • **[PD1-089] ORBA and Revision to the Offshore ECC Appendix G MRSea Modelling for Offshore Ornithology** • **[PD1-091] Habitats Regulations Assessment for the ORBA and Revision to the Offshore ECC** • **[PD1-092] Habitats Regulations Assessment for the ORBA and Revision to the Offshore ECC Appendix A Offshore and Intertidal Ornithology Apportioning**		
Summary of Advice		
Updated offshore ornithology assessment in light of the changes resulting from the introduction and acceptance of the Offshore Restricted Build Area (ORBA)		
1	As advised at Deadline 1, the Applicant has supplied documents describing the changes introduced by the Applicant in respect of the offshore restricted build area (ORBA) and revision to the offshore export cable corridor (ECC), including the impact of these changes on ornithological receptors. However, the Applicant has not provided an updated in-combination assessment, nor carried out updated population viability assessments (PVA) for project alone or cumulative/in-combination impacts, including for species where the introduction of the ORBA has resulted in an increase in mortality estimates.	Following the acceptance of the ORBA and the revisions to the offshore ECC, updated in-combination assessments, and PVAs for project alone and in-combination for all species where a PVA is required (ie where impacts are above the 1% increase in baseline mortality threshold), have been provided at Deadline 4. An updated ES, including cumulative assessments, will be provided at Deadline 5.
2	As stated within our Deadline 1 submission Appendix F1 [REP1-061], Natural England maintain that it is important there is an accurate record of the project-alone impacts, which are required for in-combination assessments moving forward (including the in-combination assessments that other Round 4 projects will be undertaking). They are also required for those species where compensation is deemed necessary in order to calculate the appropriate compensation requirement.	Following the acceptance of the ORBA and the revisions to the offshore ECC, an updated Report to Inform the Appropriate Assessment (RIAA) V3 (document reference 7.1) which includes project alone impacts has been provided at Deadline 4.
3	We advised at Deadline 1 that an updated Environmental Statement (for Environmental Impact Assessment (EIA)) and Report to Inform the Appropriate Assessment (RIAA), including any relevant appendices, should be submitted into the examination, and so welcome the ExA decision to seek these updated documents. These should include updated PVA where necessary (i.e. where impacts are above the 1% increase in baseline mortality threshold), and updated cumulative/in-combination assessments, including for those species where impacts are considered negligible by the Applicant. We recommend that the Applicant refers to Table 1 below and the updated summary in Annex 1 showing	Following the acceptance of the ORBA and the revisions to the offshore ECC, an updated RIAA V3 (document reference 7.1) including relevant appendices has been provided at Deadline 4. This includes updated PVAs, where necessary, and updated in-combination assessments. The Applicant has not included those species where impacts are considered negligible within the in-combination assessment. The Applicant has explained their approach at

Ref No	Natural England's Response	Applicant Response
	outstanding disagreement between Natural England and the Applicant on assessment methodology when compiling the updated documents to ensure Natural England's approach is presented in full.	Deadline 2 in their comments on Deadline 1 submissions (REP 2-053, F1.17). Given the levels of precaution in the assessment and the very small size of the project alone impact (i.e., the contribution of the Project is 0.031% of baseline mortality of Sandwich tern and 0.039% of baseline mortality of lesser black-backed gull), there are no circumstances where the project alone impact could materially contribute to the in-combination total for these species. The Applicant notes Natural England's advice within this document (line 22) in relation to lesser black-backed gull at Alde-Ore Estuary SPA and Sandwich tern at North Norfolk Coast SPA and that is likely that *'Natural England will advise that the ODOW project alone impact for these species at these sites is sufficiently low to allow in-combination adverse effects to be excluded for these SPAs. Nonetheless, as outlined above, accurate Project alone mortality values are required for future in-combination assessments'.* This position is welcomed by the Applicant. An updated ES, including cumulative assessments, will be provided at Deadline 5. When compiling the updated documents, the areas of disagreement on assessment methodology shown in Table 1 and Annex 1 have been accounted for. Further details are provided by the Applicant in the species-specific responses within this document (rows 12 to 20). Specific responses to Annex 1 (Summary of Disagreements for Offshore Ornithology Assessment Methodology) are also provided within the Applicant's response to the Offshore and Intertidal Ornithology Risk and Issues log (The Applicant's Comments on Natural England's Risk and Issues Log (Document Reference 21.8) submitted at Deadline 4.
4	Notwithstanding the above, for some species the introduction of the ORBA has been shown to either decrease or result in no change to the project's impacts or resulted in an increase that is small enough to enable Natural England to make a judgement that the Applicant's conclusion of no significant adverse impact (EIA) or adverse effect on site integrity (HRA) for the project alone remain valid. Therefore, despite not having seen an updated PVA for these species for the relevant biogeographical populations or Special Protection Areas (SPAs), we are able to conclude that we agree with the conclusion of no significant adverse impact/ Adverse Effect on Integrity (AEOI) alone for these species.	The Applicant welcomes this conclusion. As part of the updates to the RIAA V3 (document reference 7.1) updated PVAs for all species where a PVA is required (ie where impacts are above the 1% increase in baseline mortality threshold), have been provided at Deadline 4. The conclusions of no significant adverse impact / no AEoI alone for these species remain valid.
5	For a number of these species, some level of uncertainty or disagreement between Natural England and the Applicant remains over the exact methodology/parameters employed to calculate the exact level of impact (see Table 1), but it is recognised that these will have only a minor influence on the final mortality value and therefore will likely not change the overall conclusions.	Within the updated RIAA V3 (document reference 7.1) provided at Deadline 4, the Applicant has presented Natural England's preferred methodology / parameters for those species outlined in Table 1 of REP3-070. The Applicant has explained its position on all points raised within rows 9 to 20 of this Table. The Applicant welcomes and agrees with the final part of this comment.
Project alone impacts at EIA		
6	For the majority of species (**gannet, kittiwake, guillemot, razorbill, lesser black-backed gull, Sandwich tern and common scoter**), the Applicant has provided an EIA project alone assessment following Natural England's approach and using our recommended parameters. However, for **common tern** and **little gull**, we advised at Relevant Representation [RR-045] that the Nocturnal Activity Factor (NAF) used for collision risk modelling (CRM) was not that advised by Statutory Nature Conservation Bodies (SNCBs). As CRM was not rerun for these species following the introduction of the ORBA, we currently do not have agreed mortality estimates for these species.	As agreed with Natural England through the EPP, the Applicant did not assess impacts on common tern and little gull using CRM. Instead, due to the presence of these species in the survey area being restricted to migration periods, broadfront mCRM has been utilised as this is considered to be a more suitable assessment method. The Applicant has ensured that the NAFs advised by Natural England (namely 1 for common tern and 2 for little gull) have been utilised within the broadfront mCRM. As such the Applicant is

Ref No	Natural England's Response	Applicant Response
		confident that the correct input parameters and assessment methods have been utilised for common tern and little gull, as presented in the updated RIAA V3 (document reference 7.1 submitted at Deadline 4 (also see Appendix 12.5 Migratory Bird Collision Risk Modelling (document reference 6.3.12.5) submitted at Deadline 4.
7	For **red-throated diver**, our advice at Deadline 2 [REP2-095] regarding the way in which impacts to red-throated diver are considered within the assessment still stands, which is that full consideration should be given to the impacts resulting from the permanent presence of the ORCP and ongoing vessel movements during the Operation & Maintenance phase.	As set out in paragraph 53 *et seq* within Chapter 12 Offshore and Intertidal Ornithology (AS1-040), no likely significant effects in EIA terms are predicted to occur from static structures like the ORCPs, nor would the limited number of vessel movements associated with the operation and maintenance of such a structure lead to any likely significant effects. The assessment considered vessel movements during construction and decommissioning and concluded that the effect of vessel movements during construction and decommissioning would be not significant. There would be fewer vessel requirements during operation, and on that basis, effects arising from vessel movements during operation and maintenance would be less than during construction and decommissioning, and therefore not significant. This is a common and accepted approach within EIA. The Applicant considers that, with the implementation of the mitigation measures presented within the Outline Vessel Management Plan (PD1-064), any impacts from vessel movements during operation would be small-scale and temporary and therefore not significant. The Applicant provided additional clarifications to address the concerns raised, specifically the uncertainty surrounding the effects of static structures on red-throated diver. This information was provided within the Environmental Report for the Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor submitted at Procedural Deadline 1 (PD1-081); all conclusions set out in the original assessment (AS1-040) remain unchanged and valid. Since the submission of this document (PD1-081), mitigation in the form of a substantial height reduction of the ORCP, enabled by progress on engineering design, has been proposed to provide further comfort to Natural England in respect of their concerns. The ExA has been notified of this proposed change through the Change Notification Process (REP3-050) which includes a reduction in the height of the ORCP to 59.2m above lowest astronomical tide (LAT), with any mast or antenna located on the ORCP to be a maximum height of 79.2m above LAT. The environmental implications of this change have been reviewed to fully understand whether the changes affect the conclusions of the Environmental Statement (ES). As the change to the ORCP maximum design parameters results in a reduction to the parameters which were presented in the ES, all conclusions within the original assessment remain unchanged and valid; it is likely that the proposed height reduction would lead to a reduction in any potential displacement effects should they be present. As such, the Applicant's conclusion of no significant adverse impacts as a result of the presence of the ORCP remains valid. Following the completion of consultation related to this change, the change application has been submitted at Deadline 4 (The Applicant's Change Request February 3rd 2025 (ORCP & Lead in Times / Breeding seasons) (document reference 21.19).

Ref No	Natural England's Response	Applicant Response
		During the meeting held between ODOW and Natural England on 17th February 20025, a method for considering project-specific displacement effects on the red-throated diver feature of the Greater Wash SPA from the ORCP, including contextualising these effects in the light of existing structures in the area, specifically the Lincs OWF, was agreed. The Applicant has provided additional clarifications in accordance with this method within the updated RIAA V3 (document reference 7.1) submitted at Deadline 4. The Applicant maintains its conclusion of no AEoI.
8	Notwithstanding the above, Natural England are able to conclude that for all species, the impacts are at a level that would result in **no significant adverse impacts at the EIA scale from the Project alone.**	This comment is welcomed by the Applicant.
Cumulative Impacts at EIA		
9	Natural England has already identified significant adverse impacts from North Sea OWF at the EIA scale to **gannet, kittiwake, great black-backed gull, guillemot, razorbill and red- throated diver**, irrespective of whether Outer Dowsing OWF ('ODOW') and other Round 4 projects are included in the cumulative totals. ODOW will be making an additional contribution to those totals.	The Applicant has undertaken a rigorous EIA in consultation with Natural England and using a highly precautionary approach/methodology. This concluded that there would be no significant adverse impacts at the EIA scale, either for the Project alone or cumulatively. Based on the results of cumulative assessments shown in Chapter 12 of the Environmental Statement (AS1-040), including PVAs for those species where appropriate thresholds are, the Applicant disagrees with Natural England's conclusions of significant adverse cumulative impacts. As stated within the Environmental Report for the Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor (PD-081), the project alone conclusions following the introduction of the ORBA have not changed and therefore the cumulative effect conclusions were not updated. Following the acceptance of the ORBA, an updated ES, including cumulative assessments, will be provided at Deadline 5.
10	With regards to species where we have not yet concluded significant adverse impact at EIA, an updated cumulative assessment is required in order to determine whether the additional impact from the Project and other Round 4 projects would warrant such a conclusion.	An updated cumulative assessment will be provided as part of the updated ES at Deadline 5.
Project Alone Impacts at Habitat Regulations Assessment (HRA)		
11	For some species at HRA, there remains outstanding uncertainty and/or disagreement over the assessment, particularly with regards to apportioning of impacts to the relevant Special Protection Areas (SPAs; see Table 1), and therefore the project alone mortality that should be taken through to an updated in-combination assessment following Natural England's approach. For the majority of these species however, Natural England are able to conclude that the impacts are likely sufficiently small, resulting in no Adverse Effect on Integrity (AEoI) from the Project alone. As noted above, this does not obviate the need to correct the assessments where needed, to ensure appropriate ODOW project alone values are used in in-combination assessments. More detail is provided below for key species and SPAs	This comment is welcomed by the Applicant. Following the acceptance of the ORBA and the revisions to the offshore ECC, an updated RIAA V3 (document reference 7.1) including project alone and in-combination assessments, has been provided at Deadline 4. More detail is provided below for key species and SPAs.
12	**Gannet, Flamborough and Filey Coast (FFC) SPA** The introduction of the ORBA has resulted in no change to estimated mortality due to collision, and decreased mortality caused by displacement, therefore there has been an overall decrease in mortality by 0.1 birds (from 5.4 to 5.3 adults per annum) at 70% displacement and 1% mortality. There remains a disagreement between Natural England and the Applicant regarding the value used to calculate the proportion of adults using Digital Aerial Survey (DAS) data, however this is unlikely to make a material difference to the resulting mortality estimate. Therefore, Natural England agrees	This comment is welcomed by the Applicant. In order to reduce areas of disagreement where possible, the Applicant has provided an updated RIAA V3 (document reference 7.1) which utilises Natural England's preferred adult proportions for gannet at Deadline 4. The adult proportions used are provided in Table 11 of the Apportioning Appendix with further details provided in paragraph 9 (document reference 7.1.1).

Ref No	Natural England's Response	Applicant Response
	that the Applicant's conclusion of no AEoI alone based on an increase to baseline mortality of 0.217% and a Counterfactual of Growth Rate (CGR) of 1.00, is likely to remain valid.	The conclusion of no AEoI alone remains valid.
13	**Guillemot, FFC SPA** The Applicant has presented an updated impact assessment following Natural England's advised approach for model-based population estimates only. Natural England continue to request an impact assessment based on design-based population estimates alongside model- based (see detailed comment 5 in Table 2 below). Notwithstanding this, the original PVA was carried out for an estimated adult mortality of 237.16 at 70% displacement and 2% mortality, which is very similar to that presented by the Applicant in their updated ORBA assessment using model-based estimates following Natural England's advised approach to apportioning (248.6 at 70% displacement and 2% mortality). The PVA carried out for guillemot based on this impact value of 237.16 showed a decrease in growth rate of 0.2%. Therefore, subject to full review of the Applicant's report on how model-based estimates were generated, and agreement on the mortality estimate of 248.6, Natural England agrees that the conclusion of no AEoI from the project alone is likely to remain valid.	This comment is welcomed by the Applicant. Appendix 12.6 MRSea Modelling, including an explanation of how model-based estimates have been generated, has been submitted at Deadline 4 (document reference 6.3.12.6).
14	**Puffin, FFC SPA (part of the breeding seabird assemblage)** The ORBA has resulted in a decrease in the number of adult birds apportioned to the SPA from 84.1 to 79.4 per annum, when comparing the Applicant's approach to apportioning (which includes use of the stable age structure approach to adult proportions (PD1-082)) in the Report to Inform Appropriate Assessment (RIAA) [AS1-096] and the updated ORBA documents. In their updated documents, the Applicant presented an updated mortality estimated based on Natural England's approach to apportioning, which results in 142.9 adult birds apportioned to the SPA and a predicted mortality estimate of 2.0 birds at 70% displacement and 2% mortality. This represents an increase in baseline mortality of 0.691%. Although the original PVA was based on the lower mortality estimate of 84.1, due to the increase to baseline mortality being below the 1% threshold requiring further consideration, Natural England agrees that the conclusion of no AEoI alone is likely to remain valid.	This comment is welcomed by the Applicant.
15	**Sandwich Tern, North Norfolk Coast (NNC) SPA** The introduction of the ORBA has resulted in no change to the estimated annual adult mortality due to collision of 0.4 birds (as per Natural England's approach to apportioning) which represents an increase in baseline mortality of 0.03%. As this is well below the 1% threshold requiring further consideration, Natural England agree that the conclusion of no AEoI alone is likely to remain valid. We note that the assessment presented by the Applicant in the updated ORBA RIAA [PD1-091 and PD1-092] shows a mortality value of 0.2 (due to an adult proportion of 0.64 calculated using the stable age structure approach, see detailed comment 4 in Table 2).	This comment is welcomed by the Applicant. The Applicant has presented Natural England's preferred adult proportions for Sandwich tern, alongside the Applicant's preferred approach, within the RIAA V3 (document reference 7.1) and Section 7 of Appendix 1 Ornithology Apportioning V2 (document reference 7.1.1) submitted at Deadline 4. The Applicant maintains that the Furness 2015 adult proportions are appropriate.
16	**Lesser black-backed gull, Alde-Ore Estuary SPA** The introduction of the ORBA has resulted in a slight increase in estimated annual adult mortality due to collision from 0.2 to 0.3 birds. There remains a disagreement between Natural England and the Applicant regarding the value used to calculate the proportion of adults using DAS data, however this is unlikely to make a material difference to the resulting mortality estimate. Therefore, Natural England agrees that the conclusion of no AEoI alone, which is based on an increase to baseline mortality of 0.06% is likely to remain valid.	This comment is welcomed by the Applicant. In order to reduce areas of disagreement where possible, the Applicant has utilised Natural England's preferred adult proportions for lesser black-backed gull within the updated RIAA V3 (document reference 7.1) submitted at Deadline 4. The adult proportions used are provided in Section 7 of the Apportioning Appendix; further details are provided in paragraph 9 (V2 document reference 7.1.1). The conclusion of no AEoI alone remains valid.
17	**Kittiwake, FFC SPA**	This comment is welcomed by the Applicant.

Ref No	Natural England's Response	Applicant Response
	The introduction of the ORBA has increased estimated annual adult mortality (based on mean abundance) by less than one (from 14.6 to 15.4). Natural England are awaiting further information from the Applicant regarding the method by which offshore breeders have been included in the apportioning calculations, and whether an apportioning rate of 61.3% or 64% or birds to FFC SPA has been used within the assessment. Nonetheless, we recognise that this is unlikely to make a material difference to the resulting mortality estimate. Natural England therefore agrees that the conclusion of no AoEI alone, which are based on an increase to baseline mortality of 0.11% and a CGR of 1.00, is likely to remain valid.	Further information regarding the method by which offshore breeders have been included in the apportioning calculations was provided at Deadline 3 (REP3-037 Appendix A: Updates requested in RR-045 for Deadline 3) (also see section 6 of Appendix 1 of the RIAA: Ornithology Apportioning (document reference 7.1.1). The conclusion of no AEoI alone remains valid. The Applicant confirms that an apportioning rate of 61.3% of adult birds to the FFC SPA has been used within the assessment (see Section 7 of Appendix 1 of the RIAA: Ornithology Apportioning (document reference 7.1.1).
18	**Razorbill at FFC SPA** The introduction of the ORBA has resulted in a decrease in estimated mortality, but Natural England has yet to see an assessment based on our advised apportioning approach for FFC SPA (see detailed comment 3 in Table 2 below). Therefore, we remain unable to make a judgement on the level of impact for this species at HRA for the project alone.	Following the acceptance of the ORBA, apportioning to FFC SPA for razorbill, as advised by Natural England, including the bespoke post breeding bioseason apportioning rate, has been presented within the updated RIAA V3 alongside the Applicant's approach (document reference 7.1) submitted at Deadline 4. The Applicant maintains that the approach used for the assessment is appropriate and precautionary as discussed in REP2-057, REP2-058 and REP2-059. Following Natural England's review of the documentation submitted at Deadline 4, the Applicant expects that this issue will be resolved
19	**Red-throated diver at the Greater Wash SPA** Natural England's advice at Deadline 2 [REP2-095] regarding the way in which impacts to red- throated diver feature of the SPA are considered within the assessment still stands, which is that full consideration should be given to the impacts resulting from the permanent presence of the Offshore Reactive Compensation Platform (ORCP) within the Greater Wash SPA, and also vessels transiting through the SPA during the Operation & Maintenance phase. Therefore, we remain unable to make a judgement on the level of impact for this species at HRA for the project alone.	As set out in paragraph 53 *et seq* within Chapter 12 Offshore and Intertidal Ornithology (AS1-040), no likely significant effects in EIA terms are predicted to occur from static structures like the ORCPs, nor would the limited number of vessel movements associated with such a structure lead to any likely significant effects. Within their Relevant Representation (RR-045), Natural England requested more detail on the impacts of the ORCP on red-throated diver, specifically during the O&M phase. The Applicant therefore provided additional clarifications to address the concerns raised, specifically the uncertainty surrounding the effects of static structures on red-throated diver. This information was provided within the Environmental Report for the Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor submitted at Procedural Deadline 1 (PD1-081); conclusions set out in the original assessment (AS1-040) remain unchanged and valid. Since the submission of this document (PD1-081), mitigation in the form of a substantial height reduction of the ORCP, enabled by engineering design, has been proposed to provide further comfort to Natural England in respect of their concerns. The ExA has been notified of this proposed change through the Change Notification Process (REP3-050) which includes a reduction in the height of the ORCP to 59.2m above lowest astronomical tide (LAT), with any mast or antenna located on the ORCP to be a maximum height of 79.2m above LAT. The environmental implications of this change have been reviewed to fully understand whether the changes affect the conclusions of the Environmental Statement (ES). As the change to the ORCP maximum design parameters results in a reduction to the parameters which were presented in the ES, all conclusions within the original assessment remain unchanged and valid; it is likely that the proposed

Ref No	Natural England's Response	Applicant Response
		height reduction would lead to a reduction in any potential displacement effects should they be present. As such, the Applicant's conclusion of no significant adverse impacts as a result of the presence of the ORCP remains valid. Following the completion of consultation related to this change, the change application has been submitted at Deadline 4 (The Applicant's Change Request February 3rd 2025 (ORCP & Lead in Times / Breeding seasons) (document reference 21.19)). During the meeting held between ODOW and Natural England on 17th February 2025, a method for considering project-specific displacement effects on the red-throated diver feature of the Greater Wash SPA from the ORCP, including contextualising these effects in the light of existing structures in the area, specifically the Lincs OWF, was agreed. The Applicant has provided clarifications in accordance with this method within the updated RIAA V3 (document reference 7.1) submitted at Deadline 4. The Applicant maintains its conclusion of no AEoI.
20	**Table 1: Species/SPAs where there remains outstanding disagreement and/or uncertainty around the updated project alone mortality that should be taken though to an updated in-combination assessment:** **HRA Species and SPA** / **Disagreement/uncertainty** Gannet, Flamborough and Filey Coast SPA: displacement and collision — Adult apportioning rate calculated from DAS: Applicant – 86%; NE – 90% Kittiwake, Flamborough and Filey Coast SPA: collision — Method by which offshore breeders have been included in the apportioning calculations. Apportioning rate incorporating offshore breeders of 61.3% vs 64% Guillemot, Flamborough and Filey Coast SPA: displacement — Appropriateness of model-based estimates Razorbill, Flamborough and Filey Coast SPA: displacement — NE's approach not presented in full (bespoke apportioning rate of 70.6% for the post-breeding season) Lesser black-backed gull, Alde-Ore Estuary SPA: collision — Adult apportioning rate calculated from DAS: Sandwich tern, North Norfolk Coast SPA: collision — NE's apportioning approach not presented (100% apportioned as adults rather than the 61% calculated using the stable age structure approach preferred by the Applicant) Red-throated diver, Greater Wash SPA: displacement — Full consideration of the impacts, particularly the permanent presence of the ORCPs within the GW SPA, and disturbance from vessels during the O&M phase	The Applicant has provided a response to the points raised in Table 1 within the species-specific responses in rows 12 to 20 of this response.
In-combination impact at HRA		
21	At the end of the Examination for Sheringham Shoal and Dudgeon Extension Projects (SEP and DEP) Natural England could not rule out in-combination AEoI for the **kittiwake, guillemot, razorbill and breeding seabird assemblage features of FFC SPA** [REP8-102]. ODOW will likely be making substantial contribution to the impacts on these features, alongside other Round 4 projects. In that light, in all likelihood our advice is that we cannot rule out AEoI in-combination for these features.	Following the acceptance of the ORBA, the Applicant has provided an updated RIAA V3 (document reference 7.1) at Deadline 4. For all species (with the exception of kittiwake) the conclusions of no AEoI alone and in-combination remain valid.
22	We have also previously advised in-combination adverse effects cannot be ruled out for **lesser black-backed gull at Alde-Ore Estuary SPA** (Norfolk Vanguard, Norfolk Boreas, East Anglia One North, East Anglia Two) and **Sandwich tern at North Norfolk Coast SPA** (SEP and DEP). However, taking into account the likely rather limited prospect of connectivity between the ODOW array and the colonies in question, it is likely that Natural England will advise that the ODOW project alone impact for these species at these sites is sufficiently low to allow in-combination adverse	This comment is welcomed by the Applicant. Following the acceptance of the ORBA, the Applicant has provided an updated RIAA V3 (document reference 7.1) at Deadline 4. Please refer to the Applicant's response at row 15 and 16 on Project alone mortality values.

Ref No	Natural England's Response	Applicant Response
	effects to be excluded for these SPAs. Nonetheless, as outlined above, accurate Project alone mortality values are required for future in-combination assessments.	
23	Natural England consider it particularly important to have accurate alone and in-combination mortality estimates for **gannet at FFC SPA**, due to the fact that whilst it is likely we can rule out AEoI for ODOW, the in-combination mortality total is reaching a level where additional projects beyond the 'Round 4' leasing may trigger an in-combination AEoI.	Following the acceptance of the ORBA, the Applicant has provided an updated RIAA V3 (document reference 7.1) at Deadline 4. Please refer to the Applicant's response at row 12 on Project alone mortality values.
24	For **guillemot, razorbill and kittiwake at FFC SPA**, accurate project alone mortality estimates are required for the calculation of the compensation requirement	Following the acceptance of the ORBA and the revisions to the offshore ECC, updated assessments for the project alone have been provided at Deadline 4. Please refer to the Applicant's response at row 13, 17 and 18 on Project alone mortality values.

Table 1.3.5.1 Appendix F2: Natural England's Detailed Comments on offshore ornithology in relation to ORBA documentation [PD1-091, PD1-088 and PD1-089]

NE Ref No	Section	Key Concern and/or Update	Natural England's Advice to Resolve Issues	Applicant Response
Detailed Comments - Natural England's detailed comments on the ORBA documentation in relation to offshore ornithology [PD1-091, PD1-088 and PD1-089] are presented in Table 2 below				
Document reviewed: Habitats Regulations Assessment for the ORBA and Revision to the Offshore ECC [PD1-091]				
1	Section 4.4.2	The 'SPA weighting (%)' column in these tables is confusing. For all bioseasons where the Biologically Defined Minimum Population Scale (BDMPS) apportioning rates have been used, these correctly reflect the proportion of **all birds** recorded within the array and appropriate buffer that are apportioned as **breeding adults** to the relevant SPA per bioseason, as per the mean seasonal peak. However, for other bioseasons (i.e. the breeding season and any bioseasons where bespoke apportioning rates apply i.e. guillemot and razorbill at FFC SPA) this rate reflects only the proportion of **adult birds** that are apportioned to the relevant SPA i.e. is the rate applied after first calculating the proportion of all that are adults (as calculated using either the stable age structure or site-specific surveys). For example, for the assessment of guillemot at FFC using model- based population estimates (Table 4-11) for the ORBA assessment (Applicant) in the breeding season, this column shows an 'SPA weighting' value of 50%. In fact, as shown in Table 4.1 in PD1-092 shows that the Applicant's approach is to assume 57% of all birds are adults (based on the stable age structure), and of these adults, 50% of them are attributed to FFC SPA. This results in the proportion of **all birds** that are apportioned as adults to the FFC SPA during the breeding season as per the Applicant's approach as 28.5%. This aligns	Please address this in the updated documents. It would be helpful if the Applicant added a column in these tables to show the proportion of birds that have been aged as adults. Alternatively, a single column should show the **overall** proportion that have been apportioned as adults to the relevant SPA, so that it is clear how the number of adults apportioned to the SPA has been derived from the seasonal mean peak abundance.	The Applicant considers that the labelling of the 'SPA weighting (%)' column is appropriate as in the case of breeding and bespoke bioseasons, the figure presented in this column is the proportion that is apportioned to the SPA. The adult proportion used in the assessment has been given in the text, for both the Applicant and Natural England approaches where these differ. For bioseasons where the Furness 2015 BDMPS apportioning rates (that are calculated using an adult proportion and an SPA weighting) have been used, these are presented as calculated (rather than separately as the parameters that inform the calculation) in order to correspond with the values presented in Table 3 of the Apportioning Appendix.

NE Ref No	Section	Key Concern and/or Update	Natural England's Advice to Resolve Issues	Applicant Response
		with a mean peak count in the breeding season of 11,364 resulting in 3238.8 adults apportioned to SPA (11,364 x 0.285 = 3238.8) as laid out in Table 4.13.		
2	Table 4-13	Table 4.13 columns are not aligned properly for the breeding season rows.	Please address this formatting error in the updated documents.	An updated version of PD1-091 is not being provided. All relevant information will be provided in the updated RIAA V3 (document reference 7.1) at Deadline 4.
3	Table 4-13	At Relevant Representations [RR-045] Natural England (NE) advised a bespoke apportioning rate for razorbill during the post- breeding bioseason (August – October) of 70.6% and requested that this was included in the Applicant's presentation of NE's approach. At Deadline 1 [REP1=061], NE highlighted that Table 4.13 in the HRA for the ORBA [PD1-091] did not present the full NE approach with the advised post-breeding apportioning rate for razorbill, with the annual number of adults apportioned to the SPA as per NE's approach stated as 3,455.2, which is summed from 3,159.0 adults during the breeding season (based on NE's approach of 100% adults and 100% to FFC), 73.8 adults for the post-breeding season (based on the BDMPS rate of 3.4% and not the NE advised rate of 70.6%) and 48.8 adults and 173.5 adults for the non-breeding and pre-breeding seasons respectively (based on the BDMPS rates of 2.7% and 3.4% as per NE and Applicant approach). At Deadline 2, the Applicant responded [REP2-53] to state that they have utilised NE's approach to apportioning of adult razorbill (70.6%) during the post-breeding season, but have not stated where this has been presented.	Please could the Applicant clearly outline where an assessment of impacts to razorbill using NE's approach including the bespoke apportioning rate of 70.6% during the post-breeding season has been presented, if not within Table 4-13 of PD1-091. Ideally, Table 4-13 should be updated to present the full assessment for razorbill at FFC for the ORBA assessment as per Natural England's approach.	Following the acceptance of the ORBA, an updated assessment using the apportioning approach for razorbill to FFC SPA advised by Natural England has been provided within the RIAA V3 (document reference 7.1) submitted at Deadline 4.
4	Table 4-34	The Applicant has presented an assessment for Sandwich tern at North Norfolk Coast SPA using their preferred approach to apportioning only i.e. using an adult proportion calculated using the stable age structure approach of 0.61, which effectively halves the mortality estimate from 0.4 to 0.2.	Natural England have recalculated the resulting percentage increase in baseline mortality as 0.03% and agree that this does not change the conclusion of the RIAA. Nonetheless, we advise that the annual mortality estimate that should be taken through to an in-combination assessment following NE's approach for Sandwich tern is 0.4 birds.	The Applicant considers that given the unlikelihood of connectivity and the low levels of impact from the Project alone, the projects impacts are not likely to make any meaningful contribution to an in-combination assessment. The Applicant welcomes Natural England's acknowledgement that conclusions presented in the RIAA V3 (document reference 7.1) will remain valid.
5	Tables 4-10 and 4-11	The Applicant has presented an assessment for guillemot at FFC based on the design-based population estimates following the Applicant's approach to apportioning of birds to the SPA, and an assessment based on the model-based population estimates for both the Applicant's and NE's approach to apportioning of birds to SPA.	We reiterate our request within our Deadline 1 submission that the Applicant presents an assessment following NE's advised apportioning approach using design-based population estimates. Please see also comments below on the Marine Renewable Strategic Environmental Assessment (MRSea) modelling report, including the request for further justification regarding why model-based population	The Applicant considers that the model-based abundance estimates are more robust that the design-based estimates and therefore these estimates should be used for the assessment of displacement. Appendix 12.6 MRSea Modelling, including an explanation of how model-based estimates have been generated, has been submitted at Deadline 4 (document reference 6.3.12.6).

NE Ref No	Section	Key Concern and/or Update	Natural England's Advice to Resolve Issues	Applicant Response
			estimates can be considered more robust than the design-based estimates.	The Applicant notes Natural England's submission on this point at line 13: '*Therefore, subject to full review of the Applicant's report on how model-based estimates were generated, and agreement on the mortality estimate of 248.6* (for guillemot)*, Natural England agrees that the conclusion of no AEoI from the project alone is likely to remain valid*'.
Document reviewed: ORBA and Revision to the Offshore ECC Appendix F Offshore Ornithology Displacement Assessment [PD1- 088]				
6	Section 4, Tables 4-3 and 4-10	This section is titled *'Displacement using MRSea Abundance and Density Estimates'* but refers within the text to both model-based and design-based abundance and density estimates, as well as 'project (Furness, 2015) parameters' and 'Natural England parameters', which are in reference to the bioseasons used. It is not clear which is presented where, due to contradictions between the text and table descriptions. For example, Tables 4-3 and 4-10 are different but have the same descriptions, with both described as being 'Modelled mean peak bio-season counts for guillemot (using the Natural England parameters) within the array area minus the ORBA plus 2km buffer including upper and lower confidence intervals.' However, it appears Table 4-3 is showing model-based estimates for the Applicant's preferred bioseason (from Furness, 2015) s.	The Applicant should check the descriptions of all tables in this document, particularly within Section 4 and ensure they are referenced correctly with the text. This will avoid any confusion with regards to what values are being presented, and which are being taken through to the RIAA/ORBA HRA documents.	An updated version of PD1-088 is not being provided. All relevant information will be provided in the updated RIAA V3 (document reference 7.1) at Deadline 4.
7	Section 4, Tables 4.4 to 4.9	Similarly, there appears to be an error in the descriptions for Tables 4-4 to 4-9 which state Modelled mean/upper 95% CI guillemot breeding/non-breeding/total displacement matrix (array area minus the ORBA plus 2km buffer) based on the design- based estimates…' when these appear to be the model-based estimates for the Applicant's preferred bioseasons (from Furness, 2015).	As above.	An updated version of PD1-088 is not being provided. All relevant information will be provided in the updated RIAA V3 (document reference 7.1) at Deadline 4.
Document reviewed: ORBA and Revision to the Offshore ECC Appendix G MRSea Modelling for Offshore Ornithology [PD1-089]				
8	Para 30	The Applicant states depth and distance to coast were dropped in the (final) model.	Natural England requests that the Applicant clarify whether the final model included any environmental covariates, and the Applicant also provide justification for why depth and distance to coast were not included in the final model. This will assist the Applicant in demonstrating that the model has been robustly constructed.	Within the MRSea package there is a function called SALSA 2D. The SALSA 2D function fits a Complex Region Spatial Smoother (CreSS) model, which in this analysis incorporated depth and distance to the coast as environmental variables. It tests various models and selects the best fit based on a user-specified criterion. In this case a Quasi-Bayesian Information Criterion (QBIC) method was used to achieve this. In this analysis, depth and distance to the coast were excluded from the final model as the explanatory power they provided to the model did not improve the model fit by enough for the QBIC model selection criteria to determine that the increased model complexity

NE Ref No	Section	Key Concern and/or Update	Natural England's Advice to Resolve Issues	Applicant Response
				improved the model outputs. Therefore, the most robust model for creating accurate abundance and density estimates only included (survey, the spatial matrix parameter within the model, and survey as an interaction term). Ten-fold cross-validation (CV) was also used, through the cv.gamMRSea function, to check spatial smoothing improved the model fit comparative to using a SALSA 1D model, which it did.
9	n/a	The report is lacking detail with regards to why the final model was selected.	The Applicant should submit a more detailed methodology fully describing the different aspects of the modelling and associated diagnostics in relation to performance and precision (CV), in order to clearly demonstrate why the final model was selected.	Appendix 12.6 MRSea Modelling, including an explanation of how model-based estimates have been generated, has been submitted at Deadline 4 (document reference 6.3.12.6).

Table 1.3.5.2 Appendix F2: Annex 1 - Update of Summary of Disagreements for Offshore Ornithology Assessment Methodology (initially provided in response to ExA Q1 OR 1.2 [REP2-074])

Ref	Issue	NE's Position	Applicant Position		Resolved at D2?	Resolved at D3?	Applicant Response
			DCO Submission	19 Sept Procedural Decision Submission incl. Response to RR			
Apportioning for HRA							
1	Use of theoretical generalised stable age structure (from Furness 2015) for adult apportioning.	Not appropriate. Natural England's (NE's) position is to assume 100% adults or calculate adult proportions from site-specific digital aerial survey (DAS) data.	Used stable age structure for guillemot, razorbill, puffin, lesser black-backed gull, Sandwich tern and common tern for apportioning of adults in the breeding season	The Offshore Restricted Build Area (ORBA) docs presents both Applicant's approach (stable age structure) and NE's, which is now corrected to not use Stable Age Structure (SAS) as outlined in the Applicant's Response to NE's Relevant Representations [PD1-071]	Yes, for offshore Restricted Build Area (ORBA) documents only.	Yes	The Applicant welcomes the comment regarding the ORBA documentation. Assessments using Natural England's preferred approach in relation to this matter will be incorporated into the updated RIAA V3 (document reference 7.1) which has been provided at Deadline 4.
2	Apportioning of Guillemot (GU) to Flamborough and Filey Coast (FFC)	100% in breeding season (March to July), bespoke chick rearing and moult (August & September) apportioning rate of 68.5% (please see Appendix 2 of our Relevant Representations [RR-045]), Biologically Defined Minimum Population Scales (BDMPS) approach (4.41%) for non-breeding season (Oct to Feb)	57% adults (stable age structure) and 50% to FFC in breeding season, 4.4% in non-breeding season	ORBA docs presents both Applicant's approach (stable age structure) and NE's as outlined in their Response to NE's Relevant Representations [PD1-071	Yes, for ORBA documents only.	Yes	The Applicant welcomes the comment regarding the ORBA documentation. Assessments using Natural England's preferred approach in relation to this matter will be incorporated into the updated RIAA V3 (document reference 7.1) which has been provided at Deadline 4.

Ref	Issue	NE's Position	Applicant Position		Resolved at D2?	Resolved at D3?	Applicant Response
			DCO Submission	19 Sept Procedural Decision Submission incl. Response to RR			
3	Apportioning of Razorbill (RA) to FFC	100% in breeding season (April to July), bespoke postbreeding migration (August to October) apportioning rate of 70.6% (please see Appendix 2 of our Relevant Representaitons [RR-045]), BDMPS approach (3.4%) for pre-breeding migration (January to March), BDMPS approach (2.7%) for non-breeding season (Nov-Dec)	57% adults (stable age structure) and 100% to FFC in breeding season, 3.4% in pre-breeding and post-breeding migration, 0.91% in non-breeding/winter	ORBA documents present the Applicant's approach (stable age structure, 100% to FFC in breeding season) but does not present NE's full approach (BDMPS apportioning rate during the non-breeding season has been corrected from 0.91% to 2.74%, but the bespoke post-breeding migration rate of 70.6% to FFC has not been incorporated), despite the Applicant's response to our Relevant Representations [PD1-071], comment F36 and the statement within the Habitat Regulations Assessment (HRA) ORBA [PD1-091] para 65 that *"The approach to non-breeding season apportioning is identical [for the Applicant and Natural England] with the exception of guillemot".*	No	No	An assessment that incorporates Natural England's preferred approach for apportioning of razorbill has been provided within the updated RIAA V3 (document reference 7.1) submitted at Deadline 4.
4	Exact method of calculating adult proportions using DAS data (applicable to Gannet (GA), Kittiwake (KI) & Lesser black-backed gull (LBBG)).	Submitted at Deadline 1 (see F1.2 in Table 1 of Appendix F1 to NE's Deadline 1 submission [REP1- 061]). Follow Morgan method of calculating proportion of adults from DAS data. This would produce adult apportioning rates of 90% for GA, 91% for KI and 66% for LBBG.	Method not described by Applicant. Rates of 91% for KI and 93% for GA, rate of 60% for LBBG based on stable age structure (Furness 2015)	ORBA documents describe how adult proportions have been calculated from DAS data (using a method we do not think is valid – see NE's response at Deadline 1, Appendix F1 [REP1- 061],comment F1.2 in Table 1),and presents rates for GA (86%), KI (90%) and LBBG (50%)	No – Examiners Questions have requested the Applicant to provide an updated assessment using proportions submitted by NE at Deadline 1 (see NE's position column)	No	Revised assessments that utilise Natural England's preferred adult proportions for gannet, kittiwake and lesser black-backed gull have been provided within the updated RIAA V3 (document reference 7.1) submitted at Deadline 4.
5	Inclusion of offshore breeders for Kittiwake (KI) - unclear what apportioning rate has been used (61.3% or 64%) and how it has been calculated.	Agree with inclusion of offshore breeders in apportioning calculations using NatureScot method, but would like the Applicant to confirm rate used and how it has been derived.	Table 11 of the Report to Inform Appropriate Assessment (RIAA) Annex 1 (Apportioning) [AS1- 099] shows 61.3%	The ORBA documents show conflicting rate. Table 8.1 in HRA ORBA Appendix A (Apportioning) [PD1-092] shows 61.3% (as per Table 11 of the RIAA) [AS1-099]) however Table 6.2 and para 80 suggest a rate of 0.64. This discrepancy may be due to the exclusion/inclusion of the Filey 2 colony (excluded in Table 11 of the	No. However the differences in rates are unlikely to make a material difference to the overall predicted impact and conclusions of the assessment.	No. change. Awaiting submission by the Applicant of an updated apportioning Annex at Deadline 3.	Details on the apportioning rate used in relation to offshore breeders for kittiwake are provided within the updated apportioning Annex, supplied at Deadline 3 (Table 1.3, REP3-037).

Ref	Issue	NE's Position	Applicant Position		Resolved at D2?	Resolved at D3?	Applicant Response
			DCO Submission	19 Sept Procedural Decision Submission incl. Response to RR			
				RIAA but included in Table 6.2 of the HRA ORBA)			
PVA							
6	Burn in for PVA	Submitted at Relevant Representations (see F25 in Table 2 of Appendix F to NE's Relevant Representations [RR-045]) Burn in of 5 years for all species	Burn in for all species except LBBG	The Applicant states that they had ran preliminary PVA with and without burn in and found no difference and therefore do not feel it necessary to update their PVA.	No - PVA has not been rerun. Whilst this may not make a substantial difference to the PVA outputs, this nonetheless represents a departure from Natural England's best practice advice.	No Change	The EIA PVA for LBBG, including burn in, will be provided at Deadline 5.
Red-throated diver & Common Scoter							
7	Not assessing vessel impacts on red- throated diver and common scoter during the Operations and Maintenance (O&M) phase	Submitted at Relevant Representations (see F31 in Table 2 of Appendix F to NE's Relevant Representations [RR-045]) that full consideration should be given to the potential for displacement and disturbance to red- throated diver and common scoter within the Greater Wash (GW) Special Protection Area (SPA) during the O&M phase as a result of vessel movements.	RIAA Table 7.1 (LSE) [AS1-096] did not include direct disturbance and displacement within the Export Cable Corridor (ECC) as a result of vessel movements during the O&M phase for the Greater Wash SPA red-throated diver and common scoter features	No further detail provided within ORBA documents with regards to the potential for vessel movements during the O&M phase to cause disturbance and displacement to red- throated diver and common scoter.	No	No	As set out in paragraph 53 *et seq* within Chapter 12 Offshore and Intertidal Ornithology (AS1-040), no likely significant effects in EIA terms are predicted to occur from static structures like the ORCPs, nor would the limited number of vessel movements associated with the operation and maintenance of such a structure lead to any likely significant effects. The assessment considered vessel movements during construction and decommissioning and concluded that the effect of vessel movements during construction and decommissioning would be not significant. There would be fewer vessel requirements during operation and, on that basis, effects arising from vessel movements during operation and maintenance would be less than during construction and decommissioning, and therefore not significant. This is a common and accepted approach within EIA. The Applicant therefore maintains its position that, with the

Ref	Issue	NE's Position	Applicant Position		Resolved at D2?	Resolved at D3?	Applicant Response
			DCO Submission	19 Sept Procedural Decision Submission incl. Response to RR			
							implementation of the mitigation measures presented within the Outline Vessel Management Plan (PD1-064), any impacts from vessel movements during operation would be small-scale and temporary and therefore not significant. Within their submission at Deadline 3 (Appendix F2, REP3-070), Natural England have stated that they are satisfied that impacts to common scoter are likely to be minimal and that any remaining concerns are for impacts to red-throated diver only. The Applicant welcomes Natural England's position on this matter,
8	Not assessing presence of Offshore Reactive Compensation Platform (ORCP) within Greater Wash SPA during the O&M phase for red- throated diver (RTD) and common scoter	Submitted at Relevant Representations (see F31 in Table 2 of Appendix F to NE's Relevant Representations [RR-045]) that full consideration should be given to the potential for displacement and disturbance to red- throated diver within the Greater Wash SPA due to the permanent presence of the ORCPs within the SPA. Alternative locations for the ORCP outside the SPA should be considered.	RIAA Table 7.1 (LSE) [AS1-096] did not include direct disturbance and displacement within the ECC as a result of the presence of the ORCP within the Greater Wash SPA during the O&M phase for the red- throated diver and common scoter features	Further detail provided within the ORBA documents that consider the potential for the ORCPs to cause displacement to red- throated diver and common scoter, including comparison with static structures within the Outer Thames Estuary (OTE).	This is no longer a disagreement regarding the assessment methodology as such, but rather the specific conclusions of that assessment, particularly that the ORCPs will be located in areas of low density of red- throated diver, and that a direct comparison can be made between the ORCPs and the static structures within the OTE referenced in the ORBA documents. Our remaining concerns are for impacts to red- throated diver; Natural England are satisfied that impacts to common scoter are likely to be minimal.	No Change	The Applicant provided an additional assessment to address the concerns raised, specifically the uncertainty surrounding the effects of static structures on red-throated diver. This assessment was provided within the Environmental Report for the Offshore Restricted Build Area and Revision to the Offshore Export Cable Corridor submitted at Procedural Deadline 1 (PD1-081). The assessment concluded that all conclusions set out in the original assessment (AS1-040) remain unchanged and valid. Since the submission of this document (PD1-081), mitigation in the form of a substantial height reduction of the ORCP has been proposed. The ExA has been notified of this proposed change through the Change Notification Process (REP3-050) which includes a reduction in the height of the ORCP to 59.2m above lowest astronomical tide

Ref	Issue	NE's Position	Applicant Position		Resolved at D2?	Resolved at D3?	Applicant Response
			DCO Submission	19 Sept Procedural Decision Submission incl. Response to RR			
					We understand that the Applicant will be submitting further information on this matter in due course.		(LAT), with any mast or antenna located on the ORCP to be a maximum height of 79.2m above LAT. The environmental implications of this change have been reviewed to fully understand whether the changes affect the conclusions of the Environmental Statement (ES). As the change to the ORCP maximum design parameters results in a reduction to the parameters which were presented in the ES, it has been concluded that the change is not expected to result in any new or different likely significant environmental effects and would indeed lead to a likely reduction in any potential displacement effects, should they be present. As such, the Applicant's conclusion of no significant adverse impacts as a result of the presence of the ORCP remains valid. Following the completion of consultation related to this change, the change application has been submitted at Deadline 4 (document reference 21.19). During the meeting held between ODOW and Natural England on 17th February 20025, an assessment method for considering project-specific displacement effects on the red-throated diver feature of the Greater Wash SPA from the ORCP, including contextualising these effects in the light of existing structures in the area, specifically the Lincs OWF, was agreed. The Applicant has provided an assessment in accordance with this method within the updated RIAA V3 (document reference 7.1) submitted at

Ref	Issue	NE's Position	Applicant Position		Resolved at D2?	Resolved at D3?	Applicant Response
			DCO Submission	19 Sept Procedural Decision Submission incl. Response to RR			
							Deadline 4. The Applicant maintains its conclusion of no AEoI. The Applicant welcomes Natural England's comment regarding common scoter.
9	Only calculating impact to the red- throated diver feature of the GW SPA in terms of mortality not also area affected in both km and % of the SPA	Submitted at Deadline 1 (see F1.9 in Table 1 of Appendix F1 to NE's D1 submission [REP1-061]). Assessment of the potential for the ORCP's to cause displacement to RTD should consider both the estimated mortality, and the area (km2) and the proportion of the SPA where RTDs have the potential to be displaced from by such a structure.	N/A. ORCP not scoped in (see item 9).	Further detail provided within ORBA documents that consider the potential for the ORCPs to cause displacement to red- throated diver and common scoter, including comparison with static structures within the Outer Thames Estuary. This does not include an estimate of displacement mortality, or the area of the SPA from which red-throated divers are displaced.	No. Awaiting response/further documents from the Applicant following request at Deadline 1	No	Enabled by engineering design, the Applicant has substantially reduced the height of the ORCP, which would further reduce any potential effect on red-throated diver displacement. The ExA has been notified of this proposed change through the Change Notification Process at Deadline 3 (REP3-050) which includes a reduction in the height of the ORCP to 59.2m above lowest astronomical tide (LAT), with any mast or antenna located on the ORCP to be a maximum height of 79.2m above LAT. Following the completion of consultation related to this change, the change application documentation has been submitted at Deadline 4 (document reference 21.19). During the meeting held between ODOW and Natural England on 17th February 20025, an assessment method for considering project-specific displacement effects on the red-throated diver feature of the Greater Wash SPA from the ORCP, including contextualising these effects in the light of existing structures in the area, specifically the Lincs OWF, was agreed. The Applicant has provided an assessment in accordance with this method within the updated RIAA V3 (document reference 7.1) submitted at Deadline 4. The Applicant maintains its conclusion of no AEoI.

Ref	Issue	NE's Position	Applicant Position		Resolved at D2?	Resolved at D3?	Applicant Response
			DCO Submission	19 Sept Procedural Decision Submission incl. Response to RR			
Bioseasons							
10	Incorrect breeding seasons for Sandwich Tern (ST) and gannet (full breeding season not used)	Full breeding seasons should be used as set out in Furness 2015. For gannet this is March to September, for Sandwich tern this is April to August.	Table 12.7 within the Applicant's Environmental Statement (ES) presents a 'breeding' season of May to August for Sandwich tern. For gannet, only a 'migration-free breeding' season of April to Augustis is presented.	Applicant confirms within their response to our Relevant Representations that the full breeding season was used for gannet within the ES and RIAA, and that the ORBA documents present an assessment for Sandwich tern using the full breeding season.	Yes, for ORBA documents only (in the case of Sandwich tern)	Yes	The Applicant confirms that the full breeding season for gannet was used within the ES and RIAA and that the full breeding season for Sandwich tern was used on the ORBA documents. An updated RIAA V3 (document reference 7.1) has been submitted at Deadline 4 and an updated ES will be provided at Deadline 5, both of which include the correct breeding seasons for both species.
Nocturnal Activity Factor (NAF)							
11	Incorrect NAFs used for little gull, Sandwich tern and common tern	Use NAFs set out in Garthe and Huppop (2004) and Joint Statutory Conservation Body (SNCB) guidance (JNCC et al 2024)for Collision Risk Modelling (CRM), or present empirical evidence to inform an alternative rate	NAF of zero for little gull, sandwich tern and common tern	ORBA documents present updated CRM using the NAFs advised by NE for Sandwich tern but migratory CRM for common tern and little gull has not been rerun.	No, the ORBA documents use the correct NAF for Sandwich tern, but CRM has not been rerun for common tern and little gull as these were considered within the migratory CRM which has not be rerun.	Yes for Sandwich tern, no for common tern and little gull.	The Applicant has ensured that the NAFs advised by Natural England (namely 1 for common tern and 2 for little gull) have been utilised within the broadfront mCRM, the results of which are provided at Deadline 4 (see Appendix 12.5 Migratory Bird Collision Risk Modelling (document reference 6.3.12.5) submitted at Deadline 4).
Cumulative/in-combination							
12	Screening things out of the in-combination assessment due to the assessment 'alone' concluding a 'trivial and inconsequential level of effect', including Lesser black-backed gull at Alde-Ore Estuary SPA and Sandwich tern at North Norfolk Coast (NCC) SPA.	Where there is a prospect of a contribution to an in-combination adverse effects, small impacts need to be carried through to an in-combination assessment.	Lesser black-backed gull at Alde-Ore Estuary SPA screened out. ST at NNC SPA screened in but assessment not presented.	Applicant confirms within their response to our Relevant Representations that they do not consider it necessary to update the cumulative/in-combination assessment, and confirms that Sandwich tern has not been assessed for in- combination impacts (see F41 in the Applicant's Response to Relevant Representations - Natural England [PD1-071]).	No	No	The Applicant has not included those species where impacts are considered negligible within the in-combination assessment. The Applicant has explained their approach at Deadline 2 in their comments on Deadline 1 submissions (REP 2-053, F1.17). Given the levels of precaution in the assessment and the very small size of the project alone impact (i.e., the contribution of the Project is 0.031% of baseline mortality of Sandwich tern and 0.039% of baseline mortality of lesser black-backed gull), there are no circumstances where the project alone

Ref	Issue	NE's Position	Applicant Position		Resolved at D2?	Resolved at D3?	Applicant Response
			DCO Submission	19 Sept Procedural Decision Submission incl. Response to RR			
							impact could materially contribute to the in-combination total for these species. The Applicant notes Natural England's advice within this document (line 22) in relation to lesser black-backed gull at Alde-Ore Estuary SPA and Sandwich tern at North Norfolk Coast SPA and that is likely that *'Natural England will advise that the ODOW project alone impact for these species at these sites is sufficiently low to allow in-combination adverse effects to be excluded for these SPAs. Nonetheless, as outlined above, accurate Project alone mortality values are required for future in-combination assessments'.* This position is welcomed by the Applicant.
Presentation of displacement impacts							
13	Displacement matrices for mean abundance estimates only	Natural England considers it best practice that matrices are also presented of the upper and lower confidence intervals for each species, so that the full range of impact scenarios can be understood.	Displacement matrices only presented for the mean abundance estimate values for all species	The ORBA documents present displacement matrices for the mean and upper and lower confidence intervals of the abundance estimates for all species	Yes, for ORBA documents only.	Yes	The Applicant welcomes the comment regarding the ORBA documents. The required additional displacement matrices are provided within the updated RIAA V3 (document reference 7.1) at Deadline 4.
14	Displacement matrices for Applicant's approach to apportioning of GU and RA to FFC SPA only.	Displacement matrices for guillemot and razorbill based on Natural England's preferred apportioning approach should be included in order to allow us to assess the predicted impacts using a range-based approach.	Displacement matrices only presented for the Applicant's approach to apportioning for GU and RA	The ORBA documents present displacement matrices for GU according to NE's preferred approach to apportioning, however these are based on the model-based abundance estimates (see item 15). No displacement matrices have been presented for the design-	No	No	An assessment that incorporates Natural England's preferred approach for apportioning of both guillemot and razorbill has been provided within the updated RIAA V3 (document reference 7.1) submitted at Deadline 4. For guillemot, the Applicant considers that model-based abundance estimates are more robust that design-based

Ref	Issue	NE's Position	Applicant Position DCO Submission	19 Sept Procedural Decision Submission incl. Response to RR	Resolved at D2?	Resolved at D3?	Applicant Response
				based population estimates using NE's preferred approach to apportioning of GU to FFC SPA.			estimates and therefore these estimates should be used for the assessment of displacement for this species. Displacement matrices for the design-based estimates for guillemot have been presented in the updated RIAA V3 (document reference 7.1) provided at Deadline 4. For razorbill, design-based abundance estimates and displacement matrices have been provided in the updated RIAA V3 (document reference 7.1) submitted at Deadline 4. The Applicant notes Natural England's submission on this point at line 13: '*Therefore, subject to full review of the Applicant's report on how model-based estimates were generated, and agreement on the mortality estimate of 248.6* (for guillemot)*, Natural England agrees that the conclusion of no AEoI from the project alone is likely to remain valid*'.
15	Displacement matrices for model- based estimates for GU and RA only.	Submitted at Deadline 1 (see F1.4 in Table 1 of Appendix F1 to NE's D1 submission [REP1-061]). Natural England requests that the Applicant presents an assessment for guillemot using both design-based and model-based estimates and presents displacement matrices for both.	N/A	The ORBA documents present displacement matrices for GU at FFC SPA using NE's preferred approach to apportioning (see item 14), however this is for model-based estimates only. Displacement matrices not presented for design- based estimates.	No	No	An assessment that incorporates Natural England's preferred approach for apportioning of both guillemot and razorbill has been provided within the updated RIAA V3 (document reference 7.1) submitted at Deadline 4. For guillemot, the Applicant considers that model-based abundance estimates are more robust that design-based estimates and therefore these estimates should be used for the assessment of displacement for this species. Displacement matrices for the design-based estimates for guillemot have been presented in the updated

Ref	Issue	NE's Position	Applicant Position		Resolved at D2?	Resolved at D3?	Applicant Response
			DCO Submission	19 Sept Procedural Decision Submission incl. Response to RR			
							RIAA V3 (document reference 7.1) submitted at Deadline 4. For razorbill, design-based abundance estimates and displacement matrices have been provided in the updated RIAA V3 (document reference 7.1) submitted at Deadline 4. The Applicant notes Natural England's submission on this point at line 13: '*Therefore, subject to full review of the Applicant's report on how model-based estimates were generated, and agreement on the mortality estimate of 248.6* (for guillemot)*, Natural England agrees that the conclusion of no AEoI from the project alone is likely to remain valid*'.
Highly Pathogenic Avian Influenza (HPAI)							
16	Limited consideration of HPAI within the HRA	There should be some consideration within the HRA process as to the potential for long- term implications of HPAI to reduce the resiliency of populations. See F7 within Table 1 and Appendix 1 of our Relevant Representations [RR-045], in addition to our answer to Ex Q1 HRA 1.1 [REP2-074].	The Applicant discussed the recent outbreaks of HPAI within the Environmental Statement Offshore and Intertidal Ornithology Chapter [AS1-041] under Section 12.4.4 Future Baseline, with a general statement that *"the impact assessment will be carried out in a context of declining baseline population for a number of species".* Nonetheless, the Applicant has not set out how this has been done for individual species and colonies within the RIAA.	No further consideration of HPAI within the ORBA HRA. Applicant confirms in their response to our Relevant Representations [PD1-071] that they do not propose to update the RIAA to include this.	No	No	The Applicant has provided an explanation of their approach at Deadline 2 in their comments on Deadline 1 submissions (REP 2-053, F1.3). In summary, the Applicant's position is that consideration of long-term variability in bird populations through stochastic events is beyond the scope of any Environmental Impact Assessment (EIA); such variability would not be an effect of the Project and any attempt to assess this would be highly speculative.

1.3.6 Appendix G1 to the Natural England Deadline 3 Submission

Table 1.3.6 Appendix G1: Natural England's advice on calculating the number of breeding pairs required for seabird compensation measures involving habitat provision or protection

Ref No	Natural England's Comment	Applicant Response
Foreword		
1	Natural England understands, through correspondence with the Applicant, that it would be useful for Natural England's preferred approach to calculating the number of breeding pairs required for seabird compensation measures to be provided into Examination, in particular our position regarding species other than kittiwake. Our current position is set out below.	The Applicant thanks Natural England for the provision of further information on Natural England's preferred approach to calculating the number of breeding birds required for seabird compensation measures, in particular their position regarding species other than kittiwake. To provide context to this response, the Applicant's preferred approach to calculating compensation is the 'Hornsea Four' approach whilst Natural England's preferred approach is the 'Hornsea Three part 2' approach. Both the Hornsea Four and the Hornsea Three part 2 approaches were primarily designed to calculate the compensation quanta for impacts to kittiwake (*Rissa tridactyla*) and, as such, caution should be used when applying these methods directly to other species, with very different behaviours. Both approaches have been used by the Secretary of State to determine the compensation requirements for kittiwake; only the Hornsea Four approach has precedent in relation to guillemot. The Hornsea Four approach uses published survival rates to calculate the number of fledged young required to deliver a given number of mature adult birds. Once the number of fledglings required is known, a productivity rate is applied, to give the number of breeding pairs required to give the requisite number of young. The Hornsea Three part 2 approach considers philopatry (i.e. the proportion of birds that will breed at the natal colony) and the impact the measure has on the colony being compensated; the approach assumes that, where space becomes available at a measure through natural wastage (either mortalities or adult dispersal), that space will be filled with birds that have already bred at the Flamborough and Filey Coast (FFC) Special Protection Area (SPA). The Applicant strongly maintains their position that the use of the 'standard' Hornsea 4 method to calculate compensation requirements is appropriate, with the additional parameters included within the Hornsea Three method being considered to be speculative and with limited evidence as to the validity of these within any determination of a compensation requirement, especially for guillemot and razorbill.
Summary		
2	Natural England considers that the Hornsea 3, Stage 2 method, should be used for all compensatory measures where it is necessary to calculate the requirement in terms of the number of breeding pairs. This is because the Hornsea 3 method is considered the most ecologically realistic.	The Applicant has highlighted specific concerns with the Hornsea Three methodology within previous submissions, specifically REP2-057 Levels of precaution in the assessment and compensation calculations for offshore ornithology and REP3-049 Guillemot and Razorbill Compensation Quanta. Within the applicant's submission, Guillemot and Razorbill Compensation Quanta (REP3-049), the Applicant has provided details as to the quantum of compensation calculated using both the Hornsea Four method and the Hornsea Three part 2 method. Within REP3-049, the Applicant has demonstrated that the compensation calculated using the Hornsea Four approach results in compensation requirements that are appropriate and suitably precautionary whereas the compensation calculated using the Hornsea Three part 2 approach results in compensation requirements that are disproportionate and not ecologically realistic. To address a highly precautionary impact of 108.2 razorbill , the Hornsea Three part 2 method results in a compensation requirement of 408,373.4 pairs (based on a 3:1 ratio) (note that the values presented herein have

Ref No	Natural England's Comment	Applicant Response
		been updated following a revision of the Applicants calculation of the Natural England approach for razorbill and identification of an error within the calculation of the Hornsea Three part 2 as set out within REP3-049; however, the Applicant considers that this does not change the rationale set out therein.) As set out within REP3-049, the Hornsea Three part 2 approach also requires, for an impact of 375.2 guillemot, compensation which would constitute 17% of the English population (15,889.4 pairs based on a 3:1 ratio). The Applicant would argue, given the size of the output from the Hornsea Three part 2 method, this model should not be used. The Applicant has provided further information on their concerns regarding the Hornsea Three part 2 method within line 5 below and within the response to HRA Q2 2.8 and 2.9 submitted at Deadline 4.
3	Where it is not possible to adequately populate the Hornsea 3 stage 2 method due to limited demographic information regarding the species under consideration, the Hornsea 4 method could be used, provided that the calculations are updated using philopatry data to account for the need of the colony to sustain itself.	The Applicant considers that all of the demographic information required to undertake compensation calculations using the Hornsea Three Stage 2 method is available for the species under consideration. The Applicant has supplied compensation quanta using both the Hornsea Four and the Hornsea Three part 2 method within the Guillemot and Razorbill Compensation Quanta (REP3-049) submitted at Deadline 3 and within the updated Compensation Plans submitted at Deadline 4 (document references 7.7.2 and 7.7.3). There should therefore be no requirement to provide compensation calculations using the Hornsea 4 method updated using philopatry data. This said, as requested by the ExA in Q2 HRA 2.9 (Document Reference 21.2), the Applicant has presented, on a without prejudice basis, the potential compensation requirements utilising the 'modified Hornsea Four' method, i.e. the Hornsea Four method with additional consideration of philopatry, in Table 4 of Appendix 1 of the Applicant's response (Document Reference 21.2). The Applicant considers that a key parameter driving the extremely large and unrealistic numbers generated by the Hornsea Three Stage 2 method is natal philopatry rates, therefore the Applicant considers it inappropriate to consider philopatry within the Hornsea 4 method. Philopatry rates inform the proportion of birds that return to breed at the natal colony as adults, with the rest of the birds dispersing to other colonies. The dispersal rate used in the Hornsea Three part 2 calculations (and consequently those for the modified Hornsea Four method) are those published in Horswill and Robinson (2015), which presents a natal dispersal rate of just 0.088 (i.e. 8.8%) for razorbill and 0.58 (58%) for guillemot. This means that in the case of razorbill, adding consideration of natal dispersal (i.e. the proportion that will recruit to other colonies) to the Hornsea 4 method leads to over an elevenfold increase in the compensation requirement. This is before any consideration of the stage 2 calculation which further artificially inflates compensation requirements. The Applicant considers that the inclusion of philopatry is not appropriate because consent was granted by the SoS on the basis of compensation quanta being calculated using the Hornsea Four method, with the SoS not requiring consideration of philopatry, for similar compensation measures and the same target species as those proposed for the Project. The compensation measures were considered appropriate based on a demonstration of connectivity of the location of the measures to the wider biogeographic population, and consequently were considered to contribute to the maintenance of the National Site Network. The Applicant is therefore confident that the use of the Hornsea Four method (without philopatry) is equally appropriate for the determination of the required quantum of compensation for the Project.

Ref No	Natural England's Comment	Applicant Response
4	The ratio applied to that number of pairs to address the uncertainty of success should continue to be set on a case-by-case basis, taking into account the level of impact, the feasibility of the measure, and its potential effectiveness.	As set out within the Guillemot and Razorbill Compensation Quanta (REP3-049) document, the Applicant considers that a ratio should only be supplied to manage uncertainty within an assessment where applicable. Given the precautionary nature of the assessments (see REP2-057, REP2-058 and REP2-059), the Applicant's position is that a ratio is not required when considering compensation for this Project.
Rationale		
5	Developers have used different methods for working out how many nest spaces are needed to provide adequate compensation for a given level of impact. Two main methods have emerged: • 'Hornsea 3 Stage 2' method – this calculates the number of birds needed to replace those lost at the impacted site, and the number of adults that need to be produced by a colony to sustain itself, as opposed to drawing birds out of the wider population to do so. • 'Hornsea 4' method – this solely looks at the number of birds needed to replace those lost and does not incorporate the need for the colony to sustain itself. Whilst recognising there is legitimate debate about the merits of different methods, Natural England currently considers the Hornsea 3 Stage 2 method the most appropriate method. As there is no clear evidence to suggest that populations of kittiwake, guillemot, razorbill and large gulls are nesting space-limited, the intervention site will only be compensating for the predicted impacts when its fledglings become successful breeding adults and add 'new' birds to the population. In other words, the benefits should be seen as those fledglings that would never have been born without the intervention. Where nest space for a given species is clearly limited for example, sandwich tern, an alternative approach might be appropriate.	The Applicant has highlighted specific concerns with the Hornsea Three part 2 methodology within previous submissions, specifically REP2-057 Levels of precaution in the assessment and REP3-049 Guillemot and Razorbill Compensation Quanta. In summary, the Applicant's position is that the Hornsea Three part 2 method relies on a range of ecological assumptions and flawed principles for which there is no evidence. **The Hornsea Three part 2 method assumes that all birds required to address natural wastage from the measure would come from the impacted colony** The assumption that all losses from the measure (through natural wastage, i.e. adult mortality and dispersal) will be replaced by birds from the impacted colony (in this case, the FFC SPA) is flawed in several ways. Birds will emigrate from a colony where performance is low and recruit to a colony where performance is higher. For this to occur, the birds must have information on the performance at the potential new colony. This can only be gleaned during the latter period of the breeding season; birds from colonies where there is no breeding season connectivity with the measure will not have access to this information and therefore cannot directly recruit from the impacted colony to the measure. During the latter period of the breeding season, birds are at their most constrained (i.e. have reduced foraging ranges as a result of needing to provision chicks) and therefore connectivity with FFC SPA is less likely than connectivity with closer breeding birds (for example, on an ANS). It is more likely that adults from the offshore breeding population, rather than birds from the FFC SPA, will acquire the information they need pre-recruitment to a potential new colony (i.e. an ANS).
6	The use of the Hornsea 3 stage 2 method has been challenged on the basis that the intervention site should not be considered a closed population, as birds will join and leave it through the normal processes of immigration and emigration. Whilst it is correct that seabird populations are generally not closed, Natural England takes the view that any immigration of breeders into the intervention site would simply represent movement of birds within the wider population, rather than the generation of 'new' adults. If there were a large non-breeding adult population then these could indeed represent new breeders if they colonised the intervention site, but we have no evidence that this is the case.	
7	If we were to assume that immigrant adults colonised the intervention site, we might expect productivity to be greater than that achieved at their former colony, for example if the site was closer to prey resources. However, this would already be reflected in the various productivity scenarios within the models.	When considering the Plemont Seabird Reserve and Additional Measures at South-West sites, neither measure is connected to the impacted colony (FFC SPA) during the breeding season. Whilst there is evidence of connectivity in the non-breeding season and for dispersing juveniles, meaning the measures can effectively address Project impacts, breeding season connectivity for adults is unfeasible, meaning that breeding adults cannot recruit directly from one colony to the other as assumed within the Hornsea Three part 2 method.
8	More generally, there is a clear benefit to having a consistently applied, scientifically robust method of calculating the number of breeding pairs required to generate the replacements into the national site network, as opposed to having different methods for different kinds of habitat provision/protection types. Our current view is that because these measures produce the same kind of benefit, there is not a clear rationale for applying different calculations for example, predator eradication as opposed to Artificial Nesting Structures (ANS) provision.	In summary, the Applicant considers that natural wastage from the measure is highly likely to be addressed through recruitment of birds from offshore breeding colonies, the annual cohort of birds maturing to adulthood and any 'floating' adults (i.e. those not affiliated with any colony) in the population. **The Hornsea Three part 2 method assumes that birds recruiting to the measure from the impacted colony is detrimental to the colony and that the resultant gaps in the impacted colony would not be addressed**

Ref No	Natural England's Comment	Applicant Response
		The method assumes that it is detrimental to the impacted colony, i.e. the FFC SPA, for birds to leave that colony and recruit elsewhere, i.e. to the measure. Given the extremely high rates of juvenile dispersal in kittiwake (89% recruit to different colonies), this is not a given. In the case of kittiwake at FFC SPA, preliminary modelling undertaken by the Applicant has shown that, due to high dispersal rates of juveniles, if breeding birds relocate from the FFC SPA to a measure, only 13% of their offspring need to relocate back to the FFC SPA for them to contribute more to the FFC SPA from the measure than if they had remained at the SPA. The figure of 13% is entirely plausible given the juvenile dispersal rate, and the location of the ANS in relation to the FFC SPA. **The Hornsea Three part 2 method is fundamentally flawed as it results in a 'feedback loop'** Use of the Hornsea Three part 2 method increases the compensation requirement and therefore the output required from a measure. By increasing the output required, the size of the measure also increases, thereby increasing the number of birds that would be lost as a result of mortality and dispersal, and additional output from the measure is then needed to address these losses. This additional output then increases the numbers lost through mortality and dispersal, and so on. It is counterintuitive to increase the size of a measure to address impacts at a colony when doing so will create additional losses at the same impacted colony. Put simply, the Hornsea Three Stage 2 method consists of a 'feedback loop' whereby increasing the requirement increases the impact on the impacted colony, which in turn increases the requirement. As set out herein, the Applicant considers that many of these assumptions which cause the feedback loop itself are fundamentally flawed and do not represent realistic ecological behaviour of seabirds. **Dispersal from colonies is natural and the Applicant should not be expected to include this in any compensation calculations** Birds disperse from colonies, including the FFC SPA, regardless of whether a compensation measure is in place. Effectively, the Hornsea Three part 2 method artificially penalises the Applicant such that natural aspects of the birds' behaviour, i.e. movement between colonies, are included as part of compensation calculations. The Applicant agrees with Natural England that '*the intervention site will only be compensating for the predicted impacts when its fledglings become successful breeding adults'*. The Applicant considers that this is accounted for in its use of the Hornsea Four calculation as age-group specific survival rates are used to calculate the number of fledglings required to generate the necessary number of adults. As such, the Applicant's use of the Hornsea Four method is appropriate. The Applicant considers that it would not be scientifically possible to determine which fledglings would not have been hatched without the intervention (i.e. those from pairs which would have bred at FFC SPA in this case) due to the large uncertainties as to which birds would have naturally left that colony without the intervention. Additionally, the Applicant maintains that the purpose of the compensation should be considered to provide adult breeding birds back into the wider biogeographical population which consequently sustains the National Site Network population (and consequently that of the FFC SPA). As such, the Applicant maintains that it is appropriate to consider all birds fledged form the measure as part of the compensation contribution.

Ref No	Natural England's Comment	Applicant Response
		The Applicant agrees with Natural England that '*there is a clear benefit to having a consistently applied, scientifically robust method of calculating the number of breeding pairs required to generate the replacements into the national site network*' and considers that the Hornsea Four method provides this, having been used by the SoS for multiple species on Hornsea Four and not requiring species specific modifications to avoid demonstrably unsuitable compensation requirements relative to the impact as the Hornsea Three part 2 method does for both guillemot and razorbill (REP3-049).
Other aspects of calculating seabird compensation requirements		
9	Natural England generally advises that seabird compensatory measures are scaled against the 95% upper confidence limit (UCL) predicted impact value, rather than the central impact value. We see this as necessary to ensure that, given the uncertainty regarding OWF impacts, the decision-maker can still have confidence that the compensatory measures can provide sufficient benefit should the impacts exceed those of the central prediction.	The Applicant considers that in all cases, the addition of multiple levels of precaution through the baseline setting, assessment, and apportioning processes should be seen as ample mitigation against any uncertainty regarding the level of impact from the Project, as the introduction of multiple levels of precaution inflates the level of impact substantially and as such, there is no need to consider the UCl value, with the mean value remaining more appropriate. The Applicant refers to REP2-057 Levels of precaution in the assessment and compensation calculations for offshore ornithology and REP3-049 Guillemot and Razorbill Compensation Quanta.
10	In addition, and in line with the approach taken with compensatory measures for other impacts e.g. terrestrial or intertidal habitat loss, uncertainty regarding the success of the compensatory measure should also be taken into account when developing the compensation proposals. This should be done on a case-by-case basis and including the use of ratios where relevant alongside multiple interventions, locations, different designs etc. Guidance is clear that 1:1 ratios are only appropriate where there is high confidence in the likelihood of success, which given that seabird compensation is still in its infancy, is unlikely to be the case for seabird compensation measures.	As set out within the Guillemot and Razorbill Compensation Quanta (REP3-049) document, the Applicant considers that a ratio should only be supplied to manage residual uncertainty within an assessment. The Applicant considers that the levels of precaution built into the baseline setting, assessment and apportioning processes are sufficient to nullify a requirement for any compensation ratio. The Applicant refers to REP2-057 Levels of precaution in the assessment and compensation calculations for offshore ornithology.
11	Measures with high likelihood of success and flexibility for adaptive management, e.g. island predator eradication may allow a lower ratio than for where the measure is less well tested and there are greater constraints on adaptive management e.g. ANS. Other factors such as the scale of the predicted impact and the sensitivity of the impacted species will also need to be factored in.	Given the precautionary nature of the assessments, the Applicant's position is that a ratio is not required when considering compensation for this Project.
12	We recognise that using the 95% UCL impact value can, in combination with use of greater ratios, result in large compensation quanta for some species, and that therefore a pragmatic interpretation of these calculations may be needed. For example, where a compensation case for a project with a substantial quantum is well detailed and has good prospects of success, a case could be made that where the Hornsea 3 part 2 approach is adopted, it is unnecessary to then adopt both the 95% UCL impact value and a ratio higher than 2:1 to adequately account for uncertainty.	The Applicant does not agree that there ought to be a material distinction between the compensation quantum which informs the scaling and design of the measure to be implemented and the target or objective for the compensation to achieve. The Applicant maintains that the central impact value is an appropriately precautionary value for a) establishing the level of impact, b) calculating the compensation requirement, and c) designing the compensation measure (see REP2-057 and REP2-059)
13	It is also important to distinguish between the compensation quantum, which informs the scaling and design of the measure to be implemented, and the target or objective for the compensation to achieve, which Habitats Regulations Assessments have generally (though not always) set with respect to the central impact value.	The Applicant highlights that the Habitats Regulations require (emphasis added) "*The appropriate authority must secure that any <u>necessary</u> compensatory measures are taken to ensure that the overall coherence of* [the National Site Network] *is protected."*[1]*.* Similarly, the guidance by Defra, Natural England, Welsh Government and Natural Resources Wales "*Habitats regulations assessments: protecting a European site"* states "[The competent authority] *must be confident that the measures will fully compensate for the negative effects of the proposal. You do not need to consider more compensation than is needed."*

[1] Regulation 36(2), Conservation of Offshore Marine Habitats and Species Regulations 2017 and Regulation 68, Conservation of Habitats and Species Regulations 2017

Ref No	Natural England's Comment	Applicant Response
		The compensation requirement must therefore be necessary to achieve the protection of the overall coherence of the National Site Network, as opposed to simply desirable. The Applicant maintains that the application of the central impact value provides the requisite confidence that the measures will fully compensate for the negative effects of the proposal without requiring more compensation than is necessary to secure the overall coherence of the National Site Network. The proportionality of the correct compensation required must be considered in light of the critical national priority for low carbon infrastructure, as set out in NPS EN-1.

1.3.7 Appendix H2 to the Natural England Deadline 3 Submission

Table 1.3.7 Appendix H2: Natural England's Advice on Onshore Ecology [REP2-032]

Ref No	NE Concern and/or Update	NE Advice to Resolve Issue	Applicant Response
1	Natural England notes that the Noise and Vibration Management Plan (NVMP) utilises flat noise level parameters, taken from Air Quality Technical Advisory Group 09, to assess adverse impacts of noise on wildlife. Natural England advises that it is not clear from the data gathered if the noise parameters are suitable to the designated features of the relevant nationally and internationally designated sites. In addition, it is not in line with Natural England's advice given at Relevant Representations [RR-045], where we requested species specific characterisation data to inform any noise level parameters and any proposed avoidance and mitigation be targeted to the type of Noise Sensitive Receptor (NSR) in the wider spatial and temporal context.	Natural England advises that justification is included as to why these parameters are suitable for the noise sensitive designated features and how they are impacted by noise as designated at the Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites. This includes any SPA functionally linked land.	The AQTAG09 Guidance provides guidance on the effects of industrial noise on wildlife and is intended to be used to assess the potential adverse impact of sound, of an industrial and/or commercial nature on wildlife. As stated above this guidance is more aligned to permanent noise of an industrial nature and not construction noise which is temporary in nature; however, the absolute limits contained in the guidance have been utilised to assess the impacts of construction noise on designated sites. This approach was outlined in Section 8.7 of the Scoping report (Ref: 123-ODO-CON-K-RA-000002-01) and presented at a number of Expert Topic Group (ETG) meetings and no comments were received from the relevant stakeholders. The use of AQTAG09 for the assessment of construction noise on designated sites has also been utilised on infrastructure projects of a similar nature such as the Cambois Connection onshore scheme which has recently been granted approval (Planning Ref: 23/04110/OUT). It also should be noted that the absolute limits contained in the AQTAG09 guidance are considered precautionary and are below the noise limits utilised within Chapter 22: Onshore Ornithology (APP-077) the content of which is further described in the subsequent paragraphs. In addition, the AQTAG09 guidance states that if the absolute limits in the guidance are exceeded a more detailed assessment will be required. With reference to Chapter 26: Onshore Noise and Vibration (APP-081) the assessment of construction noise on the designated sites has shown that with the exception of one area of The Wash SSSI all of the predicted noise levels were below the absolute limits contained in the AQTAG09 guidance. However, it should be noted that with reference to Chapter 22 (APP-077) mitigation has been specified

Ref No	NE Concern and/or Update	NE Advice to Resolve Issue	Applicant Response
			comprising of a seasonal restriction to construction activity, to avoid works during the period of October to April inclusive within 400m of The Wash SPA and Ramsar. Chapter 26 (APP-081) did not include an assessment of construction noise on any functionally linked land (FLL) as this was outside of the scope of the assessment. A more detailed assessment which considers specific species and seasonal variations has been undertaken within Chapter 22 (APP-077). This was noted in the Applicant's response to Natural England relevant representations [PD1-071] comment H30, H31 and H2 as summarized below (from the response to H2 specifically). *"Section 22.8.1.3 of ES Chapter 22 [APP-077] considers disturbance of protected and priority bird species, including those utilising FLL and this was a key focus of the ornithological assessment. The assessment set out survey buffers determined through the consultation process these were 400m for wintering waterbirds and 100m for breeding priority species. These are considered reasonable distances up to which target bird species may be disturbed by the planned construction works.* *Paragraph 202 of ES Chapter 22 [APP-077] references a report by The Institute of Estuarine and Coastal Studies (IECS) (Cutts et al., 2009). This document provides a review of the evidence relating to construction disturbance impacts on non-breeding waterfowl, and was used to develop a Waterbird Disturbance Mitigation Toolkit (Cutts et al., 2013). Paragraph 203 of ES Chapter 22 [APP-077] outlines the results of the IECS study with regards to waterbird responses to construction noise disturbance. This study has been utilised as part of an assessment of construction noise on protected and priority bird species along the length of the ECC including the FLL.* *Paragraphs 214 to 296 of ES Chapter 22 [APP-077] assess each identified bird species in turn with regards to vulnerability to disturbance from construction operations (including noise), Paragraphs 297 and 298 provide an assessment of species populations of local or less than local value, and Paragraphs 299 to 307 provide an assessment of other designated ornithological sites.* *The overall conclusions of the assessments determined that with relevant seasonal restrictions and localised working commitments on construction operations, there would be no significant residual effects on protected and priority bird species, including those utilising FLL from construction operations".* In addition, Section 9.5.3.2 of the RIAA (AS1-097) assesses the potential noise and visual disturbance impacts to birds utilising potential FLL. It is considered that the above provides justification for the AQTAG09 limits and describes how they have been implemented for the designated Sites. With regards to the FLL the above describes that a more detailed assessment has been undertaken within Chapter 22 (APP-077).

Ref No	NE Concern and/or Update	NE Advice to Resolve Issue	Applicant Response
2	Natural England highlights that the Designated sites and their features have not been outlined and noted as NSRs in the NVMP. There is also no analysis on the behaviour of these NSRs and how noise may impact them in different places and at different times of year, including at land functionally linked outside of designated sites. As such avoidance and mitigation measures cannot be targeted and may not be effective	Natural England advises the Applicant ensures NSRs are clearly defined and understood in the analyses to guarantee any avoidance and mitigation is effective and targeted.	Within Sections 5.3.1 and 5.8.2.1 of the latest version of the outline NVMP (REP2-031) the Anderby Marsh Lincolnshire Wildlife Trust (LWT) Reserve has clearly been identified as an NSR. The reserve is located in close proximity to the landfall and mitigation measures in the form of a 4m high bund have been committed to. Section 5.8.2.1 of the outline NVMP also states that noise monitoring will be undertaken within the reserve at the closest approach to the landfall construction area and the exact noise monitoring procedure and actions, if it is determined (through the monitoring) that the limits are being exceeded, will be included within the final NVMP. With regards to the other designated sites, as previously stated in response to Comment Ref 1, the assessment of construction noise has shown that the predicted noise levels were below the absolute limits contained in the AQTAG09 guidance within all the designated sites with the exception that one area of The Wash SSSI, where seasonal restriction to construction activity, to avoid works during the period of October to April has been committed to. With regards to the FLL as previously stated in response to Comment Reference 1, a more detailed assessment which defines the most sensitive ecological receptors and considers specific species and seasonal variations has been undertaken within the Chapter 22 [APP-077] and the RIAA [AS1-109]. These assessments concluded that that with relevant seasonal restrictions and localised working commitments on construction operations, there would be no adverse effects on the integrity of the SPAs and Ramsar sites. It is therefore considered that all the ecological sensitive receptors have been defined within the relevant chapters associated with the Environmental Statement (ES) and RIAA and where physical mitigation measures have been implemented (Anderby Marsh LWT Reserve) these have been referenced within the outline NVMP. With regards to the mitigation measures with reference to the above it is considered that these have been targeted and monitoring has been implemented to determine their effectiveness at the Anderby Marsh LWT Reserve.
3	Natural England notes that it is stated in the NVMP that the “most sensitive receptors” will be identified in relation to their proximity to construction operations and the associated predicted noise levels. However, we advise that no indication has been given as to what qualifies as the most sensitive receptors.	Natural England advises all noise sensitive designated features of nationally and internationally designated sites should be included for consideration in the identification of the most sensitive receptors. Including mobile species, where they are shown to use functionally linked land outside of the designated site. Where a noise sensitive designated feature is excluded, this should be clearly justified.	As stated in response to comments Ref 1 and 2, Chapter 22 (APP-077) and Chapter 26 (APP-081) have assessed noise within the designated sites and FLL and have concluded that with seasonal relevant seasonal restrictions and localised working commitments on construction operations, there would be no significant residual effects on protected and priority bird species, including those utilising FLL from construction operations. In addition, the RIAA [AS1-109] has assessed disturbance impacts specifically to qualifying features of Special Protection Areas and Ramsar sites.

Ref No	NE Concern and/or Update	NE Advice to Resolve Issue	Applicant Response
			As physical mitigation for disturbance has been included at the landfall a programme of noise monitoring will be implemented at the Anderby Marsh LWT Reserve to determine compliance with the specified noise limits and the exact noise monitoring procedure and actions, if it is determined (through the monitoring) that the limits are being exceeded, will be included within the final NVMP.
4	Natural England notes that it is stated in the NVMP that it may be necessary" to monitor noise levels "at these locations". It is not clear what locations are being referenced and under what circumstances. Natural England notes that the exact monitoring procedure and subsequent actions will be included in the final NVMP.	Natural England advises all noise sensitive designated features of impacted SSSIs, SPAs, SACs, Ramsar sites and associated functionally linked land are clearly identified and their supporting habitats located for monitoring. The identified NSRs have defined noise level parameters and where modelling identifies these parameters are exceeded, monitoring is necessary to ensure effective avoidance and mitigation is implemented.	As stated in response to comment Ref 3 Chapter 22 (APP-077) and Chapter 26 (APP-081) have assessed noise within the designated sites and FLL and have concluded that with seasonal relevant seasonal restrictions and localised working commitments on construction operations, there would be no significant residual effects on protected and priority bird species, including those utilising FLL from construction operations. With regards to noise modelling, as stated within Section 26.7.6.2 in Chapter 26 (APP-081) the noise limits from construction operations are only exceeded in one area of The Wash SSSI located close to the River Haven; however, at this location seasonal restrictions have been implemented for construction operations. In view of the above it is considered that noise monitoring is not required within the designated sites and FLL with the exception of at the Anderby Marsh LWT Reserve where physical mitigation will be implemented in respect of the construction operations associated with the landfall as previously stated.

1.3.8 Appendix I2 to the Natural England Deadline 3 Submission

Table 1.3.8: The Applicant's Comments on Natural England Appendix I2 Onshore Ornithology

Ref No	NE Comment	Applicant Response
1 para 1	Natural England has reviewed the updated Schedule of mitigations [PD1-059 and REP2-040] in relation to impacts on Annex I birds from The Wash Special Protection Area (SPA) utilising functionally linked land during the passage and overwintering period. Natural England notes that the focus of the updated mitigation measures is on reducing noise disturbance, but not visual disturbance. Whilst we welcome the commitment to not undertake installation works within 400m of The Wash, The Haven or areas designed to enhance bird numbers e.g. compensation areas, during the sensitive periods for Dark Bellied Geese; other activities which could cause visual disturbance to birds could still occur. Therefore, Natural England queries if further mitigation measures can be adopted to minimise the visual disturbance impacts?	The updates to the onshore ornithology mitigation measures were made in Version 2 of the Schedule of Mitigation [PD1-059]. These include extending the duration of the seasonal restriction at The Haven to include April (previously encompassed October to March). Works in April will be restricted to soft start works and no drilling will take place. Soft start works will entail site preparations and establishment of the haul road and work areas. It is assumed that comment Ref No. 1.1 refers to these soft start works in April. A further mitigation measure, to address the potential visual disturbance impact from soft start works, has been added to the OLEMS (document 8.10, version 5) submitted at Deadline 4, consisting of a commitment to provision of visual screening within the seasonally restricted area around The Haven in April.
1 para 2	In addition, there remains limited mitigation of disturbance to Annex I birds such as Pink Footed Goose (PFG), golden plover, lapwing and curlew beyond this area, particularly in the Export Cable Corridor (ECC) running parallel to the A52. Therefore, Natural England queries if the seasonal restriction could be extended to other parts of the ECC?	The primary mitigation measures for potential disturbance to these qualifying features of The Wash SPA and Ramsar across the ECC is a seasonal localised working restriction, including avoiding trenched excavation works. Works will be restricted to 1.4% of the cable corridor at any one time during the core winter period, as described in Section 3.7.5.5 of the OLEMS (document 8.10, version 5).

Ref No	NE Comment	Applicant Response
		Justification for this approach was summarised in the Applicant's comments on Deadline 1 Submissions [REP2-053], I1 para 2 (second winter season survey results) and I1 para 4 (cropping). This explains that the seasonal localised working restriction is appropriate on the basis of the widespread distribution of the four species across the survey area, that they were typically recorded utilising a particular field on only one survey visit and that the most utilised crop types were also the most common and widespread within the Order Limits plus 400m. Alternative foraging resource will therefore remain available.
1 para 3	Where seasonal restrictions are not possible, we advise that the Applicant should consider adopting further mitigation measures in the form of a management plan (as included in our Relevant Representations [RR-045] for PFG and as advised for Dudgeon and Sheringham Extension projects [RR-063, REP1-135, REP1-037]. We would also welcome commitments implemented by the Applicant to limit the spatial extent of any disturbance at any one time. This is because we do not believe mitigation commitments to only work in 'small teams' sufficiently reduces the visual disturbance to acceptable levels on their own and potentially reduces availability of large areas of functionally linked land at the same time.	The Applicant has already committed to limit the spatial extent of the construction works, and therefore of potential disturbance; works will be restricted to 1.4% of the cable corridor at any one time during the core winter period, as described in Section 3.7.5.5 of the OLEMS [document 8.10, version 5]. Justification for this approach has been outlined in response to point 1 para 2 above. Further commentary on this issue is provided in response to Points 5 and 7 of the Applicant's response to Natural England's Risks and Issues Log (document reference 21.8). The Applicant is seeking to engage with Natural England to discuss further the mitigation proposed in the Dudgeon and Sheringham Extension DCO Examination, as outlined below, and whether this can be adapted to be applicable to the Project and therefore remove any outstanding concerns Natural England may have. *Additional mitigation measures which could be implemented to address the potential disturbance impact to qualifying features utilising potential FLL have been provided by Natural England in their best practice advice note [Dudgeon and Sheringham Extension projects REP1-037, referenced within REP3-073]. This describes two options for mitigation.* *The first option entails regular crop mapping surveys to identify potential foraging habitat for pink-footed goose. That is followed by a watching brief prior to works commencing to identify goose flocks. Works would then be delayed near goose foraging locations. Where delay is not possible, complex energetic modelling would be undertaken. Should that determine that birds would be energetically compromised, negatively affecting their fitness, then mitigation would be required as described for Option 2.* *Option 2 consists of providing an alternative foraging resource, with works undertaken irrespective of goose displacement. This would consist of provision of grain and/or sugar beet at an undisturbed location.*
1 para 4	Lastly, Natural England notes from the Schedule of Mitigation update [PD1-058/059] that construction of the landfall noise bund will be limited to the months of August and September between the crop breeding and non-breeding seasons. For this issue to be resolved, this commitment must also be reflected in the OLEMS [PD1-056], as it currently states creation of the bund may also take place in March	This point has been addressed in the current version of the OLEMS (document 8.10, version 5). Paragraph 154 states *"Construction of the bund, will be undertaken within the months of August/ September between the core breeding and non-breeding seasons. March will be avoided for constructing the mitigation bund at the landfall. However, ODOW will focus on completing the 'soft start' works during this period. These preparatory works, which include ground preparation, land drainage, fencing, signage, access haul road, material storage, and establishment of laydown for welfare, are crucial for ensuring a smooth start to the Bund work".*

Ref No	NE Comment	Applicant Response
2 para 1	In addition, we note that the Report to Inform Appropriate Assessment (RIAA) [AS1-096] does not consider the second year of onshore bird data, but does include the suggested mitigation from the Schedule of Mitigation [PD1-059]. As highlighted above Natural England advises that the RIAA is updated to include the further data set and takes in consideration our advice provided at Deadline 1 [REP1-066] and Deadline 3 in relation to potential impacts and the need for further mitigation measures to remove the risk of an Adverse Effect on Integrity of The Wash SPA.	Regarding Natural England's advice on potential impacts and further mitigation measures, the response to Point 7 of the Risk and Issues Log addresses this point. It states: "The Applicant's response to relevant representations [PD1-071], NE Ref I1, states: *A season two wintering bird survey addendum (AS1-108) was produced which documents the methods and results from the second season of wintering and passage bird surveys, covering the period from September 2023 to April 2024. The impact assessment and mitigation measures documented in the EIA (APP-077) and RIAA have been reviewed and amendments have been presented in the Addendum (AS1-108) and RIAA (AS1-097). Mitigation measures have been amended following review of the season two data, specifically to extend the seasonal restriction around The Haven to include a soft start to works in April in order to minimise disturbance to dark-bellied brent geese. Following review of the data from the season two surveys, with inclusion of the additional mitigation, it is concluded that the assessment of significant effects in the EIA and the conclusion on adverse effects on site integrity in the RIAA, in relation to onshore ornithology, have not changed.* The Applicant's comments on Deadline 1 submissions [REP2-053], Appendix I1 summary of advice section, states: *The Applicant is pleased to note Natural England's acceptance of the second season of winter bird survey data. The Applicant will consider additional advice on the mitigation measures. The Applicant's position is that the assessment of adverse effects on The Wash SPA/ Ramsar was carried out appropriately and that the proposed measures are adequately tailored to maintain integrity of the SPA/ Ramsar. More details are provided in the individual responses below, further to previously submitted responses to Natural England Relevant Representation (RR-045 Natural England Appendix I Onshore Ornithology) (PD1-071) (I1-I5), and in relation to Habitat Regulation Assessment (H47-H49). This includes the additional information requested by Natural England in relation to crop preferences in 13.2 Addendum Winter Bird Survey 2023-2024 (AS1-108) and crop availability and rotation in Additional Clarifications Relating to Natural England's Relevant Representations (Appendix I) (PD1-093). This shows that the most common crop types utilised by the five key qualifying species were found to be bare/ploughed land, cereal crops, grass and stubble (fallow land). PD1-093 evidences that these crops are common and widespread within the Order Limits plus 400m buffer, which is reflected in the widespread distribution of pink-footed goose, lapwing, golden plover and curlew. Therefore, the mitigation set out in the EIA and RIAA specifically regarding a localised working restriction is sufficient, as it means that alternative foraging resource will remain available".* *The Applicant's comments on Deadline 3 submissions – Natural England Appendix I2* [submitted at Deadline 4], Ref I1 para 2, has been stated in relation to Point 5 in the Risks and Issues Log and in response to Ref. No. 1 para 2 above. An updated version of the RIAA (document reference 7.1, version 3) has been submitted at Deadline 4 which includes the second winter season of onshore bird data. The assessment section has also been updated, and as outlined above, the conclusions of no adverse effects on site integrity have not changed.
2 para 2	Furthermore, Natural England notes that the mitigation measures within the Schedule of Mitigation [PD1-059], RIAA [AS1-096], and Outline Landscape and Ecological Management Strategy [PD1-056] do not align. Natural England advises that all three documents are updated accordingly, and the advice provided on the Schedule of Mitigation [PD1-059] in relation to mitigation measures to the functionally linked land are fully considered	Please note that a version of the OLEMS [REP3-028] was submitted in December 2024. A further updated version (Version 5) has been submitted at Deadline 4 (document reference 8.10). It has not been stated which aspects do not align and therefore the three documents have been compared. The following misalignments have been corrected.

Ref No	NE Comment	Applicant Response
		RIAA (document reference 7.1, version 3): ▪ Note added that the landfall mitigation bund will be removed at the end of the construction phase. ▪ Updated the extent of the seasonally restricted area around The Haven. ▪ Clarified the months in which landfall bund construction works will be undertaken. ▪ Added the ECoW commitment for vegetation clearance within the seasonal restricted area. ▪ Added the clarification regarding provision of a cover crop. Schedule of Mitigation (document reference 8.13, version 4): ▪ Added details regarding the landfall mitigation bund. ▪ Updated the extent of the seasonally restricted area around The Haven. ▪ Clarified the months in which landfall bund construction works will be undertaken. ▪ Added the ECoW commitment for vegetation clearance within the seasonal restricted area. ▪ Added details regarding the seasonal localised working restriction. ▪ Deleted duplicate commitments.

1.3.9 Appendix L to the Natural England Deadline 3 Submission

Table 1.3.9 Appendix L: Natural England's Comments on the Offshore In Principle Monitoring Plan [APP-276]

Ref No	Natural England's Comments	Applicant Response
In formulating these comments, the following document has been considered: **• [APP-276] 8.3 Offshore In Principle Monitoring Plan**		
1) Introduction		
1	Natural England welcomes the submission of the Outer Dowsing Offshore In-Principle Monitoring Plan (IPMP) [APP-276] as part of the application. Further, we welcome the Applicant's inclusion of the general guiding principles for proposed monitoring (Section 1.3). We also refer the Applicant to Natural England's Best Practice Advice document which sets out our expectations in terms of monitoring. This document is available at: Environmental considerations for offshore wind and cable projects - Phase IV Best Practice Advice for Post-Consent Monitoring, Version 1.0, July 2022.pdf. Relevant sections are also included in Annex A of this document for reference.	The Applicant welcomes the agreement from Natural England on the inclusion of the guiding principles in the Offshore IPMP (APP-276), the Applicant is aware of the Natural England guidance on post-consent monitoring and has incorporated the best practice set out in the guidance, where it has been possible to do so at the in-principle stage of the plan. The Offshore IPMP (APP-276) will be developed into final monitoring plans, post-consent, in consultation with statutory consultees including Natural England and the MMO, when the detailed design of the Project is further progressed and specific locations of offshore infrastructure and detailed construction schedules are available.
2	This document outlines Natural England's overarching concerns with the Offshore IPMP [APP-276], particularly in relation to the overall aim of ensuring adaptive monitoring and remediation is secured within the DCO. In addition, this document provides further advice on each of the offshore nature conservation receptors: physical processes, benthic subtidal ecology, fish and shellfish ecology, offshore ornithology, and marine mammals.	This comment is noted by the Applicant. The Applicant responds further to the substantive points below.
2) Overarching Concerns with the IPMP		
3	Natural England advises that this is a live document which is updated throughout examination and post consent to reflect the outcome of discussions and/or monitoring.	This comment is noted by the Applicant.
4	In recognition of the emphasis being placed by projects currently in the post consent phase on the IPMP when setting the monitoring requirements and parameters; Natural England highlights the importance of this document. Natural England emphasises the requirement to agree the scope of the IPMP and hypotheses which will be tested by the monitoring as part of the consenting phase.	This comment is noted by the Applicant. The Applicant maintains that it is appropriate for the monitoring to be undertaken by the Applicant to be finalised post-consent when more precise detail about the Project design, ground conditions and environmental conditions is understood, as well as benefitting from stakeholders' experience of the development of other projects and accounting for

Ref No	Natural England's Comments	Applicant Response
		evolution in best practice. The Offshore In-Principle Monitoring Plan (IPMP) (APP-276) sets the framework for the proposed monitoring by outlining the guiding principles that will be used in the development of the detailed monitoring proposals post-consent. This allows all relevant parties to understand the broad proposals, with the detail to be included in the final monitoring plan. The Applicant emphasises that, at paragraph 14, the IPMP states: "*This IPMP represents the most appropriate approach to monitoring available at the time of writing, however it is acknowledged that the outcomes of the survey work discussed could influence future monitoring proposed, methodologies, focus and effort for the Project, as knowledge and understanding develops. For example, where appropriate, and in consultation with the MMO and relevant SNCBs, these scopes may be refined to consider other relevant studies carried out by neighbouring projects. This is a key principle for an adaptive approach to monitoring and will be the subject of ongoing consultation between the Project, the MMO and relevant SNCBs*." The Applicant highlights that condition 13(1)(c), Part 2, Schedules 10 and 11 of the DCO (3.1) provides that a monitoring plan (which accords with the in principle monitoring plan) to include details of proposed pre-construction surveys, baseline report format and content, construction monitoring, post-construction monitoring and related reporting in accordance with conditions 17, 18 and 19 is to be submitted to and approved by the Marine Management Organisation (MMO). Conditions 17, 18 and 19, Part 2, Schedules 10 and 11 of the DCO (3.1) require the pre-construction, construction and post construction monitoring proposals to be submitted to the MMO for approval, in consultation with Natural England. Conditions 17, 18 and 19, Part 2, Schedules 10 and 11 of the DCO (3.1) also include further specification as to the content of the monitoring plan. The IPMP must therefore also be read in the context of these deemed Marine Licence (DML) conditions.
5	Overall, Natural England feels that much more detail is required than is provided in the IPMP in its current form. For example; • What are the hypotheses the monitoring will be testing and how do they relate to the assessments undertaken in the ES? • How will the monitoring be designed to ensure that the desired outcomes can be achieved i.e. is the monitoring fit for purpose? • What are the indicative timings of the surveys? • Can lessons be learnt from previous thematic surveys and how will modifications to surveys design be incorporated between survey campaigns? • What does 'success' look like to demonstrate that no further monitoring is required? • What happens if the results do not support the null hypothesis? Is further monitoring required (with/without modifications)? If impacts are greater than predicted, do actions need to be undertaken to address these impacts? How will further monitoring and actions be secured, is a change to the wording of the dML required? And if so, how will success of any action/s be monitored and what will be the success criteria before monitoring can cease? To answer the above, Natural England considers the IPMP should focus on what the uncertainties and evidence gaps of the Environmental Impact Assessment (EIA) and/or Habitat Regulations Assessment (HRA) are, rather than repeating the outcomes of the EIA only (Sections 3.1–3.6). We consider that	The Applicant notes that monitoring proposals have been based on the identification of significant effects within the EIA. No significant effects are predicted to occur in the offshore chapters of the ES, except for those predicted as a result of visual effects from the OCRP. As detailed in the Offshore IPMP (APP-276), due to the lead in time for the development of offshore wind projects, it is not desirable or effective to provide final detailed monitoring proposals prior to consent. The Applicant maintains that it is appropriate for the monitoring to be undertaken by the Applicant to be finalised post-consent when more precise detail about the Project design, ground conditions and environmental conditions is understood. This will allow the development of more informed monitoring proposals based on up to date information and best practice guidance, at the time of construction. However, the guiding principles set out in the Offshore IPMP reinforces commitments made in the Environmental Statement (ES) and complements other requirements set out in the dMLs and will allow refinements to be made as knowledge and technology evolves. Final detailed plans for monitoring work will be produced post consent closer to the time that the actual work will be undertaken, in line with conditions 13(1)(c), 17, 18 and 19, Part 2, Schedules 10 and 11 of the DCO (3.1).

Ref No	Natural England's Comments	Applicant Response
	establishing and agreeing the uncertainties and evidence gaps of the EIA and/or the HRA is necessary to inform what monitoring should be undertaken.	The Applicant maintains that monitoring should be targeted to address significant evidence gaps or uncertainty, where there is potential for a significant environmental impact. The ES assessments use a precautionary approach and it therefore does not necessarily follow that the presence of an evidence gap/uncertainty requires monitoring. The Applicant is updating the Offshore IPMP at Deadline 5 and will review the concerns raised by Natural England and update as suitable.
6	As per the Applicant's 'General Principles and Guidance' (Section 1.3), Natural England advises an approach mechanism in which the Applicant presents a clearly defined hypothesis or null hypothesis of no impact would be beneficial. Monitoring thereafter would aim to test this. We advise a review period during which Statutory Nature Conservation Bodies (SNCBs) and regulatory bodies such as the Marine Management Organisation (MMO) are consulted by the Applicant to assess the results of the first period of monitoring. For example, one mechanism that could be introduced for particular receptors would be a live document which is reflective of what the monitoring is observing, including consideration of species/habitat recovery.	The Applicant welcomes Natural England's confirmation of the Applicant's general approach in this regard. As stated in the Offshore IPMP (APP-276) the intention of the monitoring is to be *'effective in providing sufficient evidence preconstruction to inform the deployment of mitigation measures'.* Please also refer to the Applicant's response to Comment Ref 5.
7	We advise that monitoring should be effective in providing sufficient evidence preconstruction to inform the deployment of mitigation measures, and similarly demonstrate the efficacy of mitigation measures during construction and postconstruction. This is important to demonstrate compliance with the measures identified in assessments to mitigate significant impacts. It is also important to provide evidence to assess the significance of adverse effects, evaluate the success of mitigation measures and to help inform whether further remedial measures are required.	Please refer to the Applicant's response to Comment Ref 5. As stated in the Offshore IPMP (APP-276) the intention of the monitoring is to be *'effective in providing sufficient evidence preconstruction to inform the deployment of mitigation measures'.*
8	In relation to remedial measures, Natural England wishes to highlight the importance of ensuring that all relevant monitoring proposals for Outer Dowsing (and/or associated DCO/dML conditions) consider the aim of securing a mechanism for adaptive monitoring when unforeseen impacts are detected. Thus, ensuring remedial measures (i.e., adaptive management) are triggered should the results of monitoring demonstrate impacts that are significantly greater than predicted and/or incorrect assumptions were made following review of the conclusions of the environmental statement and supporting documents. We advise that the potential for certain monitoring to trigger the development of countermeasures (with associated monitoring of those measures) should be clearly stated in relevant tables of the IPMP and incorporated into the DCO conditions where relevant.	In relation to adaptive monitoring, the Applicant highlights the following guiding principle set out in section 3 of the Offshore IPMP (APP-276): *"The scope and design of all monitoring work should be finalised and agreed following review of the results of any preceding survey and/or monitoring work (i.e. an adaptive approach), including those surveys conducted in support of the environmental impact assessment. This includes the potential for survey requirements to be adapted based on the results of the monitoring outlined in this document. Where it has been agreed that there are no significant impacts, monitoring need not be conditioned through the dMLs."* Please refer to the Applicant's response to Comment Ref 5. In relation to adaptive management, the Applicant refers to its comments at RR-042.024 and A8 of the Applicant's Responses to Relevant Representations (PD1-071), 1.11.1 of The Applicant's Comments on Deadline 1 Submissions (REP2-053) and (Document 21.3 of Deadline 4 Submissions).
3) Nature conservation thematic advice		
3.1 [Section 2.1] Engineering and design related monitoring		
9	It is unclear to Natural England if this also encompasses monitoring surveys to inform final project design including those required to inform mitigation measures such as avoidance of certain sensitive receptors particularly environmental ones. If so, it would be useful if the Applicant could specify the purpose of each aspect of the engineering and design related monitoring in full. We highlight that geotechnical investigations will be critical to inform the cable burial risk assessment and in relation to reducing the direct or indirect impacts to environmental receptors. We request that further details are provided to answer the questions posed in our overarching comments.	Please refer to the Applicant's response to Comment Ref 5.
3.2 [Section 3.5] Marine Mammals		

Ref No	Natural England's Comments	Applicant Response
10	Natural England notes that the Applicant did not propose monitoring for marine mammals within the Offshore IPMP. Natural England does not agree that because no significant impacts are predicted, no monitoring is required. Currently the only postconsent monitoring that has been proposed is the industry-standard monitoring of underwater noise from the first 4 piles. However, monitoring undertaken as part of the Marine Mammal Mitigation Plan (MMMP) should not be considered post-consent monitoring as it does not meet the objective of validating impacts. Natural England is concerned that no monitoring has been outlined that would evidence the impacts to marine mammals e.g. monitoring of animal responses to impacts, including mitigated impacts. We highlight that some of the impact pathway assessments factor in mitigation to conclude no significance, therefore validating the effectiveness of the mitigation is a reasonable aim for monitoring. There has been no consideration of the areas of the assessment where assumptions have been made and where the project could contribute to filling knowledge gaps that would inform the project's assessment.	The Applicant confirms its commitment in the Offshore IPMP (APP-276) to undertake the industry standard monitoring for the first four piles. The Applicant disagrees with Natural England that this does not meet the objective of validating impacts as this monitoring will be used to validate the impact ranges presented in the ES, and to determine the final mitigation measures in the final Piling MMMP. This will ensure that the mitigation measures are sufficient to validate the ES conclusion of no significant effect to marine mammals. This monitoring is considered sufficient, given that no significant impacts to marine mammals are predicted. The Applicant highlights that, pursuant to conditions 13(1)(c), 17, 18 and 19, Part 2, Schedules 10 and 11 of the DCO (3.1), the final Monitoring Plan must be approved bythe MMO, following consultation with Natural England, therefore all received advice from these stakeholders can be taken into account in the final Monitoring Plan in the post-consent stage.
11	Therefore, we advise that further detailed discussion is required on the monitoring plans. We understand that this is proposed to occur post-consent. However, at present we have limited understanding, and therefore low confidence, in how the monitoring will evidence the outcomes of the marine mammal assessments. The Applicant should revise the In Principle Monitoring Plan (IPMP) in discussion with Natural England. Detailed requirements for In Principal monitoring (IPMP), can be found in: Offshore Wind Marine Environmental Assessments: Best Practice Advice for Evidence and Data Standards Phase IV: Expectations for monitoring and environmental requirements at the post-consent phase. This document outlines Natural England's recommendations for an effective IPMP and should be considered when planning monitoring post-consent.	The Applicant acknowledges Natural England's advice on the Offshore IPMP (APP-276) and will continue to engage with Natural England to develop the Offshore IPMP (APP-276) (as secured in Condition 11(1)(j) of the draft dMLs (Schedules 11 and 12 of the draft DCO (Document 3.1 of Deadline 4 submissions)).
3.3 [Section 3.6] Offshore and intertidal Ornithology		
12	Natural England is currently in the process of reviewing documents submitted (up to and including Deadline 2) and therefore until this is completed, we are unable to advice further on potential Ornithology monitoring requirements. Once our review is complete, we would welcome further discussion with the Applicant in regard to monitoring of key species. However, please find in Table 1 our overarching advice.	The Applicant welcomes further engagement with Natural England and notes the advice presented in Table 1.
3.4 [Sections 3.1 and 3.3] Marine Processes and Benthic Ecology		
13	Table 1 sets out our advice in relation to marine processes and benthic ecology.	The Applicant has responded in Table 1.3.9.1 below.

Table 1.3.9.1 Appendix L: Natural England's Advice On Offshore In Principle Monitoring Plan

NE Ref	Section	Key Concern and/or Update	Natural England's Advice to Resolve Issue	RAG	Applicant Response
1	[APP-276] Section 3.1	<u>Marine Processes</u> Evidence is needed to validate predictions of impacts to, and recovery of, sandbanks, sandwaves and designated areas of seabed following seabed preparation and sandwave clearance.	Natural England advises that sandwave/sandbank pre- and post- construction monitoring should be carried out to ensure no unexpected changes occur to seabed morphology, as predicted in the EIA. And that hypothesis on sandbank recovery have been met		In respect of pre-construction monitoring, condition 17(2)(b), Part 2, Schedules 10 and 11 of the DCO requires the carrying out of a swath-bathymetry survey to IHO Order 1a standard that meets the requirements MGN654 and its annexes, and side scan sonar, of the area(s) within the Order limits in which it is proposed to carry out construction works. In relation to post-construction monitoring, condition 19 (2)(b), Part 2, Schedules 10 and 11 of the DCO requires that, within twelve months of completion of the licensed activities, a full sea

NE Ref	Section	Key Concern and/or Update	Natural England's Advice to Resolve Issue	RAG	Applicant Response
					floor coverage swath-bathymetry survey that meets the requirements of MGN654 and its annexes, and side scan sonar, of the area(s) within the Order limits in which construction works were carried out to assess any changes in bedform topography and such further monitoring or assessment as may be agreed to ensure that cables have been buried or protected.
2	[APP-276] Section 3.6	<u>Offshore Ornithology</u> The IPMP proposes that ornithological monitoring is focused solely on the compensatory measures that are implemented for the project. No further monitoring is proposed. Natural England highlights that compensation monitoring is undertaken to observe the success of the compensation measures and not to test the predictions of the ES. Therefore, we advise that further monitoring is required of residual concerns and to test agreed hypothesis.	We advise that post-consent monitoring of the offshore wind farm could help clarify the key risks, such as those posed from collision and/or displacement, and as such be included within the IPMP. IPMP should also like with conditions within the DCO/dML.		The Applicant's proposals focus on the monitoring of species which are the subject of compensatory measures as these are the species with the greatest potential for sensitivity to the Project. By definition, monitoring the success of the compensation measures, or the benefits from them, will provide monitoring of the effects of the Project. In relation to the ES predictions, the potential impacts of the Project on ornithology have been assessed within Volume 1, Chapter 12: Offshore and Intertidal Ornithology (document reference 6.1.12) (AS1-040). No significant adverse effects were predicted for the Project.
3	[APP 276] Section 3.5	<u>Benthic Ecology</u> It remains unclear if all surface laid infrastructure within IDRBNR SAC will be monitored post construction and for how long. Or will any monitoring only be along a subsection. Again, as with Ornithology, we highlight that compensation monitoring is undertaken to observe the success of the compensation measures and not to test the predictions of the ES. Therefore, we advise that further monitoring is required of residual concerns and to test agreed hypothesis.	Natural England advises that all infrastructure within IDRBNR SAC should be monitored post installation to test particular hypotheses relating to significance and duration of impacts		The Applicant confirms that the only infrastructure within the Inner Dowsing Race Bank and North Ridge (IDRBNR) Special Area of Conservation (SAC) potentially requiring monitoring is the cable protection. As detailed within the IPMP (APP-276), Table 3.1 states that '*a full sea floor coverage swathbathymetry survey that meets the requirements of MGN654 and its annexes, and side scan sonar, of the area(s) within the Order limits in which construction works were carried out to assess any changes in bedform topography and such further monitoring or assessment as may be agreed to ensure that cables have been buried or protected.* This will therefore cover surface laid infrastructure within IDRBNR SAC. Furthermore, as stipulated in Table 3.2 in relation to benthic ecology features '*In the event that habitats of principal importance constituting Annex 1 habitat are identified in the pre-construction survey; post-construction monitoring will also be carried out with focus on these identified habitats'.* The Applicant's proposals focus on the monitoring of Annex 1 habitat within the SAC, as these habitats have the greatest sensitivity to impacts from cable protection. In relation to the ES predictions, the potential impacts of the Project on benthic and intertidal ecology have been assessed within Volume 1, Chapter 9: Benthic Subtidal and Intertidal Ecology (document reference 6.1.9). No impact would be greater than minor adverse for the project alone or cumulatively.

Table 1.3.9.2 Appendix L: Annex A: Natural England's Advice on an In-Principle Monitoring Plan (IPMP) extracted and summarised from: Environmental considerations for offshore wind and cable projects - Phase IV Best Practice Advice for Post-Consent Monitoring, Version 1.0, July 2022.pdf (Parker et al 2022)

Ref No	Natural England's Comment	Applicant Response
1. Purpose of the IPMP document		
	The outcomes of monitoring are necessary to: - validate the predictions that were made during the consenting phase; - mitigate against unforeseen impacts; - evidence the effectiveness/success of mitigation measures; - inform adaptive management strategies Therefore, it is important that the IPMP represents a useful document that ensures the monitoring commitments are detailed and can be referred back to throughout the monitoring process.	This comment is noted by the Applicant. The Applicant has responded in detail to the each of the individual recommendations from Natural England in the rows below.
2. Advice relating to post-consent monitoring (PCM)		
	The process and structure of the planning system, including post-consent monitoring, is currently under review by Government, Defra, Natural England and other bodies (see Section 3.1). Options for how PCM can be improved to increase our understanding of the marine environment, the effects of offshore wind development and provide information-rich data over relevant spatial and temporal scales are being considered, such as the promotion of strategic or collaborative monitoring (see Section 4.4). The following section provides Natural England's advice and recommendations for the production and delivery of receptor-specific monitoring plans at the post-consent phase.	This comment is noted by the Applicant.
3. Natural England's recommendations		
	Early and continued engagement with SNCBs – engagement with the relevant SNCB(s) is recommended at the earliest possible opportunity to agree the focus of monitoring plans and to allow for continual engagement as plans evolve.	The Applicant will engage post-consent with SNCBs as appropriate to develop the monitoring plans. This is set out in section 1.4: Consultation of the Offshore IPMP (APP-276).
	Clear aims, objectives and hypotheses– post-consent monitoring plans should be targeted and have clear aims and hypotheses (Chambers et al. 2012; MMO, 2014; Lindeboom et al. 2015). Monitoring should be proportionate to the level of risk to biological receptors and should not be delivered for the sake of monitoring, but instead focus on sensitive receptors and be driven by a clear understanding of what the monitoring is seeking to address (MMO, 2014). This helps to collect data that is information rich, as well as data rich (Wilding et al. 2017). Early engagement with NE or relevant SNCB is recommended to help agree monitoring plans.	The Applicant agrees with Natural England that the monitoring should be proportionate to the level of risk. The Applicant maintains that targeted monitoring to address significant evidence gaps or uncertainty, where there is potential for a significant environmental impact is appropriate. The Applicant has included clear aims and objectives of the proposed monitoring, in the topic specific tables of the Offshore IPMP (APP-276) where it is possible to do so at the pre-consent stage.
	Detection of unforeseen impacts – post-consent monitoring should be targeted, with clear monitoring aims and objectives. Whilst PCM plans should not be designed to detect unforeseen impacts, the analysis of the results of PCM may identify unforeseen impacts which arise during offshore wind farm development across relevant spatial and temporal scales (MMO, 2014). If detected, unforeseen effects	The Applicant has incorporated adaptive measures into the Offshore IPMP (APP-276) where it is considered necessary for an in-principal, pre-consent plan. For example in Table 3.2: In-Principle Monitoring Proposed - Benthic and Intertidal Ecology. As the Offshore IPMP (APP-276) is developed into final monitoring plans post-consent (in consultation with statutory consultees including Natural

Ref No	Natural England's Comment	Applicant Response
	can be investigated through adaptive monitoring (see Section 4.3). Participation in collaborative or strategic-level monitoring projects may be also appropriate for identifying long term and lasting effects to marine receptors as a result of offshore wind development.	England and the MMO), the Applicant will consider other areas where adaptive monitoring may be required.
	Statistical power – the ability of a survey to collect a sufficiently large amount of data to make robust statistical inferences about changes is known as its power (Maclean et al. 2006). Where possible, power analyses should be undertaken before monitoring commences to inform the design of PCM to ensure sufficient statistical power in subsequent analyses to detect meaningful changes (Bennet et al. 2016). Projects should also aim to reduce dependence within or between sampling units and plan the statistical tests and/or modelling approach so that the nature and quantity of data collected is suited to conduct the required tests/modelling (Bennet et al. 2016; NobleJames et al. 2018). Early engagement with Natural England is recommended when considering the statistical power of analyses and how this is used to inform survey design, or if power analyses indicate that the expected statistical power may not be sufficient to draw meaningful conclusions.	As the Offshore IPMP (APP-276) is developed into final monitoring plans, post-consent (in consultation with statutory consultees including Natural England and the MMO), the Applicant will consider how the guidance from Natural England can be incorporated.
	Uncertainty and significance – as set out within MMO (2014), uncertainty and significance are two important considerations when designing and implementing PCM plans. Uncertainty reflects the extent of error or assumptions that were made when predicting impacts. There is a greater need to monitor topics if there is higher uncertainty regarding the effects of an impact or resulting recovery of receptors. The significance of an impact is another important consideration for PCM and helps to inform whether further management or remedial measures are required (MMO, 2014).	As the Offshore IPMP (APP-276) is developed into final monitoring plans, post-consent (in consultation with statutory consultees including Natural England and the MMO), the Applicant will consider how the guidance from Natural England can be incorporated.
	Sufficient duration – PCM should be of a suitable duration to capture lags in impacts to receptors being detected as some impacts may only be detectable after a duration of time, depending on the receptor and the monitoring objectives. In addition, PCM may be required to monitor the recovery of receptors after an impact has occurred (e.g., impacts from construction) or a compensation measure has been put in place. Monitoring plans should be designed to incorporate long term or lasting impacts to validate predictions made within the ES and to improve our understanding of long-term effects and recovery of marine receptors. Monitoring plans should also have a clearly defined criteria for when and how decisions will be made on the conclusion of monitoring during the post-consent phase, for example when monitoring will be deemed to have met the objectives of the monitoring programme. Refer to the adaptive management approach principle below (Section 4.3).	As the Offshore IPMP (APP-276) is developed into final monitoring plans, post-consent (in consultation with statutory consultees including Natural England and the MMO), the Applicant will consider how the guidance from Natural England can be incorporated.
	Strategy for consequence – a key role of post-consent monitoring is to validate the predictions of the Environmental statement (ES), HRA, EIA or Marine Conservation Zone (MCZ) Assessment (Section 4). Monitoring plans should therefore have a clear strategy for subsequent remedial action if the monitoring shows that the original conclusions are incorrect, such as the significance of an impact upon a receptor or the timeframe for its recovery (MMO, 2014). Thresholds can be used to set acceptable levels of change for some environmental indicators, which if exceeded, can trigger additional monitoring or the implementation of mitigation or management measures to avoid adverse effects (Bennet et al. 2016; Wilding et al. 2017).	The Applicant agrees that a key role of post-consent monitoring is to validate the predictions within the EIA and details of how this will be achieved is set out in the topic specific monitoring tables of the Offshore IPMP (APP-276). As the Offshore IPMP (APP-276) is developed into final monitoring plans, post-consent (in consultation with statutory consultees including Natural England and the MMO), the Applicant will consider how the guidance with regards to remedial action from Natural England can be incorporated.

Ref No	Natural England's Comment	Applicant Response
	Sharing of data – to maximise the usefulness of post-consent monitoring, data and reports should be made publicly available and provided to the relevant data repositories, such as the Marine Data Exchange (MDE) and the Marine Environmental Data and Information Network (MEDIN). All reports should be supported by the source/raw data and provide a description of the collection methodology and protocols followed (MMO, 2014). Metadata and environmental metadata should also be made publicly available (Chambers et al. 2012). Natural England advise that PCM data should be shared within the relevant data repositories as a matter of best practice. This could be secured as a licence condition for projects.	As the Offshore IPMP (APP-276) is developed into final monitoring plans, post-consent (in consultation with statutory consultees including Natural England and the MMO), the Applicant will consider how the data produced during post-consent monitoring can be made publicly available provided to relevant data repositories.
	Maximise use of baseline characterisation data and existing data – where possible, data collected at the pre-application phase should be used to supplement post-consent monitoring data. The results of baseline characterisation surveys may also be useful to inform the design of post-consent monitoring plans (e.g., the key areas or receptors for monitoring to focus upon). There may also be suitable existing datasets which can be used to provide context or supplement site-specific monitoring data. However, the validity and suitability of existing datasets must be carefully considered if used beyond providing a historical context for subsequent monitoring data (Noble-James et al. 2018). Parker et al. (2022) provides advice and principles for the use of existing data to inform baseline characterisation surveys.	The Applicant will utilise baseline data collected at the pre-application phase to supplement post-consent monitoring data, and suitable existing datasets, where relevant to do so.
	Comparable and standardised data – data should be collected and presented in a consistent format which, where possible, enables effective comparisons with other datasets and other monitoring programmes. Consistent data standards may also allow for backwards/forwards compatibility of monitoring methods over time. Data collection should follow the MEDIN data standards and guidelines as a matter of best practice.9A consistent naming convention should also be followed. Species should be recorded using the World Register of Marine Species (WoRMS) list of accepted scientific names and biotopes should be recorded using the EUNIS classification system (EEA, 2019). A consistent and comparable approach also enables effective cumulative and in-combination assessments and improves the functionality of data repositories.	As the Offshore IPMP (APP-276) is developed into final monitoring plans, post-consent (in consultation with statutory consultees including Natural England and the MMO) and more detail will be available on the precise methods for data collection, the Applicant will consider how the data produced during post-consent monitoring can be standardised following best practice data standards and guidelines at the time of collection.
	Follow industry standards, methodologies and protocols – monitoring programmes should follow the current industry standards, methodologies and protocols as a matter of best practice. This may apply to data collection, handling or analysis (Chambers et al. 2012). Receptor-specific advice is provided within the relevant sections below. Whilst this document will be periodically updated to reflect evolving best practice for industry standards and survey methodologies, Natural England would welcome the opportunity to discuss proposals to use the latest industry monitoring methods, standards or protocols.	The adaptive approach to monitoring, as set out in section 2.1 of the Offshore IPMP (APP-276) allows for the adoption of current industry standards as the Offshore IPMP (APP-276) is developed into final monitoring plans, post-consent (in consultation with statutory consultees including Natural England and the MMO).
	Novel and emerging monitoring methods – Natural England acknowledges the role of offshore wind farm developers in exploring and testing new monitoring methods. Natural England supports innovation and welcomes the exploration of novel and emerging monitoring methods, such as environmental DNA (eDNA), or passive monitoring methods. Although there can be challenges presented by the relative novelty of some techniques in early stages, collaborative working can unlock many wider benefits if planned carefully. Early engagement with Natural England is recommended if novel approaches are proposed.	The adaptive approach to monitoring, as set out in section 2.1 of the Offshore IPMP (APP-276) allows for the adoption of novel and emerging monitoring methods as the Offshore IPMP (APP-276) is developed into final monitoring plans, post-consent (in consultation with statutory consultees including Natural England and the MMO).

Ref No	Natural England's Comment	Applicant Response
	Strategic / joined up approach – a strategic, collaborative or joined up approach can deliver monitoring programmes of a greater scale and scope, thereby providing a greater understanding of ecological impacts, sensitivity or recovery (see Section 4.4). Natural England strongly supports strategic or collaborative monitoring proposals and can provide bespoke advice on a case-by-case basis.	As the Offshore IPMP (APP-276) is developed into final monitoring plans, post-consent (in consultation with statutory consultees including Natural England and the MMO), the Applicant will consider if a strategic or joined up approach can be adopted, but noting that opportunities to collaborate on monitoring may be limited due to the specific monitoring requirements and schedule constraints for the Project.
4. Adaptive monitoring and discharge of conditions		
	Adaptive monitoring is the process of evaluating data collected to date, to help inform the duration and/or design of further monitoring (Bennet et al. 2016). It can also be used to assess whether monitoring should continue or if the relevant licence conditions can be discharged (MMO, 2014). Adaptive monitoring can also inform on the requirement for further mitigation, compensation or restoration measures. Adaptive monitoring is of particular importance for where there is scientific uncertainty regarding lasting impacts or recovery of receptors (Bennet et al. 2016) or where monitoring is seeking to validate predictions of the ES, EIA, HRA or MCZ Assessment.	As the Offshore IPMP (APP-276) is developed into final monitoring plans, post-consent (in consultation with statutory consultees including Natural England and the MMO), the Applicant will consider how the guidance from Natural England can be incorporated.
	Adaptive monitoring is relevant during the post-construction phase where monitoring is investigating changes to the natural environment and ecological receptors over an undefined timescale, such as until a receptor recovers. Licence conditions should incorporate flexibility over the duration of monitoring plans, to allow the results of monitoring surveys to inform the requirement for future surveys or the implementation of management measures (MMO, 2014). This helps to ensure monitoring programmes are delivering the agreed aims and objectives set out by the monitoring plans and ensure monitoring is proportionate to the level of data required. For example, if the ES predicted a full recovery of an MPA feature within a certain timeframe, monitoring may be required until full recovery has occurred and can be agreed between the applicant, SNCB and MMO as the relevant regulator. Conversely, if a receptor has demonstrated the predicted level of recovery, and if agreed by all parties, the requirement for additional post-construction surveys may be discharged early.	As the Offshore IPMP (APP-276) is developed into final monitoring plans, post-consent (in consultation with statutory consultees including Natural England and the MMO), the Applicant will consider how the guidance from Natural England can be incorporated.
	In addition, another aspect of adaptive monitoring is the flexibility of the monitoring plan. Due to the long timeframe between projects obtaining consent and completing PCM surveys after construction, monitoring plans need to capture the scope for changes to the methodology or focus of surveys over time. This may be due to new evidence or understanding of impacts to marine receptors, or due to new technology becoming available which enables more ambitious studies. For example, seabird tagging projects should allow for flexibility in methods as new tracking devices become available. Natural England can provide advice on a case-by-case basis.	The adaptive approach to monitoring, as set out in section 2.1 of the Offshore IPMP (APP-276) allows for flexibility and the scope for changes to the methodology, as the Offshore IPMP (APP-276) is developed, post-consent (in consultation with statutory consultees including Natural England and the MMO).
5. Collaborative / strategic monitoring		
	Delivering monitoring projects collaboratively could have many benefits for the collection of post-consent monitoring data and can help to answer key evidence gaps or research priorities. Collaborative monitoring could include joint monitoring programmes across zones or regions where projects pool resources to achieve monitoring aims, or where key research questions are divided between projects within a zone or region to allow sufficient time and resources to be dedicated to each question.	As the Offshore IPMP (APP-276) is developed into final monitoring plans. post-consent (in consultation with statutory consultees including Natural England and the MMO), the Applicant will consider if a strategic or collaborative approach can be adopted, but noting that opportunities to collaborate on

Ref No	Natural England's Comment	Applicant Response
	Collaborative monitoring could also comprise individual offshore wind projects contributing data, money or resources to a strategic research project led by another organisation, such as by ORJIP or ORSMRF, to address shared research questions or evidence gaps. Working collaboratively allows for the pooling of resources and/or division of labour, which enables monitoring programmes to be of a greater scale and scope than possible on a project-specific basis. This enables data collection to produce useful and information-rich data over sufficient spatial and temporal scales to enhance our understanding of the marine environment and the effect of offshore wind development upon ecological receptors (Wilding et al. 2017).	monitoring may be limited due to the specific monitoring requirements and schedule constraints for the Project.
	In addition, collaborative monitoring could be undertaken over larger spatial and temporal scales than project-specific monitoring plans, which could enable the detection of wider community changes, unforeseen or long-term effects, and allow for greater statistical power in subsequent analyses. Some projects have worked collaboratively to address key shared questions of mutual interest at the post-consent phase (e.g., see Section 6.3.1). If implemented effectively, this allows for the division of labour and allows multiple projects to undertake more insightful monitoring programmes than possible on an individual project-level.	
	Whilst there is widespread agreement of the benefits of collaborative monitoring across sector groups, a framework is required to facilitate strategic monitoring programmes at the government level. Facilitating strategic monitoring is a key objective of Natural England's Approach to Offshore Wind (Natural England, 2021) and Natural England supports the implementation of strategic monitoring as a mechanism to address key evidence gaps and to deliver monitoring projects at scale. Natural England are also leading the Planning Offshore Wind Strategic Environmental Impact Decisions (POSEIDON) project. This is a multi-year project, funded through the Crown Estate's Offshore Wind Evidence and Change (OWEC) programme, which is seeking to address strategic data collection for offshore wind projects. The outputs of the POSEIDON project will be incorporated into this advice when available. Projects should consider whether data collection for some aspects of post-consent monitoring could be undertaken collaboratively with other regional projects in order to answer specific monitoring aims and priorities. Natural England strongly supports the implementation of collaborative monitoring programmes across projects, zones or regions, and can provide advice on a case-by-case basis.	

1.4 T.H. Clements' Deadline 3 Submission Response

Table 1.4.1: The Applicant's Comments on T.H. Clements' Deadline 3 submissions

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
Q1 GC 1.1	**Duration of onshore construction operations** In paragraph 189 of the Environmental Statement (ES) Chapter 3 [APP-058] the Applicant states that installing the onshore cable ducts and export cables is	As explained in T.H. Clements & Son Limited's ("T.H. Clements") response to ExA Q1 GC.1.1 (REP2-079), the project's construction programme and its duration is of critical importance to T.H. Clements and other landowners and farmers. The impact of construction activities on the land and on their business is	The Applicant is committed to continued consultation with all affected parties and will provide additional detailed information regarding phasing of the works and programming when it is available however this will not be until such time that a principal contractor is appointed and the details design is complete.

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
	anticipated to take up to 42 months. How has this proposed construction period been arrived at and how does it compare with that of other recently-consented offshore wind farm projects such as Hornsea Four and the Sheringham Shoal and Dudgeon Extension Projects? What certainty can Interested Parties (IPs) have that any completed sections of the onshore Export Cable Corridor will be reinstated at the earliest available opportunity?	significant, and it is essential for them to gain a clear understanding of how long the land will be required for construction. While the Applicant has indicated a change to a rolling/sequential construction programme for the onshore Export Cable, insufficient information and clarity has been provided to T.H. Clements and indeed the Examination, to enable a proper understanding of the proposed construction programme and resulting impacts. For example, it remains unclear how long the installation of the onshore cable will take in relation to individual sections or in relation to Order land plots. Nor is it clear whether possession will be retained between the installation of the duct and the cable itself and so how long individual plots will be possessed by the Applicant whether or not there is active work on going. It is essential that this information is provided by the Applicant as soon as possible.	
Q1 CA 1.2	**The scope and purpose of the Compulsory Acquisition Powers sought** The SoR [AS1-032], section 6.2, relates to the requirement for the Order land and paragraph 171, states that in identifying the land included in the dDCO [AS1-024], the Applicant has taken every measure to avoid taking unnecessary rights or interests and all reasonable alternatives to compulsory acquisition have been explored. To assist with the consideration of whether the extent of the land to be acquired is no more than is reasonably required for the purposes of the development to which the development consent will relate: ▪ For the avoidance of doubt, please set out and justify the extent of the flexibility that the submitted scheme would allow in terms of limits of deviation and parameters providing dimensions where relevant. ▪ How would it be ensured that powers of Compulsory Acquisition (CA) would not be exercised in respect of land not ultimately required as a result of the detailed design process?	In its response to ExA Q1 CA 1.2 (REP2-051), the Applicant states that it "has justified the extent of rights required to facilitate the construction of the ECC, being a typical 80m cable corridor as part of the Applicant's Responses to Relevant Representations (PD1-071), RR-067.011 'Justification for 'working width' during construction', which details the corridor's typical width". Part of that justification is the need to store soil along the onshore Export Cable Corridor (ECC) in bunds. As explained in ISH 3, in order to assist T.H. Clements in its assessment of the impact of the project from dust contamination (as well as going to the fundamental issue of justification of land take), it would helpful if the Applicant could confirm to T.H. Clements how the extent of the ECC required for the storage of soil in bunds has been calculated, and whether there will be a need for soil storage bunds (and the anticipated size (footprint) and volume of those bunds) along the sections of the ECC that will be installed using trenchless techniques, such as horizontal directional drilling.	The Applicant has submitted a Clarification Note: Land Take, Soil calculation and Storage Bunds (REP3-056) to address these concerns.
Q1 CA 1.5	**The scope and purpose of the Compulsory Acquisition Powers sought** Appendix 2 of the SoR [AS1-032] provides a description of the land which is subject to the acquisition of rights or the imposition of restrictive covenants:	As explained in T.H. Clements response to ExA Q1 CA 1.5 (REP2-079) and orally during the ISH on Compulsory Acquisition, restrictive covenants have the potential to seriously impact/restrain normal farming activities/practices and thus T.H. Clements (and other farmers) ability to effectively farmland. It essential that the restrictive covenants are such as will not prevent the normal farming practices of T.H. Clements and the other owners and occupiers of the land on which the restrictive covenants will be imposed. To that end, T.H. Clements have been liaising with the	The Applicant has addressed these comments in Table 1.3 of The Applicant's Response to Written Summaries of Oral Cases at ISH1 (document 21.4).

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
	• Please provide an indication of the anticipated content and/or an initial draft of any restrictive covenants intended to be imposed. • Should a requirement for consultation with relevant owners/occupiers regarding the drafting of any such restrictive covenants be imposed?	Applicant with a view to reaching agreement on the drafting of the restrictive covenants contained in Schedule 7 of the draft Order. Agreement is yet to be reached. T.H. Clements proposed drafting changes are shown in track as follows: **Restrictive covenant** B. A restrictive covenant over the land for the benefit of the remainder of the order land to— (a) prevent anything being done in or upon the land or any part thereof for the purposes of — (i) the construction of any buildings; or (ii) the [hard] surfacing of the land; (b) prevent the planting of any trees or shrubs on the land [without the consent in writing of the undertaker (such consent not to be unreasonably withheld or delayed provided that the proposed trees, or shrubs would not cause damage to the relevant part of the authorised development nor make it materially more difficult to maintain or to access the relevant part of the authorised development)]; ~~which interferes with or might interfere with the exercise of the rights or the use of the cables or in any way render the cables in breach of any statute or regulation for the time being in force~~ (c) ~~and applicable thereto and without prejudice to the generality of the foregoing to prevent the construction of any buildings on, the surfacing of, the carrying out of any excavations or works to a depth greater than 0.75 metre on or in, or the planting of any trees or shrubs on, the land~~ prevent the carrying out of any excavations or works or agricultural practices to a depth greater than 0.75 metre from the surface of the land, without the consent in writing of the undertaker (such consent not to be unreasonably withheld or delayed, with consent for trench digging requests relating to waterlogging to be determined within 24 hours, if the proposed activity would not cause damage to the relevant part of the authorised development nor make it materially more difficult to access or maintain the authorised development, with such consent being subject to such reasonable conditions as the undertaker may require) provided that (for the avoidance of doubt)— (i) ordinary agricultural practices including but not limited to acts of cultivation including soil preparation, ploughing and sub-soiling, not exceeding 0.75 metres in depth from the surface of the land, do not require the consent of the undertaker; and (ii) flushing of land drainage systems, maintenance of outfalls and culverts of land drainage systems, clearance of vegetation (by use of machinery or by hand) and the operation of existing land drainage systems do not require the consent of the undertaker. Furthermore, as explained during ISH1, outside of Schedule 7 Order land, there is no prescribed restrictive covenant. As such, there is no limitation on the Applicant and the Applicant could impose greater restrictions on land outside of Schedule 7 Order land. That could have a material detrimental effect on T.H. Clements' (and others) on-going ability to farm after the Applicant has completed construction. In light of which, T.H. Clements proposes the following amendment (changes in italics) to Article 22(1): "22 (1) Subject to paragraph (2), the undertaker may acquire compulsorily such rights or impose restrictive covenants over the Order land as may be required for any purpose for which that land may be acquired under article 20 (compulsory acquisition of land), by creating them as well as by acquiring rights already in existence,	

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
		provided that any new restrictive covenant(s) to be created shall not be more restrictive or onerous than the restrictive covenants set out in column (2) of Schedule 7."	
Q1 CA 1.9	**The scope and purpose of other rights and powers** The SoR [AS1-032] paragraph 5.5.5, explains that in addition to powers of CA, if made, the DCO would also confer other rights and powers on the Applicant that may interfere with property rights and private interests. Article 18 of the dDCO [AS1-024] would authorise the Applicant to enter onto any land within the Order Limits or which may be affected by the authorised development to undertake various survey and investigative works, including trial holes. Article 18(2) provides for a 14 day notice period to be given to the owner/occupier of the land. • What assessment, if any, has been made of the effect upon individual Affected Persons and their private loss that would result from the exercise of CA powers in each case. • If no such assessment has been undertaken, please explain why it is considered unnecessary to do so in this case? • What is the clear evidence that the public benefit would outweigh the private loss and how has that balancing exercise between public benefit and private loss been carried out?	As noted in the Applicant's response to ExA Q1 CA 1 (REP2-079), Article 18(6) of the dDCO requires the Applicant to compensate the owners and occupiers of the land surveyed for any loss or damage. It would be helpful if the Applicant could clarify that 'occupiers' includes those persons who occupy land on an informal basis. Please also see our comments at ExA Q1 CA 1.10 below.	Article 18(6) states: The undertaker must compensate the owners and occupiers of the land for any loss or damage arising by reason of the exercise of the authority conferred by this article, such compensation to be determined, in case of dispute, under Part 1 (determination of questions of disputed compensation) of the 1961 Act. As TH Clements are an occupier of the land, they would be a compensable party.
Q1 CA 1.10	Compulsory Acquisition of the land, rights and powers that are sought by the dDCO The SoR [AS1-032], section 3, sets out the Applicant's case in the public interest for the proposed CA. Section 3.4 concludes that there is a need for and benefit as a result of the Proposed Development. While this conclusion sets out the benefits delivered by the Proposed Development and its objectives, there is little mention of any consideration given to private loss. Please provide further explanation in relation to the following: • What assessment, if any, has been made of the effect upon individual Affected Persons and their	As highlighted in T.H. Clements response to ExA Q1 CA 1.9 (REP2-079), the way land is farmed in Lincolnshire is not fully reflected in the Compensation Code. Much of the land T.H. Clements (and others) farm, is farmed on an informal basis, which is insufficient to found a claim for compensation, including for disturbance. There is a right to compensation under section 37 of the Land Compensation Act 1937 for persons who are disturbed from lawful possession of, but who do not have a proprietary interest in, land. However, that section does not apply to agricultural land. Section 22 of the Agricultural (Miscellaneous Provisions) Act 1963 is capable of assisting, but is a discretionary power to pay compensation to those without a formal interest in agricultural land; not an obligation. As such, it does not protect T.H. Clements (or others who farmland on a similar basis) without the express	The Applicant notes that this was a topic of CAH1 held on the 3rd December 2024 and was covered by agenda item 3.2(c). The Applicant subsequently submitted 20.4.1 The Applicant's Written Summary of oral case put at the Compulsory Acquisition Hearing, 3rd Dec (REP3-039) which outlines the Applicant's commitment to compensating occupiers who would otherwise not be entitled to compensation under the Compensation Code by way of an Occupier's Consent

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
	private loss that would result from the exercise of CA powers in each case . • If no such assessment has been undertaken, please explain why it is considered unnecessary to do so in this case? • What is the clear evidence that the public benefit would outweigh the private loss and how has that balancing exercise between public benefit and private loss been carried out?	agreement of the Applicant. Without the Applicant's agreement to pay compensation, interference with an occupier conducting its business on land, is unlikely to be justified and the Order ought not be made.	
Q1 CA 1.18	**Whether adequate funding is likely to be available** The Funding Statement [REP1-012], indicates that the scheme has a most likely estimate of between £5.5 and £7.5 billion to cover all costs of construction, operation, development, project management, financing and land acquisition. This estimate includes an allowance for compensation payments relating to the CA of land interests in, and rights over, land and the TP and use of land. It also takes into account potential claims under Part 1 of the Land Compensation Act 1973, Section 10 of the Compulsory Purchase Act 1965 and Section 152(3) of the Planning Act 2008. • How can the ExA be satisfied as to the reliability of that estimated figure, and what is its degree of accuracy? • How does the Applicant account for the £2 billion range between the lower and upper cost estimates? • Whilst the Funding Statement indicates that the costs of meeting any valid blight claim will be met by the Applicant, please confirm that the resource implications of a possible acquisition resulting from a blight notice have been adequately taken account of in the overall cost estimate . • The ownership structure declared for TotalEnergies Holdings Europe in the Funding Statement is indicated as comprising of three separate 'parent' entities. However, the share of ownership indicated as being held by each of these entities does not account for 100% of the ownership of TotalEnergies Holdings Europe. Why is the full ownership of this company not	It is an action point of CAH1 (AP6) for the Applicant to confirm the extent to which private loss (particularly that private loss that is to be compensated on a voluntary basis) has been accounted for in ODOW's Property Costs Estimate ("PCE") (APP-030) which appears to be based on ordinary principles under the Compensation Code and does not, in so far as can be ascertained, account for agreements in relation to informal farming arrangements (see Methodology (APP-030, p.9 (PDF))). ODOW said at CAH1 that the PCE was appropriate because ODOW would not allow double recovery (the informal occupier cannot recover compensation the underlying landowner is entitled to/ has been paid). However, this does not address the point. It is, of course, accepted that double recovery is inappropriate, but the losses incurred by an occupier in possession are not the same as those of a landowner not in occupation. The great majority of loss in the latter is land value. The loss for the former is in being disturbed from the land – for example, crop loss, the increased costs for T.H. Clements of farming the mitigation land. These losses are not co-extensive with the landowners and, as such, the issue of double recovery does not arise	The Applicant notes that at CAH1 the ExA asked the Applicant to discuss this matter further with TH Clements. The Applicant has offered a meeting to discuss this issue but unfortunately that meeting was not able to happen before Deadline 4. The Applicant has reviewed the Property Cost Estimate (PCE) (APP-030) and maintains its position that it appropriately accounts for the private losses of TH Clements, and other occupiers occupying land on an informal basis. This is because the PCE attributes a disturbance/crop loss payment per hectare of land, based on information that was ingathered by the Applicant on distribution of crops within the different ALC land grades within the Order Limits, and the value of each crop type (which was obtained from Farmers Weekly: markets at a glance). That disturbance/crop loss payment was then multiplied by the affected area (per ALC land grade) and further multiplied by 3 years for the proposed period of construction to give the total value of the compensation that could be payable. The PCE therefore attributes a value per hectare of land and confirms funds are available to compensate the impacted party whether this be the landowner, a formal tenant, or an informal occupier. The Applicant has therefore attributed funds to the Property Cost Estimate correctly and has accounted for compensation for parties who occupy land on an informal agreement, as well as all other claimants. In addition to the sum on a per hectare basis, the PCE takes into account future losses, where land will take time to recover post-reinstatement and also a contingency figure. The Applicant understands the high productivity of Grade 1 land and included in their figures, a recognition that 3 crops are grown within a 2 year period, thus accounting for the intensive growing systems along the route. The "no double recovery" principal is intended to prohibit a double claim for the same disturbance/crop loss claim which seems to be accepted by TH Clements.

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
	shown in the Funding Statement and how does this apparent shortfall affect the funding available for the Proposed Development?		
Q1 CA 1.20	**Whether the purposes of the proposed Compulsory Acquisition justify interfering with the human rights of those with an interest in the land affected** What degree of importance has been attributed to the existing uses of the land proposed to be acquired in assessing whether any interference would be justified, and why?	T. H. Clements note that in its response to ExA Q1 CA 1.20 (REP2-051) the Applicant states that "Although agricultural land is being acquired no farms or businesses are being displaced or extinguished". That statement is not correct. T.H. Clements have already spent a significant amount of time and money in securing alternative farming land to ensure that it can continue to meet its contracts, and mitigate the impacts of the project on its business, If T.H. Clements had not acted to mitigate the impacts of the scheme on its business then extinguishment is precisely what may have occurred. This mitigation has to date been carried out at T.H. Clements own cost and yet the benefits of T.H. Clements decision to mitigate are being relied upon by the Applicant precisely to make statements such as this. Moreover, T.H. Clements is being displaced. It has had to move an element of its farming to Gosberton Farm to mitigate the impacts. That is clearly displacement.	The Applicant maintains their position that TH Clements' business is not being displaced or extinguished. The Applicant's calculations show that approximately 1.5% of the land farmed by TH Clements could be impacted by the Applicants proposal. TH Clements farm over 10,000 acres of land over a wide area in South Lincolnshire, which already includes substantial blocks of land near to Gosberton Farm. As such, a claim of displacement/extinguishment is considered to be unrealistic. The Applicant is in productive discussions with TH Clements regarding payment of appropriate compensation for the duration of construction works (and possible subsequent crop loss through reduction in yield for a period of time after land is reinstated). Displacement would be considered a permanent impact whereas the authorised project will have only a temporary impact on TH Clements' farming activities (reflected in the fact that the mitigation undertaken by TH Clements of securing alternative farming land is of limited duration)
Q1 CA 1.28	**Professional fees** Outline your approach to the reimbursement of Affected Person's professional fees.	At present T.H. Clements are content to leave this to commercial negotiations.	This comment is noted by the Applicant.
Q1 LU 1.5	**Severance of agricultural land during construction** Severance has been identified as a concern by TH Clements & Sons Ltd and Woodlands Farm (Kirton) Ltd [RR-067, RR-075 and REP1-050]. The Applicant's response [PD1-071] to TH Clements & Son Ltd states that its land agents have reviewed areas of land which may be severed as a result of construction activities. The response to Woodland Farm (Kirton) Ltd appears to suggest that Horizontal Directional Drilling (HDD) is proposed, in part, to address severance. The ExA notes that paragraph 277 of Chapter 25 of the Environmental Statement (ES) [AS1-050] states that severance impacts on operations can still be assessed and mitigated without full details of occupying tenants. The outline Code of Construction Practice (OCoCP) [PD1-038] refers to the preparation of a management plan for severed land to be agreed with land-owners and tenants but it is not identified in the Schedule of Mitigation [PD1-058] or Requirement (R)18 of the draft Development Consent Order (dDCO) [AS1-024].	The Applicant states that it has undertaken an initial review of land that may be considered by landowners impracticable to farm during the Applicant's construction works, albeit that the Applicant considers this review to be unrefined and not an accurate enough basis on which to consult meaningfully with Affected Persons. The Applicant does also confirm that once designs are sufficiently detailed to facilitate a meaningful discussion, they will be consulting with Affected Persons. The Applicant will need additionally to discuss the issue with occupiers of relevant plots, even if not Affected Persons. In accordance with this position, the Applicant has not, to date, engaged with T H Clements on this issue or shared any indicative outline plans of expected severed areas. However, the Applicant did indicate in ISH3 that its initial assessment of the land that T.H. Clements farms and which would be left impractical to farm appears to be similar to that carried out by T.H. Clements as set out in (REP2-079, p.13-27). In their response, the Applicant sets out its intention that the management of mutually defined severed areas will be on the basis of individual agreements between the Applicant and Affected Parties. This is fine if such agreements are reached. It would allow severance to be addressed and managed on a case-by-case basis to allow the specifics of every parcel and the agricultural operations of the	The Applicant has, following TH Clements representation, engaged with TH Clements on this matter and has obtained shapefiles of the land which TH Clements anticipates would be severed. These shapefiles have been reviewed and overlaid onto a plan with the Applicant's initial assessment, based on the current footprint of the Order Limits, of land which may be considered impractical to farm by the landowner/occupier. These plans have been issued to TH Clements and a meeting requested to investigate any disparities between the two assessments. It should be noted that the Applicant maintains its position as set out in its response to Q1 LU 1.5 (REP2-051) that this is assessment is indicative at this stage and not reflective of the final position, which is subject to detailed design. The Outline Code of Construction Practice (document 8.1, version 5), under section 6.14 Severed Land, provides that a management plan for severed land will be implemented, that compensation for any losses will be provided and that in the event of a dispute regarding severed land the matter shall be referred to an independent RICS surveyor for expert determination. As such, the Applicant considers there is a mechanism to deal with this matter in the event that any party does not enter into a voluntary land agreement.

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
	• Can the Applicant confirm if it has sought to engage with all relevant landowners and tenants to determine the amount of land that would be severed? If so, please provide details of the amount of land and implications for the conclusions in the ES. • Please elaborate on the proposal for a management plan for severed land. Will this be a single plan or separate plans for individual owners or tenants? How is the commitment for these plans secured? Should it be specifically identified in the Schedule of Mitigation and dDCO?	owner and/or occupier to be taken into consideration. However, without these agreements in place, owners and occupiers cannot be comfortable that they will be safeguarded against the negative effects of the scheme (with regards severance), or that severed land will be managed appropriately. T.H. Clements does not yet have an agreement in place with the Applicant. Whether or not such an agreement can be reached depends on many factors beyond just severance. Accordingly, there needs to be a mechanism in the Order to allow for severance to be addressed in circumstances where there is no private agreement. At the moment, this is not offered by the Applicant. In the result and without such a default provision in the Order or confirmation that agreement has been reached with all landowners, the ExA should in coming to their recommendation have in mind the negative consequences of severance, including: • Inability to gain access to severed land with the equipment necessary to farm it (as explained in T.H. Clement's response to ExA Q1 LU 1.5 (REP2-079); • Inability to operate necessary machinery in severed land areas due to challenges of severed area's size and shape; Limited options of alternative crop production in severed areas; • Increased uncropped (internal headlands) areas within productive area of the field. The negative consequences on Order Plots 29-013 and 30-002, which will be severed by the onshore ECC, are explained below by way of example. <u>Impacts of severance on Order Plots 29-013 and 30-002 (which are owned and occupied/ farmed by T. H. Clements) being typical of issues suffered on other Order Plots</u>. The dissection of these fields by the onshore ECC creates irregular field shapes with additional awkward corners that are not sufficient in width to allow access by farm machinery and cannot therefore be effectively farmed by T.H. Clements. As explained in T.H. Clements response to ExA Q1 LU 1.5 (REP2-079), T.H. Clements operate a '36 metre' system, i.e. all sprayers and fertiliser spreaders (which are necessary for the husbandry of the crops that T.H. Clements grow) have a 36-metre width. This acts as a clear measure when determining areas which are not accessible for farming as a result of the construction of the onshore export cable. If the severed area is not wide enough or cannot be	

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
		planted with crops in such a way that allows for access with the necessary equipment, it is effectively unfarmable under the existing system. Growing alternative (non-vegetable) cash crops (being crops grown for financial return as opposed to land management purposes) in these areas would still suffer from the challenges of machinery access in small awkward field shapes making cropping unviable. Inevitably alternative crops would be combinable (being those harvested with a combine harvester) which require efficiencies of scale to be profitable. The relatively small, severed areas are not sufficient to produce profitable combinable crops. Stewardship options such as the Sustainable Farming Incentive (SFI) offer alternatives, however, these agreements typically last for a minimum period of 3 years and would not offer the flexibility required. As a result, T. H. Clements would in all likelihood need to leave the areas fallow. The implications of leaving the severed areas fallow are: 1. A loss of output of high value vegetable crops from the severed areas where they cannot be successfully cultivated. Consequential losses as a result of this reduced supply include, a loss of income and potential threats to supermarket contracts if requirements are not met. Costs (much higher than the price received) may be incurred in sourcing crops from elsewhere to service any shortfall to demands of the supermarket contract. 2. An increase in uncropped areas (known as internal headlands) in the cropped area of the field. These are effectively field margins which are left unplanted in order to facilitate the farming of the rest of the field. Vegetable production requires leaving areas of the field uncropped to allow for movement of machinery within the field without damaging high value crops. These areas are used for irrigation, harvesting and turning of machinery within the cropped area. Uncropped areas typically account for approximately 7-8% of the total field area, however from initial calculations T.H. Clements anticipate this figure may double should a field be crossed by the scheme. The plans comprising Appendix 7 and 8 show Plot 27-005 and illustrate estimated uncropped areas in both scheme and no-scheme worlds. Non-cropped areas are show in orange and sterilized areas in blue	

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
Q1 LU 1.10	**Dust contamination** Concerns regarding the risk of dust contamination of crops during construction are raised by a number of landowners and agricultural businesses in their RRs. The Local Impact Report submitted by East Lindsey District Council, Boston Borough Council and South Holland District Council [REP1-052] also identifies the need for the effective management of dust and communication with landowners. The ExA notes that the local authorities deem the mitigation measures listed in Table 2.1 of the outline Air Quality Management Plan (AQMP) [APP-270] to be robust. The Applicant's response to RRs [PD1-071] identifies mitigation specified in the outline Construction Traffic Management Plan [APP-289], outline SMP [PD1-040] and the outline CoCP [PD1-038]. The latter refers to the implementation of a "Dust Management Plan", but this document is not identified in the Schedule of Mitigation [PD1-058] or in R18 of the dDCO [AS1- 024]. ▪ Does the Applicant intend to produce a "Dust Management Plan"? If so, how would this plan be secured? Should it be identified in the Schedule of Mitigation and R18 of the dDCO? Will an outline Dust Management Plan be submitted into the Examination? If not, why not? ▪ The ExA notes that the Applicant met with the Land Interest Group (LIG) on 4 September to discuss concerns and the outline CoCP. Can Interested Parties please comment on the mitigation proposed by the Applicant and specify any additional measures that they consider to be necessary. ▪ Is the Applicant committed to implementing all of the measures identified in Table 2.1 of the outline AQMP which are identified as "highly recommended"? If so, should this be made clearer in the outline AQMP? ▪ Can the Applicant provide feedback on the approach and conclusions of the Technical Report: Dust Deposition Modelling submitted by TH Clements & Son Ltd with its Written Representation [REP1-050]? Does this report have any implications beyond the study area of the ES or for other plots not included in the TH Clements & Son Ltd assessment?	In principle, T.H. Clements has no fundamental issue with the approach adopted by the Applicant in completing the construction dust risk assessment reported in Chapter 19 of the Environmental Statement (AS1-086) and the resulting Outline Air Quality Management Plan (AQMP) for mitigating dust (APP-270). The assessment was completed with reference to the Institute of Air Quality Management (IAQM) construction dust guidance1, recognised as industry best practice. Although the Applicant's assessment does not explicitly identify or refer to the commercially sensitive agricultural land in proximity to the Order Limits, the assessment does arrive at a conclusion of 'high risk' of dust soiling to 'people and property', which dictates the level of mitigation set out in the Outline AQMP. The IAQM guidance states that, with mitigation in place, it is assumed that "…a potential significant adverse effect will not occur, so that the residual effect will normally be 'not significant'" (Section 9.1, page 30 of the guidance), which is the conclusion reached by the Applicant. However, the IAQM guidance does acknowledge that "…even with a rigorous dust management plan (DMP) in place, it is not possible to guarantee that the dust mitigation measures will be effective all the time" (Section 9.1, page 30), going on to state that there may be cases where "…there may be a significant effect." (Section 9.2, page 30). Therefore, the IAQM guidance states that "…it is important to consider the specific characteristics of the site and the surrounding area to ensure that the conclusion of no significant effect is robust" (Section 9.2, page 30). Given that the specific characteristics of the commercially sensitive agricultural land owned/managed by T.H. Clements was not explicitly considered within the Applicant's assessment, the detailed dust deposition modelling assessment completed for T.H. Clements (Appendix 14 of REP1-050) effectively actions the above IAQM statement. The study was particularly driven by the commercial sensitivity of the brassica crops to visible dust contamination, with T.H. Clements being required to produce crops that are practically free of visible dust. This makes farmland through which the onshore cables run particularly sensitive. T.H. Clements' Air Quality Expert is in dialogue with the Applicant's Air Quality Expert to reach a mutually agreeable position on impacts and mitigation, with a potential option (to be agreed with Applicant) of establishing a Statement of Common Ground (SoCG)	The Applicant has submitted The Applicants Response to TH Clements Dust Report Assessment and Conclusions (Document reference 21.20, revision1). This document provides: • A review of the Technical Report: Dust Deposition Modelling deposition assessment appended to their Written Representation [REP1-050]. • A summary of the Applicant's assessment 6.1.19 Chapter 19 Onshore Air Quality [AS1-046], specifically addressing how the impacts identified by T.H. Clements have been assessed in line with established best practices and assigned the maximum level of dust risk and protection. For further information, see document reference 21.2 The Applicant's Responses to the Examining Authority's Written Questions 2 Q2 LU 1.6. In summary: • The Applicant's assessment 6.1.19 Chapter 19 Onshore Air Quality [AS1-046] follows the IAQM's 2024 qualitative construction dust assessment framework which aligns with established best practices for evaluating dust impacts from onshore linear NSIPs traversing farmland. • The IAQM framework explicitly accounts for potential dust impacts on commercial farmland, and the Applicant has applied the maximum level of dust risk and protection in its assessment. While the assessment is based on residential properties (maximum sensitivity), considering additional receptors would not alter the outcome. • The full suite of best-practice controls prescribed by the IAQM were consequently recommended, with 50 specific controls included in the Outline Air Quality Management Plan [APP-270]. A regulated monitoring and communications framework has also been implemented to ensure these measures are effective. These measures will be further refined as the detailed design progresses and once a Principal Contractor is appointed. • The Technical Report: Dust Deposition Modelling [REP1-050] is deemed unsuitable due to critical model execution issues. It also relies on dust emission factors from coal and metalliferous mines in the USA and Australia, which are unvalidated for the UK climate. The IAQM explicitly advises against using these dust mining factors in dispersion modelling, deeming it inappropriate. It can be confidently concluded that the specific characteristics of the site and surrounding area have been fully considered, ensuring that the conclusion of no significant effect is robust. This is because commercial farmland is accounted for within the IAQM dust framework, and the Applicant has applied the maximum

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
		that identifies what is / is not agreed. T.H. Clements understand that the Applicant will submit a detailed review of T.H. Clements' dust deposition modelling report (REP1-050) at Deadline 3. Whilst T.H. Clements reserve their position to respond to that, T.H. Clements note that the Applicant raised three principal issues in response to Q1 LU 1.10 (Page 114, REP2-051) that relate to the dust modelling study. T.H. Clements' responses to these are outlined below, in turn: a) The report makes unrealistic assumptions relating to the timing of the construction phase. It assumes that the whole of the Order Limits will be stripped of topsoil upon commencement of the construction phase, and excavation activities will be ongoing, continually, for the full construction programme. It is incorrect to say that the assessment assumes excavation activities will be ongoing, continually, for the full construction programme. The focus of dust modelling assessment was on three discrete phases of the onshore cable route construction – Enabling Works, Cable Infrastructure Installation, and Reinstatement & Demobilisation. Each phase was assumed to have a 12 month duration, totalling 36 months. This was based on information provided in the Project Description (APP-058), Outline Soil Management Plan (SMP) (PD1-040), and Transport Assessment Appendix 27.1 (AS1-086). Specifically, reference is made to: • An indicative programme for the construction phases spanning a total of 42 months (Plate 11.1, APP058); • Main and secondary construction compounds are to be in place for between 6 to 36 months (para. 203, page 87, APP-058); • 100% of the haul road to be retained for a 36 month period (para. 257, page 101, APP-058); • Stockpile maintenance measures to be in place where soil will be stored for over six months (para. 78, page 22, PD1-040); • Average daily construction traffic movements split by segment of the ECC, applicable to a 42-month construction period, with all movements assumed to use the haul roads (para. 146-147, Table 27.28, pages 65-66, AS1-086). The justification for the approach to phasing is provided within Appendix 14 (pages 16 and 44) of the T.H. Clements Written Representation (REP1-050).	level of dust risk and protection. No further assessment is warranted or necessary. Despite this, the assessment framework employed by T.H. Clements does not constitute an appropriate technique for evaluating dust soiling impacts, as it directly contradicts UK technical guidance.

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
		It is acknowledged within Appendix 14 of REP1-050 that construction activities will not occur continuously in each phase and that these are likely to be undertaken in sections. However, indicative timing of this could not be accounted for in the assessment as such details were not available. Notwithstanding, it is important to note that the dust modelling assessment results consider dust deposition on T.H. Clements' land from each construction phase independently. This means that there was no double-counting of dust impacts and no overlapping of construction activities (i.e. activities were not assumed to be ongoing, continually, for the full construction programme). This was to acknowledge the lack of detail on construction activity location and sequencing along the corridor. Dust deposition impacts in each phase were assessed over short term periods – daily and monthly. This ensured the modelling captured the different weather conditions throughout the year, such that dust deposition could be assessed at any given location where these activities might occur. Total annual dust deposition results were not considered as it was recognised this would not be realistic, given that activities would not occur continuously over 12 months. If, for example, construction was to be progressed on a section-by-section basis over a set period and lasted in the order of a few months, then the potential for these activities to overlap is more likely. This may lead to a higher intensity of dust emissions in some cases, albeit over shorter periods of time. For this reason, a lower dust impact may not necessarily occur relative to the assessment completed for T.H. Clements. b) The report fails to take account of the approximately one third of the total ECC which the Applicant has committed to construct using trenchless techniques. We will take this away and address how it may impact the assessment results. However, there is unlikely to be a complete absence of dust emissions from these areas, given that soil storage and other material storage is still likely to occur. In most cases where there are Cable Installation Compounds (CIC) and trenchless methods to be used, Figure 3.4 of APP-089 shows the haul road to still be present and also indicates the potential for open-cut trenching techniques to be used on the CIC footprints. This is in addition to the likely soil storage – the 80m corridor width	

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
		is only justified by the need for soil storage and has not been reduced by the Applicant alongside those areas where trenchless techniques are proposed. The modelling completed for the T.H. Clements study excludes potentially dust generating activities associated with all construction compounds along the ECC route (e.g. material import/export, storage) and any dust emissions from construction vehicle movements on the enabling access roads and construction access roads. c) The report has used an inappropriate methodology for modelling dust deposition. The method in question has been developed for arid regions of the globe such as South Africa and Australia, and as such is inappropriate for the temperate climate of south Lincolnshire. The dust emissions inventory for each phase was developed using emissions factors relevant to each construction activity published by the US Environmental Protection Agency (US EPA) and Australian Government Department for Climate Change, Energy, the Environment and Water (DCCEEW), with the Australian factors largely based on the US EPA factors. These are detailed in Table 4-3, page 19 of Appendix 14 (REP1-050) The T.H. Clements report acknowledges that the use of these emission factors represents a precautionary approach principally due to the climatic differences between the US/Australia and the UK. However, these factors are not exclusively reserved for use in arid climates and are cited for use by both the European Environment Agency and the UK's National Environment Atmospheric Inventory, as stated in paragraphs 4.2.71 – 4.2.72, pages 30-31 of REP1-050. This indicates that they are considered appropriate in European / UK climates. Whilst it is not appropriate to compare the climates of Eastern England to parts of the US/Australia, it is of note that the Eastern England climate is relatively dry and warm compared to other regions of the UK. Furthermore, with its coastal setting and flat terrain, the study area experiences high winds relative to inland areas. This is covered in Section 3.1, page 11 of Appendix 14 (REP1-050). Notwithstanding the above, the assessment sought to acknowledge the precautionary use of these factors and minimise uncertainty, with all efforts made to ensure the factors and construction activity data relied on projectspecific and location-	

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
		specific information to ensure they were representative of local conditions, as detailed in Sections 5.1.3 and 5.1.4, pages 45-46 of Appendix 14 (REP1-050). A dust emissions inventory was generated for both without and with dust mitigation, as per the Outline AQMP, with the measures principally focussed on wet dust suppression of construction activities and seeding of stockpiles to reduce wind erosion. The assessment results were appropriately focussed on the 'with dust mitigation' modelling. Any assumptions applied to the inventory and model were in a manner to ensure the dust deposition modelling was not overly conservative (i.e. it assumed mitigation was effective and as such lowers dust emissions), including those specifically applied to the 'with dust mitigation' inventory: • Dust control measures assumed to be implemented and effective from day 1; • Constant and effective damping down of the haul road will occur across the entire length of the haul road (not just at site access/exit locations); • Assumption that mitigation of wind erosion through seeding of stockpiles will be effective from day 1, despite seeding only occurring on stockpiles where present for over 6 months (para. 78, page 22, PD1- 040). • A relatively high moisture content was assumed as constant for topsoil and subsoil, despite soils only being moved when in a "…dry and friable condition" (para. 39, page 17, PD1-040) • Limiting emissions for all construction activities except for wind erosion to the number of working days per year, based on the proposed core working hours for project (para. 146, page 65, AS1-086). The above assumptions are stated within Section 5, pages 44-48 of REP1-050. Following the above comments, the Applicant concluded by saying: d) When these assumptions are compounded, they result in significant over estimates in potential impacts from dust, and as such, the Applicant is confident that the mitigation measures outlined in the Outline CoCP will be appropriate.	

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
		The Applicant's comments solely focus on the precautionary elements of the methodology applied to the assessment, but do not acknowledge the relatively optimistic assumptions in relation to mitigation, as stated above, which facilitated a balanced assessment within the context of the sensitivity of T.H. Clements' land and crops to visible dust deposition. Therefore, at this stage and notwithstanding any update to the assessment in relation to trenchless areas, the conclusions of the detailed assessment are considered appropriate. With dust mitigation in place, the assessment has reported the potential for a significant area of T.H. Clements' to be at high risk of visible dust impact.	
Q1 LU 1.11	**Stone contamination** The ExA notes the concerns raised by multiple Interested Parties regarding the potential for stone contamination of Grade 1 soils and associated implications for agriculture. The Applicant responds [PD1- 071] by referring to a commitment in the outline SMP to conduct post-construction soil surveys. If stones are present on land previously stone free, "an aftercare programme (as outlined in section 5.11 of the oSMP) will be agreed upon, and remediation works will be undertaken.". However, the outline SMP [PD1-040] does not appear to include a commitment to ensure that stone free land remains so after construction. • Should the outline SMP include a specific commitment to ensure that land identified as stone free in preconstruction surveys is returned this condition post-construction? • Can the Applicant elaborate on the reasons why it cannot commit to aluminium trackway being the primary method for haul roads? • The Written Representation from TH Clements & Son Ltd [REP1- 050] identifies issues apparent following the completion of other projects in the area, including Triton Knoll and Viking Link. Can the Applicant	The Applicant's response to ExA Q1 LU 1.11 (REP2-079) explains how stone content will be assessed as part of pre and post construction soil surveys, following the guidance as detailed within Hodgson, J 1997 Soil Survey field handbook ("Hodgson Guidance"). The Hodgson Guidance is best practice, and the Applicant's commitment to follow it is welcomed. The Applicant also advised that at Deadline 4, it will submit an updated oSMP which will include a section on "stone contamination". T.H. Clements look forward to reviewing the stone contamination section in the updated oSMP. Key points of concern to T.H. Clements, which it is hoped will be addressed in the updated oSMP to be submitted as Deadline 4 are as follow (T.H. Clements detailed comments on the current draft oSMP are being submitted at Deadline 3 in accordance with ISH 3 Action 20): • Reference in the oSMP to post construction surveys being undertaken to ascertain the level of stone contamination are a concern to T.H. Clements, as this implies that stone contamination will be present following construction. This serves to show the procedures employed are not effective. • Given the almost completely stone-free nature of the soils that T.H. Clements farm at present, and the importance of that to T.H. Clements in terms of producing high quality vegetables and vegetable products free from stone contamination (please see Appendix 9 which explains further why stoneless soils are so important to T.H. Clements in terms of meeting clients exacting quality standards), it appears that the Applicant is accepting	The Applicant has added further provisions relating to stone in the Outline Soil Management Plan (document reference 8.1.3, revision 4) in addition to those changes made at deadline 3 as referred to by TH Clements. This addition includes the provision for wider bulk sampling to be used in addition to the ALC assessments where the ALC sample may not reflect the overall stone content across the field.. The Applicant has addressed the use of haul roads in 19.2 The Applicant's Responses to The ExA's First Written Questions (ExQ1) (REP2-051). The Applicant notes the comments regarding mechanical stone picking. Once detailed design of the haul roads has been undertaken appropriate methodology to remove stones, should stone contamination be identified during reinstatement, will be set out in the location specific method statements as part of the final SMP. The oSMP confirms at paragraph 104 that "where stone content is found to be above the percentage identified in the pre-construction ALC Survey, appropriate remedial action through mechanical means or by hand will be discussed with the landowner."

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
	comment on the effectiveness of mitigation to avoid residual stone contamination on these projects and whether any lessons can be learned from them**?**	contamination will occur when ballast is used. Preferable (prevention as opposed to cure) techniques include the use of trackways as opposed to ballast, alongside best practice techniques (Hodgson Guidance and the British Standards referred to in the oSMP) employed throughout the construction period. It is therefore of concern that the Applicant has not committed to using trackway on the soils farmed by T.H. Clements • Due to their stone free nature, it is not commonplace for stone removal techniques to be employed when growing vegetables (or potatoes) on silt loam soils. Generally, where top quality vegetable crops are grown, soil types are selected accordingly – as in the case of T.H. Clements. • Stone removal equipment used in the industry basically "harvests" stones from the soil by breaking down the soil structures to a size where they fall through a conveyor web and back to the soil itself, leaving (larger) stones to be taken along the web and deposited either into an adjacent trench, or into a bunker where they then can be taken off the field itself. The need to break down the soil particles to a relatively small size implies that all natural structural blocks and large aggregates are broken down, rendering the soil structurally unstable, prone to erosion and unsupportive to farming equipment in the short to medium term (at least for the growing period of the following crop, or longer). • Furthermore, the "riddling" action to remove stones aerates the soil significantly, whereupon the biota in the soil become over stimulated. Generally, this leads to a loss of stabilising Organic Matter, and a resulting level of biological activity which is much different to that present before. Such differences then imply that crop establishment, and growth to harvest condition will differ compared to adjacent field areas not affected by stone removal. Such differences are highly likely to lead to differential ripening (see comments on Q1 1.16). This is likely to affect marketable yield as a direct result. • An alternative to this would be to harvest such areas at different times, however this implies additional resource is needed, in effect, to revisit fields to harvest accordingly. Such would also require significant management time monitoring and organising harvesting, compared to currently where the field is relatively consistent (see Q1 1.16).	

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
		• Should differential ripening occur, THC would expect compensation for these relative differences on a field-by-field basis until such time that differences are minimised. • Clearly, the oSMP must include a commitment to ensure land remains stoneless post construction, or to reflect the aforementioned compensation policy if not.	
Q1 LU 1.12	**Soil restoration** NE [RR-045] welcomes the commitment to produce a Decommissioning Plan in R24 of the dDCO [AS1-024] but request a commitment to restore land to its original condition and ALC grade. The Applicant's response [PD1-071] appears to be contradictory in stating that the Decommissioning Plan will "confirm the detail of restoration required which will include the restoration of land to its original ALC Grade" whilst going on to state that this would not be possible as it would "…require the methodology for ALC assessment to remain the same (currently MAFF 1988 guidance), with no updates to climate data sets.". The ExA notes that there does not appear to be any confirmation in R24 of the dDCO, the outline SMP [PD1-040] or the Schedule of Mitigation [PD1-058] that the Decommissioning Plan will provide any detail regarding soil restoration. • Should the outline SMP provide a specific commitment to restore agricultural land, to the same ALC grade (or equivalent future grade) to that identified in pre-construction surveys? If not, why not? • Confirm if any such commitment would apply to the 26.38ha "permanent" land take, including the OnSS, as identified in Chapter 25 of the ES following decommissioning as well as the onshore ECC and 400kV cable corridor during operation? • Should R24, outline SMP and the Schedule of Mitigation confirm the commitment for the Decommissioning Plan to restore soil?	The oSMP provides a methodology for pre and post construction survey of soils with the aim of ensuring the soils are restored to pre-construction condition. T.H. Clements are providing comments on the oSMP but the following matters are not adequately covered for T.H. Clements to be satisfied that the soils will in fact be restored to their pre-construction state: **Soil Horizons** • The oSMP needs to address the presence, identification and recording of multiple soil horizons. Where these differ markedly, specific note is required of how they will be segregated during stripping and stored in separate bunds to avoid mixing/cross-contamination, and correctly reinstated thereafter. • There is a need for a methodology to correctly identify, and then determine the extent of, multiple soil horizons in the oSMP. This should include (as appropriate) the need to conduct laboratory sample analysis on such horizons. T.H. Clements have submitted a marked-up copy of the current oSMP at Deadline 3, as per ISH 3 action No. 20. T. H. Clements await with much interest a robust, updated oSMP which clearly controls the identification of, and subsequent treatment and reinstatement of soil horizons in all fields along the ECC. **Soil Physical Condition** Paragraph 97 of the oSMP states that the soil's 'physical characteristics' will be assessed following re-instatement. Physical characteristics (soil structure) will be fundamental to the soil's performance (productivity) in subsequent cropping and the methodology of assessment needs to be robust. T.H. Clements seek clarification from the Applicant of what soil 'physical characteristics' will be assessed and the methodology for this. T.H. Clements note that pre-construction surveys will assess land based on ALC and British Standard (BS) Testing, however, neither ALC or BS testing provides adequate assessment of soil physical structure for crop growth, the oSMP needs to detail how this will be measured.	The Applicant has received a mark up of the Outline Soil Management Plan from TH Clements and has submitted a revised version at deadline 4 (document reference 8.1.3, revision 4) which the Applicant believes addresses the concerns raised. The oSMP: • addresses the presence, identification and recording of multiple soil horizons and outlines that different soil horizons will be stripped and stored separately to avoid cross-contamination (para 81) • outlines that soil horizons will be reinstated in the correct order (para 97) • includes provision for Particle Size Distribution (PSD) analysis within each soil horizon (para 18) • includes a commitment on grade 1 land to undertake additional surveys to assess soil health, condition and nutrient levels (para 24) • includes provision for LIG review and alterations to made, where appropriate, to the final Soil Management Plan prior to submission to the LPA (para 9)

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
Q1 LU 1.13	**Soil aftercare and monitoring** Section 5.11 of the outline SMP [PD1-040] states that "It will be responsibility of the Soil Clerk of Works (SCoW) (or similar appointed person) to determine when the reinstatement standard has been met." Table 2 provides outline details of proposed monitoring, but the frequency is not given. • Will stakeholders, including landowners, be consulted to confirm that the reinstatement standard has been met? If so, how is this secured? If not, why not? • Please provide further details of the frequency of proposed monitoring.	As explained above, more detail is required in the oSMP on pre and post installation soil surveying, restoration and aftercare. It is essential that stakeholders, including landowners and occupiers (i.e. those who farm and best understand the particular nature and quality of the soils), are consulted to confirm the required reinstatement standard has been met. T.H. Clements propose the following amendment to Requirement 31 to secure this: **31. Soil management plan** —(1) No stage of the onshore transmission works may commence until a soil management plan (which must accord with the outline soil management plan) for that stage has been submitted to and approved by the relevant planning authority in consultation with— (a) Lincolnshire County Council; and (b) the owners of the land which will be affected by the works to which the soil management plan relates. (2) The soil management plan must be implemented as approved. • In order to determine if the reinstatement standard has been met, it is vital that the benchmarks to be judged against are clear. As stated in comments on question responses above, T.H. Clements are not confident that such standards of soil assessment are robust. Typically, additional detail is needed to provide benchmarks in the following instances: o The presence of multiple soil horizons of differing quality (from a structural, biological and chemical aspect) within the topsoil layer as currently defined. o Stone content – essentially, these soils have zero % stone (as opposed to having zero to 5% stone for example if comparing against the ALC Grade 1 standard protocol of assessment for stone content).	The Applicant does not consider it would be appropriate to include individual landowners as consultees to the discharge of 31 (Soil management plan). This would impose too great a burden on the relevant planning authority that would need to carry out consultation. Instead a commitment has been added to the Outline Soil Management Plan (document reference 8.1.3 v4) that prior to submission to the relevant planning authority for approval under Requirement 31, the final SMP will be submitted to the Landowner Interest Group (LIG) providing no less than 10 working days for comments to be provided. The Outline CoCP and Outline SMP also state that comments will be taken on board by the Applicant and alterations to the final documents will be made where appropriate. This is considered to provide sufficient protection for landowners' interests.
Q1 LU 1.14	**Soil handling** Should the outline SMP [PD1-040] include explicit reference to the need to follow the Institute of Quarrying's Good Practice for Handling Soils in Mineral Working in relation to soil handling? If not, why not? • What are Natural England's comments on the Applicant's suggestion in its response to its Relevant Representation [PD1- 071] that the winter working agreement (as per table 22.7 of Chapter 22 Onshore Ornithology [APP-077] would be beneficial to soil handling? Should this be identified in the outline SMP?	T.H. Clements welcomes the inclusion of refences to this code of practice in the oSMP.	The Applicant noted this comment.

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
Q1 LU 1.15	**Level of detail in the outline SMP** Interested Parties including NE and agricultural businesses have expressed concern regarding the level of detail provided in the outline SMP. The ExA notes that LCC's LIR [REP1-053] considers the outline SMP to be acceptable but goes on to state that in populating the document, it will be necessary to identify the individual areas of land and the route for soil stripping, trenching, restoration as well as addressing soil challenges such as running sands and drainage in detail. • Does the outline SMP provide sufficient detail at this stage? If not, please elaborate on specific additions that are necessary**.**	There is an improved level of detail in the revised oSMP. However, T.H. Clements seek further revisions and clarity in some areas: • Is the British Standard soil testing referred to in paragraph 16 of the oSMP, the BS3882 Topsoil and 8601 Subsoil standards? If so, please make reference to these specifically as it is important to know the exact testing suite applied. • During ISH2 the Applicant indicated that multiple soil horizons could be accounted for in its soil handling methodology (beyond just topsoil and subsoil) including separate storage/stockpiling. It is critical that reinstated soils match the same soil profiles as pre-excavation. Will the soil survey (oMSP Section 2.4) specifically accommodate and note the presence of multiple soil horizons if identified? • The landowner/relevant stakeholders should be consulted with logs of any horizons identified (paragraph 18 of the oSMP) • In Drainage (Section 5.6 of the oSMP) there needs to be a commitment to ensure that any refitted drains are able to be cleaned (jetted) to the same capacity and effectiveness as prior to excavation. If not, drain function can be significantly compromised by siltation and blocked on these silt dominated soils. • With regard to Section 5.6 of the oSMP, where new drainage schemes are installed, there needs to be a commitment to remove the previous scheme. If not, there is a risk of a functioning old scheme directing water into the cable run, creating detrimental soil conditions in its vicinity due to waterlogging and saturation. • With regard to Section 5.8, paragraph 70 of the oSMP– more detail is required on stockpiling if multiple soil horizons are encountered. The oSMP details the stockpiling process of Topsoil and Subsoil, T.H. Clements need to see a plan for stockpiling any subsequent soil horizons identified – has this been accommodated into plans? • In paragraph 90, the oSMP mentions that subsoil will be decompacted and prepared prior to topsoil reinstatement. What methods will be adopted for this decompaction? • Paragraph 97 of the oSMP states that physical characterises of the soil will be assessed post reinstatement. T.H. Clements seek clarification on what physical characterises these will be and what methodology will be used for this assessment? The British Standard Testing does not include suitable assessment of soil physical characteristics for crop growth. Such soil structural properties are	The Applicant notes the points raised reflect the amendments suggested by TH Clements in the mark up of the Outline Code of Construction practice and the Outline Soil Management Plan. Both the Outline Code of Construction practice (document reference 8.1, revision 5) and the Outline Soil Management Plan (document reference 8.1.3, revision 4) have been submitted at deadline 4 with amendments. The oSMP: • outlines the laboratory analysis is to UKAS accredited standards and outlines the use of the AHBD Soil Health Scorecard Approach and Sampling Protocol for England and Wales (AHDB, 2022) (para 25) • addresses the presence, identification and recording of multiple soil horizons and outlines that different soil horizons will be stripped and stored separately to avoid cross-contamination (para 81) • outlines that landowners will be provided a full record of condition both pre and post construction (para 23) • outlines the commitment to sharing pre and post construction drainage scheme plans with landowners to ensure their suitability (para 70 and section 5.15 of the oCoCP) • outlines that compaction will be removed and this will be carried out using the most appropriate agricultural equipment for the site, such as subsoilers with deep-ripping shanks designed to penetrate and break compacted soil. Where requested by the landowner, subsoiling will be carried out by an appointed contractor prior to the reinstatement of topsoil (para96) • includes provision for Particle Size Distribution (PSD) analysis within each soil horizon (para 18) • includes a commitment on grade 1 land to undertake additional surveys to assess soil health, condition and nutrient levels (para 24)

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
		better assessed in situ, and thus T.H. Clements requests detail on the methodology that will be used to assess this	
Q1 1.16	**Soil heating** TH Clements & Son Ltd [RR-067 and REP1-050] has identified concerns regarding the potential for soil heating from underground cables to result in crops growing at different rates with consequential impacts on harvesting. ▪ Please comment on the scientific studies quoted by TH Clements & Son Ltd as well as the photographic evidence of soil heating at Triton Knoll. ▪ What measures are in place along the Triton Knoll cable route to prevent soil heating? Do they differ from those identified for the Proposed Development?	As explained during ISH3, the three studies referenced in the Applicant's response to ExA Q1 1.16 (Bruggermann 2015, Feldwish 2024 and Ahl 2013) appear to have been incorrectly cited. T.H. Clements asked the Applicant to either provide the correct citations, or copies of the studies themselves so that T.H. Clements can review and consider them. These were provided to T.H. Clements on the date of Deadline 3. It has not therefore been possible for T.H. Clements to review theses in advance of this Deadline 3 submission, but they will be reviewed subsequently. The summaries and abstracts of these studies which are available, do not specifically mention growth rates (and maturity date influences) of crops, which is of much more concern to T.H. Clements than total yield. • Differential growth rates are of much more concern to T.H. Clements than differential yields. If, for example, Cauliflower or Broccoli within a field come to marketable size at varying times, harvest costs and complexity (including returning back to differentially affected areas of fields along the route to harvest) would amplify significantly, to the point that harvesting a field over two time periods (in effect, twice), as a result of soil heating, is highly likely not to be financially viable. T.H. Clements would suffer consequent yield losses (a result of not being able to revisit fields), and would need to have adequate field area in reserve so that delivery deadlines and schedules can still be met. See also Q1 LU 1.11 on differential ripening caused by other means (stone removal). • In addition to the specific problem of revisiting fields to allow crops to be harvested at differing times, this also requires significant management input to monitor any differential ripening which takes place, and act accordingly. See also Q1 LU 1.11 on differential ripening caused by other means (stone removal). Furthermore, one of the studies mentioned by the Applicant focussed on a case study, the Aachen-Liege Electricity Grid Overlay. Subsequent work on this study has confirmed a low to moderate soil heating effect was noted, and that a monitoring period on such a recent installation is too short to be conclusive (Emmerling, C., Hoffmann, C., Herzog, M., Schieber, B., Stöckhert, F., Koschel, S., Kurtenacker, M., & Trüby, P. (2024). Soil warming by electrical underground transmission lines impacts temporal dynamics of soil temperature and moisture. Journal of Plant Nutrition and Soil Science, 187, 700–710.). As such, T.H. Clements see no evidence to	As noted by TH Clements, the Applicant has provided the full cited source papers, which can be found in The Applicant's Written Summary of Oral Case Put at the Issue Specific Hearing 3 held on 5 December 2024 (REP3-051). The Applicant awaits T.H. Clements further comments now that fully cited source papers have been provided. The Applicant's position on this matter remains as set out in response to this question in 19.2 The Applicant's Responses to The ExA's First Written Questions (ExQ1) (REP2-051).

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
		suggest that the effect on vegetable crop growth rates (and maturity dates) is negligible, which is the concern T.H. Clements raise here.	
Q1 LU 1.17	**Cable burial depth and potential implications** Table 8.5 of the Project Description [APP058] states that the minimum trench depth to cable protection tile is 1.2m. However, the ExA notes that the Applicant refers to a minimum burial depth of 1.25m in its response to Relevant Representations [PD1-071]. "Recently completed extensive ground investigations" of the onshore ECC and 400kV cable corridor, including Fenland silts are also referenced by the Applicant. Nevertheless, the ExA notes that the results are intended to inform the detailed design stage. • What is the proposed minimum burial depth of the onshore ECC and 400kV Cable? • Can the details of the ground investigations be provided now? Do the results have any implications for cable depth? The Written Representation from TH Clement & Sons Ltd [REP1-050] provides further details and photographic evidence of potential issues that may arise from the proposed cable depth, including for drainage and the risk of farm machinery coming into contact with cabling after getting bogged down. Similar concerns are echoed in multiple other Relevant Representations, including, Brown & Co [RR-012], Hub Rural Ltd on behalf of The Holmes 1987 Pension Fund [RR-029], The Lincolnshire Association of Agricultural Valuers Land Interest Group [RR-035] and William Barker [RR-077] • Can the Applicant comment on the additional evidence provided and identify any implications for its current approach? Should long term monitoring be undertaken as a precaution? • Are LCC and the LPAs aware of any examples in the area where cable depth has presented similar issues raised by Interested Parties?	T.H. . Clements note the Applicant's comments on the pictures provided by T.H. Clements. These pictures were submitted to demonstrate the effects on Wisbech Association soils in the UK where vegetable crops are grown. The proximity to the coast of T.H. Clement's farmed soils will most likely have a compounding effect on (raised) water tables, compared to the original photograph examples inland where such effects are reduced. These images were examples intended to show how sinking farm machinery is a relatively common occurrence and not a special "one off" case. At Appendices 1 to 6 please find further photographs from T.H. Clements showing further machinery sinkage in the specific soils farmed by T.H. Clements. Furthermore, the impacts of climate change are likely to cause further frequency of intense rainfall, flooding and thus soil saturation, leading to even more machinery sinkage in future – for example one of the images (Appendix 5) is from Strom Babet in October 2023, a relatively recent extreme weather event. These risks could be compounded even further after drainage reinstatement if drains are not able to be jetted or where old drainage schemes are not removed and are channelling water to increasing wet patches within a field. In the event of machinery sinking to the depths outlined in its evidence, T.H. Clements must be absolved of blame or recourse for any issues arising from the sinkage of sprayers, tractors, or harvesting machinery to the depths T.H. Clements say are possible, given the evidence.	The Applicant notes the additional photographs provided in Appendices 1 to 6. The Applicant continues positive discussions with TH Clements regarding the sinking of farm machinery but maintains the position that these instances are not day to day instances and are one-off localised incidents that are out of the ordinary. The reference describing an image in Appendix 5 as a result of "relatively recent extreme weather event" further demonstrates the point that this is not a normal occurrence.

Ref No	Written Question	TH Clement's Comment on Applicant's Response	Applicant's Response
	• Do Interested Parties have any evidence of cabling rising and moving from its intended position due to the nature of local soils?		
Q1 CA 1.18	**Agricultural drainage and irrigation** Section 5.14 of the outline CoCP [PD1- 038] states that the project has contracted a local drainage consultant to collate land drainage plans and design pre and post construction drainage schemes which will allow drainage to be maintained during construction. R18 of the dDCO specifies that the CoCP must be approved by the relevant LPAs in consultation with bodies including the Environment Agency. However, the ExA notes that in responding to Relevant Representations [PD1- 071], the Applicant also states that "Once post construction drainage plans are drafted they will be shared with the landowners and their comment sought. The Applicant will have regard to the comments provided and, where necessary, revised plans". ▪ How is the commitment to consult with landowners secured? The Applicant's responses to RRs also acknowledge that there may be instances where existing drainage schemes cannot be reinstated post construction, and it may be necessary for part or whole fields to be re-drained. The outline CoCP does not appear to address this scenario. ▪ Please provide further details of how this scenario would be managed and how the necessary measures are secured	The CoCP should have specific commitment to: • ensure, if drains are disrupted and refitted, that those drains are able to be jetted (cleared) to the same capacity and effectiveness as prior to excavation. If joints and junctions are installed to main drains, and the linear structure is altered, this can impact on capacities to clean (jet). This is particularly significant in these silt dominated soils which require routine jetting to their full length. • Removal of any previous schemes if a full new scheme is installed. At ISH3 The Applicant said the need to remove any parts of an old drainage scheme was not required when fitting a new scheme because this is in line with what current drainage contractors do in a standard agricultural scenario. However, drainage contractors only install drains where the old system is no longer functioning, which will not be the case in this instance. In the instance of the cable installation, the previous systems may still be functioning perfectly well, but now draining to the wrong place, causing potential for water accumulation, saturated soils and further machinery challenges/slippage. This applies to existing severed drains which are upstream of the cable run. These drains can then channel water to the severed area, which by definition is close to the cable run. Such actions then allow water levels to build up in exactly the area where the cable is situated, which exacerbates the risk of high water content, increased risk of running as a result, and a weakened soil structure (being wet) which then is less supportive of machinery. • Ideally, and most preferably, cable depth will be determined by assessing the drain depth in each field, and setting the cables below the drains in order that the pipes can be reinstated back exactly to their original position.	The Applicant notes the points raised reflect the amendments suggested by TH Clements in the mark up of the Outline Code of Construction practice and the Outline Soil Management Plan. Both the Outline Code of Construction practice (document reference 8.1, revision 5) and the Outline Soil Management Plan (document reference 8.1.3, revision 4) have been submitted at deadline 4 with amendments. The Applicant notes the comment regarding jetting of drains, and the removal of old systems and this will be considered when drafting pre and post Construction drainage schemes on a case by case and field by field basis. In order to provide additional reassurance to TH Clement's the Applicant has issued indicative conceptual pre and post construction drainage plans for to TH Clements's agent for review with their client on Monday 27th January 2025. The plans are conceptual at this stage and are subject to change pending the full assessment as part of the Front End Engineering Design ("FEED.") Comments have been requested from TH Clements to be taken into consideration. The Applicant has committed to installing the cable "300mm below any current drainage system where practical." in the Outline Code of Construction Practice (document reference 8.1, revision 5).
Q1 OC 1.5	**Construction Phasing** The LIR of LCC [REP1-053, Paragraph 11.9] mentions the need for a strong commitment to a phased construction programme, secured within the Development Consent Order (DCO) application. Can the Applicant confirm this commitment with justification and explain how it will be secured?	Please see comments at ExA Q1 GC 1.1.	The Applicant has responded in GC1.1 above