DBS Offshore Wind

RWE Renewables UK Dogger Bank South (West) Limited

RWE Renewables UK Dogger Bank South (East) Limited

Dogger Bank South Offshore Wind Farms

The Applicants' Responses to Deadline 8 Documents

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Company:	**RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited**	Asset:	**Development**
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Glossary

Term	Definition
Agricultural Land Classification	Agricultural Land Classification is a grading system used to assess and compare the quality of agricultural land in England and Wales. A combination of climate, topography and soil characteristics and their unique interaction determines the grade of the land. The grades range from 1 to 5. Grade 1 being excellent, Grade 2 very good, Grade 3a and 3b good to moderate (no subdivide), Grade 4 poor and Grade 5 very poor.
Array Areas	The DBS East and DBS West offshore Array Areas, where the wind turbines, offshore platforms and array cables would be located. The Array Areas do not include the Offshore Export Cable Corridor or the Inter-Platform Cable Corridor within which no wind turbines are proposed. Each area is referred to separately as an Array Area.
Array cables	Offshore cables which link the wind turbines to the Offshore Converter Platform(s).
Baseline	The existing conditions as represented by the latest available survey and other data which is used as a benchmark for making comparisons to assess the impact of the Projects.
Collision	The act or process of colliding (crashing) between two moving objects.
Collision Risk Model (CRM)	Quantitative means to estimate the number of predicted collisions between seabirds recorded in the Array Areas and rotating wind turbines.
Commitments Register	An Excel spreadsheet which identifies all of the Projects' commitments and mitigation relating to each technical topic under consideration in the EIA process and where each commitment is secured in the DCO.
Cumulative Effects	The combined effect of the Projects in combination with the effects of a number of different (defined cumulative) schemes, on the same single receptor / resource.
Cumulative Effects Assessment (CEA)	The assessment of the combined effect of the Projects in combination with the effects of a number of different (defined cumulative) schemes, on the same single receptor/resource.
Cumulative impact	The combined impact of the Projects in combination with the effects of a number of different (defined cumulative) schemes, on the same single receptor / resource.

Term	Definition
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP).
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 value, or sensitivity, of the receptor or resource 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 Directive and EIA Regulations, including the publication of an Environmental Statement (ES).
Environmental Statement (ES)	A document reporting the findings of the EIA and produced in accordance with the EIA Directive as transposed into UK law by the EIA Regulations.
Fish and Shellfish Ecology Study Area	The Fish and Shellfish Ecology Study Area for the Projects is defined as ICES Rectangles 36E9; 36F0; 37E9; 37F0; 37F1; 37F2; 38F0; 38F1; and 38F2. It covers a total of 26,858km^2, and includes the Offshore Development Area with a minimum buffer distance of 7km.
Habitats Regulations Assessment (HRA)	The process that determines whether or not a plan or project may have an adverse effect on the integrity of a European Site or European Offshore Marine Site.
Haul Road	The track along the Onshore Export Cable Corridor used by traffic to access different sections of the onshore export cable route for construction.
Horizontal Directional Drill (HDD)	HDD is a trenchless technique to bring the offshore cables ashore at the landfall and can be used for crossing other obstacles such as roads, railways and watercourses onshore.
Impact	Used to describe a change resulting from an activity via the Projects, i.e. increased suspended sediments / increased noise.
Inter-Platform Cable Corridor	The area where Inter-Platform Cables would route between platforms within the DBS East and DBS West Array Areas, should both Projects be constructed.
Inter-Platform Cables	Buried offshore cables which link offshore platforms.

Term	Definition
Jointing Bays	Underground structures constructed at regular intervals along the onshore cable route to join sections of cable and facilitate installation of the cables into the buried ducts.
Landfall	The point on the coastline at which the Offshore Export Cables are brought onshore, connecting to the onshore cables at the Transition Joint Bay (TJB) above mean high water.
Monitoring Area (MA)	The area around each pile location to be monitored in the pre-piling watch, and where possible during any breaks in piling or soft-start by either Marine Mammal Observers (MMObs) or Passive Acoustic Monitoring Operator (PAM-Op).
Nearshore	The zone which extends from the swash zone to the position marking the start of the offshore zone (~20m).
Offshore Development Area	The Offshore Development Area for ES encompasses both the DBS East and West Array Areas, the Inter-Platform Cable Corridor, the Offshore Export Cable Corridor, plus the associated Construction Buffer Zones.
Offshore Export Cable Corridor	This is the area which will contain the offshore export cables between the Offshore Converter Platforms and Transition Joint Bays at the landfall.
Offshore Export Cables	The cables which would bring electricity from the offshore platforms to the Transition Joint Bays (TJBs).
Onshore Export Cable Corridor	This is the area which includes cable trenches, haul roads, spoil storage areas, and limits of deviation for micro-siting. For assessment purposes, the cable corridor does not include the Onshore Converter Stations, Transition Joint Bays or temporary access routes; but includes Temporary Construction Compounds (purely for the cable route).
Onshore Export Cables	Onshore Export Cables take the electric from the Transition Joint Bay to the Onshore Converter Stations.
Onward Cable Connection	Area of 400kV HVAC onshore export cable from the Onshore Converter Stations to the Proposed Birkhill Wood National Grid Substation.
Order Limits	The limits within which the Projects may be carried.
Project Change Request 1	The changes to the DCO application for the Projects set out in **Project Change Request 1 - Offshore & Intertidal Works** [AS-141] which was accepted into Examination on 21st January 2025.

Term	Definition
Projects Design (or Rochdale) Envelope	A concept that ensures the EIA is based on assessing the realistic worst-case scenario where flexibility or a range of options is sought as part of the consent application.
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, plants, people (often categorised further such as 'residential' or those using areas for amenity or recreation), watercourses etc.
Sand wave	Bedforms with wavelengths of 10 to 100m, with amplitudes of 1 to 10m.
Scour protection	Protective materials to avoid sediment erosion from the base of the wind turbine foundations and offshore substation platform foundations due to water flow.
Sediment	Particulate matter derived from rock, minerals or bioclastic matter.
Sediment transport	The movement of a mass of sediment by the forces of currents and waves.
Special Area of Conservation (SAC)	Strictly protected sites designated pursuant to Article 3 of the Habitats Directive (via the Habitats Regulations) for habitats listed on Annex I and species listed on Annex II of the Directive
Special Protection Area (SPA)	Strictly protected sites designated pursuant to Article 4 of the Birds Directive (via the Habitats Regulations) for species listed on Annex I of the Directive and for regularly occurring migratory species
Statutory Nature Conservation Bodies (SNCBs)	Comprised of JNCC, Natural Resources Wales, Department of Agriculture, Environment and Rural Affairs/Northern Ireland Environment Agency, Natural England and Scottish Natural Heritage, these agencies provide advice in relation to nature conservation to government
The Applicants	The Applicants for the Projects are RWE Renewables UK Dogger Bank South (East) Limited and RWE Renewables UK Dogger Bank South (West) Limited. The Applicants are themselves jointly owned by the RWE Group of companies (51% stake) and Masdar (49% stake).
The Projects	DBS East and DBS West (collectively referred to as the Dogger Bank South Offshore Wind Farms).

Term	Definition
Wind turbine	Power generating device that is driven by the kinetic energy of the wind.

Acronyms

Term	Definition
AEoI	Adverse Effect on Integrity
AFPC	Alnwick Farming and Property Consultants
ALC	Agricultural Land Classification
ALO	Agricultural Liaison Officer
ANS	Artificial Nesting Structures
AOD	Above Ordnance Datum
BNNC	Berwickshire North Northumberland Coast
CBS	Cement Bound Sand
CEA	Cumulative Effects Assessment
Cefas	Centre for Environment, Fisheries and Aquaculture Science
CGR	Counterfactual of Population Growth Rate
CNS	Central North Sea
CPS	Counterfactual of Population Size
CRM	Collision Risk Modelling
DAS	Design and Access Statement
dB	Decibel
DBS	Dogger Bank South
DCO	Development Consent Order
DEFRA	Department for Environment, Food, and Rural Affairs
DESNZ	Department for Energy Security and Net Zero
DL	Deadline
DML	Deemed Marine Licence

Term	Definition
DoG	Deed of Grant
ECC	Export Cable Corridor
EDR	Effective Deterrent Range
EGL2	Eastern Green Link 2
EIA	Environmental Impact Assessment
EMF	Electromagnetic Field
ES	Environmental Statement
ExA	Examining Authority
FFC	Flamborough and Filey Coast
HDD	Horizontal Directional Drill
HoT	Heads of Terms
HPAI	Highly Pathogenic Avian Influenza
HRA	Habitats Regulations Assessment
HV	High Voltage
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
ICES	International Council for the Exploration of the Sea
IHLS	International Herring Larvae Survey
iPCoD	interim Population Consequences of Disturbance
IQ	Institute of Quarrying
ISH	Issue Specific Hearing
JNCC	Joint Nature Conservation Committee
KCP	Kittiwake Compensation Plan

Term	Definition
LiG	Landowner Interest Group
LoSCM	Library of Strategic Compensation Measures
LSE	Likely Significant Effect
MA	Monitoring Area
MCZ	Marine Conservation Zone
MMMP	Marine Mammal Mitigation Protocol
MMO	Marine Management Organisation
MOD	Ministry of Defence
MPA	Marine Protected Area
NAS	Noise Abatement System
NE	Natural England
NGET	National Grid Electricity Transmission plc
NFU	National Farmers' Union
NRW	Natural Resource Wales
OCoCP	Outline Code of Construction Practice
ODOW	Outer Dowsing
OFTO	Offshore Transmission Owner
OSMP	Outline Soil Management Plan
OWF	Offshore Wind Farm
PAM	Passive Acoustic Monitoring
pH	Potential of Hydrogen
PINS	The Planning Inspectorate
PP	Protective Provisions

Term	Definition
PSA	Particle Size Analyses
PTS	Permanent Threshold Shift
PVA	Population Viability Analysis
RIAA	Report to Inform Appropriate Assessment
RIES	Report on the Implications for European Sites
RMS	Radar Mitigation Scheme
RRH	Remote Radar Head
SAC	Special Area of Conservation
SEL_{SS}	Sound Exposure Level
SNCB	Statutory Nature Conservation Body
SNS	Southern North Sea
SoCG	Statement of Common Ground
SoS	Secretary of State
SPA	Special Protection Area
SPL	Sound Pressure Level
SSSI	Site of Special Scientific Interest
TCC	Temporary Construction Compound
TTS	Temporary Threshold Shift
USV	Unmanned Surface Vessel
UU	Unilateral Undertaking
UWN	Underwater Noise
UXO	Unexploded Ordnance

1 Introduction

1. This document presents the Applicants' responses to Deadline 8 documents received from Interested Parties (IPs) following submissions to the Examining Authority at Deadline 8 of the Dogger Bank South Examination.

2. For ease of referencing and to facilitate future cross-referencing, the Applicants have used the existing Planning Inspectorate reference (e.g. REP8-001) and created a unique identifier for each response by itemising the document into paragraphs or sections (e.g. REP8-001:1.1). The ID numbers can be found in the first column of each table.

2 Responses to Deadline 8 Documents

3. The Applicants' responses to documents received from IPs at Deadline 8 are provided in this section. The Applicants are focussing their responses on new information presented by stakeholders, and so only certain documents or sections of documents are included.

4. The Applicants have no comment on the responses from Albanwise Ltd and Albanwise Synergy Ltd [REP8-058], National Gas Transmission plc [REP8-049], Riplingham Estates Ltd and the Los Trustees [REP8-063], RSPB [AS-183] and The Wildlife Trusts [REP8-057].

5. With regards to the Closing Statements provided by DBA Projco, DBB Projco and DBC Projco (hereafter referred to as 'the Projcos ') [REP8-059] and the Orsted IPs [REP8-062], following a review of these documents the Applicants have decided that it would not assist the Examination to provide specific responses given how well rehearsed the various points already are. The Applicants position is summarised in **The Applicants' Closing Statements on Wake Effects** [REP8-046], **The Applicants' Response to the Mona DCO Decision with regards to wake effects** [document reference 19.5) and earlier submissions provided throughout the Examination process to date.

6. They do not resile from any of their submissions and an absence of a specific response to the Projcos or Orsteds Closing Statements should not be taken as a concession on any point.

2.1 East Yorkshire Concrete Products Ltd

Table 2-1 – The Applicants' Response to East Yorkshire Concrete Products Ltd's Deadline 8 Document [REP8-061]

I.D.	East Yorkshire Concrete Products Ltd Response	Applicants' Response
REP8-061:1	**INTRODUCTION** 1. The Applicant seeks an Order Granting Development Consent for the: "*Dogger Bank South Offshore Wind Farms ("**the Proposed Development**")*.	No response is required.
REP8-061:2	2. Alnwick Farming and Property Consultants ("**AFPC**") represent the following landowners ("**our Clients**"), whom are owner occupiers of land and property impacted by the proposed onshore cable route associated with the Proposed Development: **East Yorkshire Concrete Products Limited/A D Robinson** Site References: Land Parcel 04-12 Sheet Number & Land Plot Nos: 04-013*, 04-014*, 04- 018, 04-024 (Acquisition of Rights) Sheet Number & Land Plot Nos: 04-012*, 04-015*, 04- 016*, 04-017, 04-019, 04-020*(Temporary Possession) **Mark Wilson Mewburn** Site References: Land Parcel 06-18 Sheet Number & Land Plot Nos: 06-018, 06-021, 06-025 (Acquisition of Rights) Sheet Number & Land Plot Nos: 06-019, 06-020, 06-022, 06-023, 06-024 (Temporary Possession) **James Heppell Mewburn** Site References: Land Parcel TBC – Newly Identified Sheet Number & Land Plot Nos: 08-013* (Acquisition of Rights)	No response is required.
REP8-061:3	3. AFPC have actively participated in the "Land Agents Interest Group ("LiG") formed to represent the interests of landowners and occupiers impacted by the Proposed Development. The LiG was formed to assist with negotiating voluntary agreements in relation to the rights required to install the on-shore cables and associated infrastructure required as part of the Proposed Development between landfall and the convertor station.	No response is required.
REP8-061:4	4. Despite our involvement with LiG and subsequent negotiations with the Applicant terms still have yet to be agreed for voluntary agreements and granting an Order for the Proposed Development could have profound consequences for our Clients. Our concerns in respect of the Proposed Development have been recorded in written submissions to the Applicant's Agent ("**Dalcour Maclaren**") since 2022, when initial discussions in respect of the Proposed Development commenced with impacted landowners. Our concerns and issues with the Applicant's approach to voluntary agreement tabled on a "without prejudice" basis have also been documented through the Inquiry both orally and in written submissions.	The appointed agent is a member of the Land Interest Group (LiG) attending project update meetings on 19th May 2022, 2nd November 2022 and 10th February 2023. The LiG and Dalcour Maclaren negotiated and agreed a generic set of heads of terms from October 2023 with the interest signing a specific heads of terms in August 2024. During this time 5 face to face meetings were held to negotiate the terms on 12th December 2023, 16th January 2024, 8th March 2024, 9th April 2024 and the 28th May 2024. The Applicants have continued to negotiate with the appointed agent after the interest signed the Heads of Terms, which were made subject to a number of (14x) substantial caveats, seeking improvements on positions previously agreed by the LiG. These points have subsequently been included within Option and Deed of Grant documents that have been agreed with the vast majority of affected landowners, especially those represented by LiG agents.

I.D.	East Yorkshire Concrete Products Ltd Response	Applicants' Response
REP8-061:5	**5. UPDATED POSITION STATEMENT** 5.1 Following a meeting with the Applicant's Agent and Steven Harkin representing RWE Renewables UK ("**RWE**") on the 23rd June 2025, Dalcour Maclaren provided a written response to some of the issues discussed at the meeting and notes of the meeting, with a copies enclosed at Appendix 1A, 1B and 1C. The notes of the meeting prepared by Dalcour Maclaren omitted certain issues which were discussed and action points committed to by RWE, as well as purporting that the position in relation to consequential losses has been misunderstood by AFPC. AFPC have corrected the record in relation to the meeting notes as part of these closing statements. 5.2 Terms still have not yet been agreed in relation to the voluntary agreement negotiations foreach of our Clients and the remaining substantive issues are summarised below. Some progress has been made through the Public Inquiry process on issues which the Applicant previously refused to consider.	The appointed agent has not responded to the Applicants' email and accompanying meeting notes dated 23rd June 2025 and the Applicants do not agree with the comments made by the appointed agent, purporting to "correct the record" as being accurate. The Applicants would refer back to the direct communication with the appointed agent and responses in **The Applicants Responses to Deadline 6 Documents** [REP7-131] and **The Applicants Responses to Deadline 7 Documents** [REP8-043] as to the Applicants' position. The Applicants feel the meeting with the appointed agent on Monday 23rd June 2025 to discuss all outstanding matters was productive, however it is unlikely many of these matters will be concluded as the Applicants are unwilling to make individual concessions on material matters that have been widely acceptable to most affected parties. The Interested Parties insistence on receiving incentive payments that they haven't qualified for may also not make it possible to reach an agreement. The Applicants responded to the individual issues raised by the Interested Parties through responses in **The Applicants Responses to Deadline 6 Documents** [REP7-131] and **The Applicants Responses to Deadline 7 Documents** [REP8-043] and each outstanding issue was discussed in great detail at the meeting with a view to reaching a voluntary agreement. These are dealt with below in order.
REP8-061:6	**6. MAIN ISSUE 1: LAND DRAINAGE** 6.1 A response is awaited from the Applicant's land drainage consultant, Land Drainage Consultancy Limited ("**LDC**") to meet with our clients to address land drainage issues. The specific issues which the Applicant has not addressed either in the voluntary agreement or the Outline Drainage Strategy (Revision 4) ("**Outline Drainage Strategy**") to date are: <u>Drainage Concepts and Design</u> 6.2 The Applicant is seeking to address drainage concepts and the design after either a voluntary agreement has been executed or a Development Consent Order ("DCO") granted including compulsory acquisition rights. Such issues are vitally important to landowners and occupiers as drainage has a direct impact on their ability to farm their land and earn a living from it. 6.3 Agreeing such matters after granting a DCO provides a landowner with no recourse to address any defects in the proposed drainage concepts and design other than to claim compensation for ongoing crops losses and disturbance which is time consuming, puts landowners to unnecessary cost and creates delays in securing their income as compensation claims can take time to resolve. Ongoing drainage issues can also impact the capital value of land and potentially impede a landowner's ability to sell or let their land in the future. 6.4 Obligating the Applicant to agree drainage design and concepts prior to determining the Application is achievable and would provide landowners with comfort that the proposed Post Construction drainage system is adequate to serve the land in the Order Limits and does not prejudice the drainage of adjoining land. <u>Impact on the Ability to Drain Adjoining Land</u> 6.5 The Outline Drainage Strategy only addresses water coming from existing underground land drainage pipes which would be affected by the installation of the Onshore Export Cables. It does not address the impact of draining adjoining land following the installation of the Onshore Export Cables. The Applicant has stated that the issue is addressed by providing landowners with the	The Applicants have provided a response to each of the points raised on land drainage. <u>Drainage Concepts and Design</u> The Applicants and Land Drainage Consultancy Limited ("**LDC**") have been working with landowners to better understand the existing land drainage at an early stage in the Project development and concept designs to support the detailed drainage strategy. The Applicants shared detailed proposals with all affected landowners in July 2024, showing pre and post construction drainage designs prior the Heads of Terms deadline 30th August, which have been considered by the Interested Party and their appointed agent. However, the Drainage Str ategy cannot include the finalised drainage design until the Contractor is appointed and the design of the Onshore Export Cable Corridor has been completed. The Applicants have been working with LDC as they understand the importance of the issue to the farmers in the East Riding of Yorkshire. As detailed in section 1.2 of the **Outline Drainage Strategy (Revision 4)** [REP7-109]: '*A detailed pre and post construction land drainage scheme would be developed prior to construction, based on the detailed drainage survey. The drainage scheme would be developed in consultation with landowners, the LLFA at ERYC, the Environment Agency and relevant IDB(s).*' At Deadline 7 an Indicative Land Drainage Design was added to Appendix B of the **Outline Drainage Strategy (Revision 4)** [REP7-109], this was originally submitted into the examination in **The Applicants' Responses to April 2025 Hearing Action Points** [REP4-096], Action point No.13 at ISH4, at Deadline 4. This design is indicative but based on the ongoing work with landowners to develop a conceptual drainage design and includes an indicative cross section. The Applicants believe the request "*obligating the Applicant to agree drainage design and concepts prior to determining the application*" for the above reasons to be wholly impractical at this stage of design development and would go far beyond what other promoters have achieved on other offshore wind DCO projects, during examination. <u>Impact on the Ability to Drain Adjoining Land</u> The Applicants have committed to installing cable ducts at no less than 1.1m from the restored surface, where there is a constraint and 1.2m below the subsoil level as a design depth for the majority of the Onshore Export Cable

I.D.	East Yorkshire Concrete Products Ltd Response	Applicants' Response
	ability to cross the cables with new drainage systems, subject to obtaining consent. The Applicant's position does not however address issues with drainage levels if the Onshore Export Cables are installed at a depth (or move to a depth after being installed) which impedes the ability to drain adjoining land. 6.6 Gaining consent to cross the Onshore Expert Cables once installed is also not guaranteed and puts landowners to unnecessary cost, as a number of drainage contractors will not work within close proximity of energised cables and the costs associated with undertaking this work are significantly higher than draining through agricultural land without the Onshore Export Cables due to the risks involved should the cables be damaged. Taking into account that the Applicants are unwilling to commit to maintaining the depth of the cables (see below) the risk of striking the energised cables when installing future land drainage is a significant and real risk. 6.7 To address this issue, the Applicants could pre-install designated crossing points for land drainage when the Onshore Export Cables are installed. This would not need to be considered for every land parcel as the requirement would only be necessary where the Onshore Export Cables impede access to a key drainage dyke or river. The instances where this requirement is needed could have been identified by LDC had they received instructions from the Applicant's to consider this issue. <u>Drainage between the Onshore Export Cables</u> 6.8 At present the Applicants are only committing to installing Pre and Post Construction drainage on the outside of the Order Limits running parallel with the Onshore Export Cables. Representations have been made to the Applicants regarding the installation of land drainage between the Onshore Export Cables to ensure that the full width of the Order Limits is adequately drained. To date the Applicants have not provided a firm commitment that this will be done. Maintenance, Repair and Replacement of the Land Drainage 6.9 As drafted the Voluntary Agreement proposed by the Applicants only secures rights for the Applicant to repair and maintain the land drainage in the easement strip (12 metres wide per project) but does not obligate the Applicants (or the successor Ofto) to undertake this work. Land drainage schemes have a finite life expectancy of 20 to 40 years, as confirmed by the Applicant's drainage expert, LDC. Therefore during the life of the Proposed Development, the Pre and Post Construction land drainage installed during construction will need to be renewed. 6.10 To address this issue we have requested a firm commitment from the Applicants (which is transferable to the Ofto) whereby during the life of the Proposed Development they will replace the land drainage system within the easement areas which are worn out or no longer functioning properly. This would ensure that the affected fields are returned to full agricultural production for the during of the Proposed Development.	Corridor, where no constraints are present. This depth would allow most agricultural practices to continue above the cable including mole drainage which is referenced in **The Applicants' Responses to Deadline 4 Documents** [REP5-037], REP4-107:4 as being typically installed at a depth of 600-900mm below surface level. As detailed in **The Applicants Responses to Deadline 7 Documents** [REP8-043], REP7-145:4, the Applicants updated section 6.6.2.6 of the **OCoCP (Revision 5)** [REP7-105] at Deadline 7 to confirm that the Projects will be designed to remain at the level (m Above Ordnance Datum (AOD)) they are constructed throughout operation. Given the majority of the Onshore Export Cable Corridor is located within agricultural land, it would not be within the Applicants interest to construct a design which allowed the cables to be exposed to the surface or potential damage from agricultural equipment. In addition, paragraph 270 of the **OCoCP (Revision 5)** [REP7-105] was also updated at Deadline 7 to state that: '*During operation The Applicants or the OFTO will periodically inspect the installed cables. In addition, should a landowner report any issues with perceived changes in cable burial level or the installed land drainage that may be affecting their land they could be reported directly to the OFTO or via the ALO if the Project is still in the construction or decommissioning phase. In the unlikely event that the cable burial depth has not been maintained this would be investigated and repaired, if required through consultation with the relevant landowner.*' The Applicants are not responsible for providing new land drainage outside of the Order Limits, however as detailed above, section 1.2 of the **Outline Drainage Strategy (Revision 4)** [REP7-109] states that: '*A detailed pre and post construction land drainage scheme would be developed prior to construction, based on the detailed drainage survey. The drainage scheme would be developed in consultation with landowners, the LLFA at ERYC, the Environment Agency and relevant IDB(s).*' Should a landowner identify a specific issue with the Projects affecting drainage of adjacent land this would be considered at the detailed design stage. The Applicants provided a response in **The Applicants' Responses to Deadline 6 Documents** [REP7-131], REP6-082:3 at Deadline 6 to state that: '*The IPs' agent confirmed in the meeting 23rd June 2025 a requirement for Applicants to pre-install a designated drainage crossing point on his client's land to future proof drainage across the wider landholding, which the Applicants believe to be unnecessary as landowners will retain the ability cross any operational infrastructure within the Easement strip, including drainage subject to the consent of the Applicants or the OFTO.*' This was also reiterated in **The Applicants Responses to Deadline 7 Documents** [REP8-043], REP7-145:2 and is a position that has been acceptable to over 80% of affected landowners who have signed Heads of Terms. Based on these responses and those provided previously the Applicants do not consider any further changes to the application documents are required. <u>Drainage between the Onshore Export Cables</u> As shown in Appendix B of the **Outline Drainage Strategy (Revision 4)** [REP7-109] and the Indicative Working Area Cross Section, submitted at Deadline 7, post construction drainage is proposed between Onshore Export Cables within the Easement strip and preconstruction drainage at the interceptor drains, located at the edge of the Onshore Export Cable Corridor. <u>Maintenance, Repair and Replacement of the Land Drainage</u> During operation the Offshore Transmission Owner (OFTO) will periodically inspect the installed cables, should a landowner report any issues with the installed land drainage that may be affecting their land they could be reported directly to the OFTO or via the ALO if the Project is still in the construction or decommissioning phase. This detail has been added to section 6.6.2.6 of the **OCoCP (Revision 5)** [REP7-105], at Deadline 7. Further details on the soil

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		management measures can be found in **Appendix A, OSMP (Revision 3)** of the **OCoCP (Revision 5)** [REP7-105] which is secured by Requirement 19 of the **Draft DCO (Revision 12)** [document reference 3.1]. The Applicants confirmed in **The Applicants Responses to Deadline 7 Documents** [REP8-043], at Deadline 8 that the Applicants or the OFTO would be responsible for maintaining and repairing any defects to any operational infrastructure within the Easement strip, including drainage, that they are made aware of from the landowner or from their own routine asset inspections. There is already a commitment in Clause 2.8 of Schedule 1 and Clause 12.2 of Schedule 2 of the voluntary Deed of Grant on the Applicants (and any successor OFTO) to maintain, repair and replace the land drainage installed in the Order Limits for the duration of the Project. *2.8 the right to execute and thereafter use inspect maintain adjust alter renew repair test cleanse on the Easement Strip (and where necessary any other land to the extent that such land is within the ownership or control of the Grantor) such works as may be reasonably necessary to reinstate the Drainage System and/or implement the Drainage Scheme (as applicable and if any) following the installation of the Infrastructure together with a right to enter on to the Easement Strip* *12.2 maintain sufficient drainage of the Easement Strip during the period of exercise of the Rights.*
REP8-061:7	**7. MAIN ISSUE 2: CABLE DEPTH** 7.1 We have referred the Applicant to similar projects including The Dogger Bank Creyke Beck Offshore Wind Farm Order 2015 ("**Dogger Bank A & B**") and the Hornsea Four Offshore Wind Farm Order ("**Hornsea 4**") impacting land in this locality (including land owned by our Clients). The applicants for the Dogger Bank A and B and Hornsea 4 projects provided commitments to maintain the depth of the Onshore Export Cables either through the compulsory acquisition or in the voluntary agreements. Dalcour Maclaren advised the applicants for both the Dogger Bank A and B project and the Hornsea 4 project. The draft Deed of Grant for the Dogger Bank A and B was included with a Unilateral Undertaking dated 4th March 2020 and recorded the applicant's legal commitments when implementing the compulsory acquisition process. The Unilateral Undertaking was executed between the following parties: ***Dogger Bank Offshore Wind Farm Project 1 Projco Limited and Dogger Bank Offshore Wind Farm Project 1 Projco Limited to East Riding of Yorkshire Council*** 7.2 The Deed of Grant attached to the above Undertaking obligates the wind farm developer (and successors in title) to ensure the Onshore Export Cables remain within the easement strip and are maintained at a minimum depth of 1.5m. 7.3 The reasons for requiring the depth of the cables to be maintained have been documented in the oral and written evidence provided. Whilst the Onshore Export Cables may be installed at a depth to allow agricultural activities to continue following reinstatement, this is not guaranteed for the operational life of the Proposed Development. Notwithstanding the impact on the ability to farm the land should the cables move, there is a real risk to life if the depths of the cable are not known, bearing in mind landowners and occupiers will be crossing them when undertaking cultivations in the normal course of farming. 7.4 The Meeting Minutes provided by Dalcour Maclaren at Appendix 1C, refer to both a committed design depth of 1.6m (ranging from 1.3m to 1.7m) and 1.2m below the subsoil	The Applicants cannot comment on what other projects may or may have not committed to in maintaining cable depth but they have confirmed that the design cable depth is 1.6m whilst there is some flexibility in this figure typically ranging from 1.3-1.7 m from surface level to top of cable duct to allow for natural variation in topsoil thickness (0.1-0.4m) along the cable route, as detailed in Table 5-27 of **Chapter 5 Project Description (Revision 4)** [REP7-032] and Table 4-4 of the **Design and Access Statement (DAS) (Revision 3)** [REP7-103both updated to confirm the cable burial depths at Deadline 7. The minimum depth, where constrained by environmental or engineering factors, is 1.1m which is from surface level to the top of the duct and would be 0.9m from surface level to the protective tile. The design and minimum depth of 1.1m, described above have been designed to allow the majority of agricultural operations to resume following the reinstatement after the completion of the works. These commitments to design depth, save for where achieving the design depth is impracticable due to engineering or environmental reasons, are already set out in the Heads of Terms offered to all landowners including the Interested Parties that states; *Cables shall include for each of DBS East and DBS West connecting to the NGET Substation at Creyke Beck:* *a) up to 2 x Direct Current (DC) underground electricity cables in ducts and associated telecommunication cables in ducts, each of which shall be used for the purposes of transmitting electricity and related telecommunications data relating to the operation of the Project. The cables will be located at minimum depth of 1.4m to the top of the protective tile and no less than 1.6m to the top of the duct save for Horizontal Directional Drilling (HDD) areas where they may be up to 20m deep, or where achieving 1.6m depth is impracticable due to engineering or environmental reasons* The Applicants are unable to make the commitment to maintaining the depth of the cables for the duration of the Projects. The Applicants would not have control of the surface of the land and what agricultural activities a landowner may undertake which could increase or decrease the level of topsoil in any given section of the Onshore Cable Corridor. In **The Applicants' Responses to Deadline 4 Documents** [REP5-037], REP4- 107:1 at Deadline 5 the Applicants stated that: '*To account for variations in the thickness of topsoil the DAS (Revision 2) [REP2-027] was updated in Table 4-4, at Deadline 2 to clarify that the design burial depth below subsoil level would be 1.2m. This will also*

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	interface. This is first occasion when "subsoil interface" has been referred to and clarity is awaited on the different design depths stated. 7.5 The Draft DCO and voluntary agreement for the Proposed Development include safeguards limiting what a landowner/occupier can do with the surface of the land and specifically preclude raising or lowering the existing levels of the Option Area. As noted in our written representations dated 26th June 2025, we suggested a method of addressing the Applicant's concerns regarding topsoil degradation at the meeting on the 23rd June 2025 and it was agreed by the RWE representative that this proposal would be considered. No response to the proposal has since been provided by the Applicant and we note that the proposal was omitted from the Meeting Notes prepared by Dalcour Maclaren at Appendix 1C. 7.6 The Applicant references the level of the restored surface as part of their decommissioning proposals and must therefore be intending to take levels within the Order Limits. Our written representations dated 24th April 2025 requested the Applicants provide a commitment to installing and maintaining the cables at an acceptable depth from the **original surface level** as the restored surface will suffer settlement due to the amount of disturbance caused during the construction works. When taking the levels it would be reasonably practicable for the Applicant to record the depth of both the topsoil and subsoil, thereby providing an accurate benchmark against which to monitor and maintain the depth of the Onshore Export Cables.	*be added to the Chapter 5 Project Description (Revision 3) [REP1-009] and OCoCP (Revision 4) [REP4-040], at Deadline 7.'* This was also referenced in the Applicants responses at Deadline 6 and 7 therefore, the meeting on the 23rd June was not the first time this was raised. The Interested Parties agent confirmed in the meeting 23rd June 2025 his clients desire for the Applicants to commit to ensuring no movement in the as built cable depth throughout its operational life, which the Applicants believe is wholly unreasonable and uneconomically viable when designed to be at a depth to allow all agricultural operations to resume following the reinstatement after the completion of the works. As detailed in The Applicants' response to REP8-061:6, above, the Applicants have updated section 6.6.2.6 of the **OCoCP (Revision 5)** [REP7-105] at Deadline 7 to confirm that the Projects will be designed to remain at the level (m AOD) they are constructed throughout operation. The Applicants can confirm that the buoyancy effects of the ducts would be considered alongside a variety of load cases and ground conditions during detailed design (for both construction and operation conditions). Resistance to buoyant forces would typically be provided by the weight of the duct/ cables in the ducts, cable bedding / backfill characteristics and installation methodology including a protective tile over the cable. Given the majority of the Onshore Export Cable Corridor is located within agricultural land, it would not be within the Applicants interest to construct a design which allowed the cables to be exposed to the surface or potential damage from agricultural equipment. The Applicants or the OFTO would be responsible for maintaining and repairing any defects to any operational infrastructure within the Easement strip, including drainage that they are made aware of from the landowner or from their own routine asset inspections. This wording is also included in section 1.2.1 of the **Outline Drainage Strategy (Revision 4)** [REP7-109], submitted at Deadline 7 in response to Action point 42 in **The Applicants' Responses to April 2025 Hearing Action Points** [REP4-096] on maintenance of drainage during operation. As detailed in section 5.21 of the **OCoCP (Revision 5)** [REP7-105] ' *Land interests will be provided with as built drawings of the Project(s) final design once all construction works are complete. These will accurately record the GPS location and depth at the time of cable laying.*
REP8-061:8	**8. MAIN ISSUE 3: REINSTATEMENT** 8.1 Following further discussion with the Applicant in an attempt to achieve a voluntary agreement our Clients will accept a reinstatement period of two years. The remaining issue in respect of this matter relates to the fact that there is no redress mechanism for a landowner/occupier should the Applicant not meet the two year commitment, with the risk that the reinstatement period could be much longer without genuine justifying reasons. An extended reinstatement period could significantly impact a landowner's business as they may for example be seeking to sell or transfer their holding. 8.2 Provided there is some mechanism for a landowner/occupier to address an extended reinstatement period this matter can be resolved. At the meeting with the RWE representative on the 23rd June 2025 it was agreed that the Applicant would consider a means of providing a mechanism allowing a landowner to address this issue. The Applicant has not responded on this issue since and it has been omitted form the Meeting Minutes prepared by Dalcour Maclaren at Appendix 1C.	As detailed in **The Applicants' Responses to ExAQ2** [REP5-036], LUA.2.2 at Deadline 5. The Applicants have made the commitment to reinstate the land between Jointing Bays within two years, which is secured by section 5.17 of the **OCoCP (Revision 5)** [REP7-105] which states that: '*In each Development Scenario, the Projects are committed to a rolling reinstatement between the Jointing Bays within two years from the point that topsoil is stripped to start construction, at any given location.'* The **OCoCP (Revision 5)** [REP7-105] is secured by Requirement 19 of the **draft DCO (Revision 12)** [document reference 3.1]. As detailed in **The Applicants Responses to Deadline 7 Documents** [REP8-043], REP7- 145:8 at Deadline 8 and in response to ISH4, Action No.44 in **The Applicants' Responses to April 2025 Hearing Action Point** [REP4-096] approximately 90% [now reduced to 84.2%] of the land within the Order Limits would be returned to its original use within two years. However, some land for Jointing Bays, up to 50% of Temporary Construction Compounds (TCCs) and haul roads, would be required for between 2 and 6 years, and these areas cannot be identified until the detailed design stage. The Applicants would seek to keep an open dialogue with the landowners through the ALO and their agents keeping them up to date on when land would be returned. As detailed in the Outline Communications and Public Relations Procedure included in Appendix B of the **OCoCP (Revision 5)** [REP7-105], when the detailed design and construction programme has been developed it will be communicated with the landowner so they are aware of the proposed programme for construction and reinstatement and where there may be a requirement to retain a haul road, working area or TCC for the full duration of the works.

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REP8-061:9	**9. MAIN ISSUE 4: CONSEQUENTIAL LOSSES** 9.1 The draft Deed of Grant attached to the Unilateral Undertaking for the Dogger Bank A and B project provides the opportunity for landowners to claim consequential losses. The Applicant and their Agent are aware of this. The Applicant submitted evidence to the Inquiry (REP 4- 107.17) suggesting that landowners have the ability claim consequential losses under the voluntary agreement for the Proposed Development. This is not the case and the Applicant has now changed their position on this matter as noted in the Meeting Notes prepared by Dalcour Maclaren at Appendix 1C. 9.2 The voluntary agreement proposed by the Applicant instead seeks to limit a landowner's ability to claim certain compensation, whilst also seeking to avoid commitments to such matters as maintaining cable depth, which could have a wide ranging impact on a landowner's land and their business.	The Applicants would refer ExA back to the direct communication with the appointed agent and responses in **The Applicants Responses to Deadline 6 Documents** [REP7-131]. Again, the Applicants cannot comment on what other projects may or may have not committed to in order to secure voluntary agreement. The Applicants stand by their belief that there is some confusion with the Interested Parties agent as to the use of the term consequence in the previous submission as part of **The Applicants' Responses to Deadline 4 Documents [REP5-037]** at Deadline 5 which referred to compensation *which has resulted as a direct* ***consequence*** *of the proposed works and will require supporting evidence to substantiate the amount of any such payment.* It was noted in the meeting 23rd June 2025 that the Interested Parties Agent has mistaken this for qualifying that the Applicants were offering an ability for landowners to claim consequential losses, which is at odds with the Option and Deed of Grant and is not the case. Consequential losses, also known as indirect losses, are damages that don't arise directly from a breach of contract or an event, but rather from the consequences of that breach or event. They are typically more remote and harder to predict than direct losses, which are the immediate and foreseeable results of an action. As such the Applicants as standard practice have not allowed for landowners to claim consequential losses as part of the voluntary agreement. The Option and Deed enable landowners to recover compensation for all direct losses which will be assessed and payable for any reasonable and mitigated loss to the Landowner, which has resulted as a direct consequence of the proposed works and will require supporting evidence to substantiate the amount of any such payment. This point has been accepted by over 80% of landowners on the Onshore Cable Corridor and as such the Applicants will not make individual concessions to the Interested Parties to claim consequential losses. The Applicants have set out above in REP8-061:7 why they are unable to make the commitment to maintaining the depth of the cables for the duration of the Projects.
REP8-061:10	**10. MAIN ISSUE 5: DECOMMISSIONING** 10.1 After the operational life has ceased, the Applicant is seeking to leave in-situ apparatus associated with the Proposed Development which is situated 1.1m below the restored surface. Notwithstanding the issues noted above with the restored surface level compared to the original surface level, the Applicants are proposing to leave potential contaminants in land owned by our Clients, such as the plastic ducts. If the plastic ducts degrade and become a contaminant, our Clients could be responsible for the contamination in the future under the provisions of the Environmental Protection Act, should the Ofto cease to exist. 10.2 The Applicant has committed to making any apparatus left in-situ "safe," but it is not clear how this commitment will be addressed if a pollution issues arises after the decommissioning process has ended. Without sufficient safeguards, landowners could be left with contaminated land which could be unusable. 10.3 The Dogger Bank A and B project addressed this issue through a commitment in the draft Deed of Grant attached to the Unilateral Undertaking which extended to restoring the landowner's land to a condition similar to that existing prior to the installation of the Onshore Export Cables.	As detailed in **The Applicants Responses to Deadline 7 Documents** [REP8-043], REP7- 145:10, the Applicants have committed to removing the cables from the ducts but do not commit to removing the plastic ducts and associated infrastructure if at a depth of less than 1.1m. The Applicants do not agree that the cable ducts could be considered a future source of contamination and cannot commit to remove the plastic ducts and all associated Project infrastructure below 1.1m except jointing bays as this may not be economically viable at the time of decommissioning and may be more environmentally damaging to do so, requiring additional consents to be obtained. As **detailed in Section 9 of the OCoCP (Revision 5) [REP7-105] '*An Onsh*** *ore Decommissioning Plan will be developed prior to decommissioning. The Onshore Decommissioning Plan will include provisions for the removal of all onshore above ground infrastructure and the decommissioning of below ground infrastructure and details relevant to flood risk, pollution prevention and avoidance of ground disturbance. The Onshore Decommissioning Plan will be drawn in line with the latest relevant available guidance and legislation.'* The submission of the onshore decommissioning plan is also secured by Requirement 27 of the **Draft DCO (Revision 12) [document reference 3.1].** The Applicants do not consider that any further safeguards would be required.

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REP8-061:11	**11. MAIN ISSUE 6: USE OF THE CABLES** 11.1 We have referred the Applicant and Dalcour Maclaren to issues associated with the use of the cables. These issues are not solely related to agronomic issues. Issues have also been experienced where energised Onshore Export Cables interfering with yield mapping systems, variable rate technology and GPS steering systems which are all utilised on modern farm machinery. In 2022, we referred the Applicant's agent to the providers of the SOYL software which deals with yield mapping and variable applications of farm inputs, so that they could address this issue. To our knowledge the Applicant did not follow up this request. A significant amount of expenditure has already been committed by landowners to such systems and if not addressed, this expenditure will be wasted or will need to be incurred again to correct any interference caused by the Onshore Export Cables. We again made representations on this issue at the meeting with the Applicant and their agent on the 23rd June 2025. At the meeting, the Applicant confirmed that a claim for compensation in respect of this issue would not be considered by the Applicant under the voluntary agreement. These discussions have also not been referenced in the Meeting notes prepared by Dalcour Maclaren at Appendix 1C.	The appointed agent is again referring to recovery of consequential losses, which is covered at REP8-061:9. The Applicants have informed agents via the LiG meetings from the outset that the Option and Deed enables landowners to recover compensation for all direct losses which have resulted as a direct consequence of the proposed works and will require supporting evidence to substantiate the amount of any such payment. This principle has been widely accepted by all LiG agents, save for the Interested Parties agent and is evidenced in the incredibly high rate of sign up to the voluntary Option and Deed.
REP8-061:12	**12. MAIN ISSUE 7: INDEMNITIES** 12.1 Under the proposed voluntary agreement the Applicant is seeking to apply limits to the level of liability which the Applicant (and the successor Ofto) is exposed to. At the meeting on the 23rd June 2025, the Applicant agreed to submit a copy of the proposed voluntary agreement to the Planning Inspectorate to illustrate this point and the other issues noted with the voluntary agreement. This commitment has also been omitted from the Meeting notes prepared by Dalcour Maclaren at Appendix 1C. 12.2 The draft Deed of Grant attached to the Unilateral Undertaking for the Dogger Bank A and B project provides landowners with an indemnity against any issues associated with: • the use of the onshore export cables, • negligence of the Applicant (or successor Ofto) • breach of covenant. • costs, fees, charges etc. involved with pursuing the applicant over a breach of their obligations. 12.3 The Dogger Bank A and B Deed of Grant implemented through the compulsory acquisition process also limits a landowners liability. In contrast the draft DCO for the Proposed Development does not provide similar safeguards for landowners if the Applicant initiates the compulsory acquisition process as noted in the Meeting notes at Appendix 1C. 12.4 This currently leaves landowners in an invidious position, whereby to secure the protective indemnities they are required to pursue a voluntary agreement despite the other issues noted with the voluntary agreement.	The Applicants are unable to share a copy of the voluntary agreement with the ExA as they contain confidential and commercially sensitive material. However, the Interested Parties' agent has been sent copies of the Option and Deed of Grant in relation to his clients and would refer him to the detail within. Again, the Applicants cannot comment on what other projects may or may have not committed to in a Unilateral Undertaking in order to secure voluntary agreement. However, a response was sent to the appointed agent on the 26th June 2025 confirming the indemnity position in the voluntary agreement for the Projects, which mirrors the rights set out by the appointed agent in the Unilateral Undertaking offered by another project if different circumstances. The Applicants will indemnify the Landowner to a maximum cap against any claims proceedings or demands. There will be no indemnity cap to apply to personal injury or death resulting from the negligence of the Applicants. The Applicants also confirmed that in the absence of a voluntary agreement and in the event of a General Vesting Declaration being served that no indemnity is available to the Landowner, this however does not preclude the ability for the landowner from making a claim. The Applicants have also confirmed that they will not seek a reciprocal indemnity from the Landowner, but Landowners will remain liable for any breach in contract of the Option and Deed.
REP8-061:13	**13. MAIN ISSUE 8: PROFESSIONAL FEES AND LANDOWNERS TIME** 13.1 After our participation in the Inquiry process, the Applicant has changed their position in respect of professional fees which is welcomed. It would have been preferred if this position could	The Applicants confirmed in their response which was sent to the appointed agent on the 26th June 2025 confirming a position which has always remained the same, that any landowner professional fees to agree a voluntary agreement have an initial cap.

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	have been confirmed through the LiG process and before the Applicant sought to withdraw part of the compensation agreed in relation to the proposed voluntary agreement. Whilst the position has improved in relation to professional fees the Applicant is now seeking to penalise landowners who did not accept their original terms for a voluntary agreement.	It has always been agreed with the LiG and is set out in the Heads of Terms, that if the Applicants withdraws the Projects or if the Applicants do not complete the voluntary agreement, then the Applicants will pay for any reasonable costs in association with negotiating the Option agreement. Agents' fees for any compensation claims during construction will be paid subject to the provision of evidence of the time being properly incurred and not subject to aggregation. Equally it has always been agreed with the LiG and part of the HoT that the Applicants will not pay less than the hourly rate agreed with the National Farmers Union (NFU) for Landowner time reasonably and necessary incurred. The Landowner will provide appropriate evidence to substantiate a claim in excess of the agreed rate.
REP8-061:14	**14. MAIN ISSUE 9: SCHEDULE OF CONDITION** 14.1 Although refused by the Applicant at the meeting on the 23rd June 2025, the Meeting notes at Appendix 1C now provide a commitment that detailed soil tests have (or will be undertaken) across the Order Limits, to include organic matter testing. The Meeting notes also confirm that similar detailed Post-Construction soil tests will be undertaken where issues are identified. Whilst the results of any Pre-construction soil tests have yet to be shared with landowners this is an improvement from the previous position taken by the Applicants and will help to ensure that reinstatement of the Order Limits to undertaken satisfactorily allowing the land to be returned to full agricultural production promptly.	As detailed in **The Applicants Responses to Deadline 7 Documents** [REP8-043] Land Drainage Consultancy Ltd have already undertaken soil sampling in accordance with the relevant guidance set out in the Appendix A-1 of this document 'Soil Resource Assessment Survey Results' in **Appendix A, OSMP (Revision 3)** of the **OCoCP (Revision 5)** [REP7-105] across the working corridor from each enclosure. Samples were taken pre-construction and analysed for pH, organic matter, phosphorous, potassium, magnesium and soil texture. Post construction laboratory testing of soils will not be undertaken as standard unless there are specific concerns or complaints regarding the reinstatement, after which methods of testing will be determined by the appointed project soil scientist. This was also submitted at the Pre-Examination Procedural Deadline in October 2024 [PDA-015].
REP8-061:15	**15. MAIN ISSUE 10: MINERALS STERILISATION** 15.1 As noted in our previous written and oral representation; despite being raised as an issue in 2022, the Applicant has only recently sought to address the risk of minerals sterilisation on land owned by Mark Mewburn. 15.2 To address this the Applicant has provided a proposed "**Minerals Clause**" to be included in the voluntary agreement with the latest version seeking to address our issues with the initial draft included at Appendix 1B. Some of our issues have now been addressed in revised draft of the minerals clause circulated on the 26th June 2025. The revised draft still includes incomplete clause references; with remaining substantive issues are as follows: • *The Applicant is seeking to limit the period over which the clause applies to 10 years, notwithstanding that the operational life of the Proposed Development is expected to be much longer. After 10 years, the minerals would be sterilised. We have requested that the Applicant make the Minerals Clause coterminous with the operational life of the Proposed Development. The Applicant has refused this request.* *The Mineral Clause sets an unnecessarily high bar for the landowner to achieve before it can be implemented such as a requirement to secure a Certificate of Alternative Development prior to serving a Development Notice and to provide copies of planning applications at least 3 months before submission, whilst also accepting that the Applicant can object to the planning application.*	As stated at Deadline 7 in **The Applicants' Responses to Deadline 6 Documents** [REP7-131] REP6-082:2, the Applicants do not believe there is a realistic prospect at this time for the Interested Parties to extract mineral resource from plots 06-18, 06-21 and 06-025 due to the marginal areas allocated as Mineral Safeguarding Area and an Area of Search respectively on the periphery of the landholding and proximity to the public highway and residential property. For information purposes, plot 06-021 forms the public highway extent. However, the Applicants have sent to the appointed agent a mineral development clause on the 25th April 2025, which the Applicants proposes as a way forward and would enable the landowner to recover compensation, if they were to secure planning consent for its extraction in the future. The Applicants' agents are working with the appointed agent to agree the provisions in the clause to be included in the Option and Deed of Grant if acceptable to both parties. The appointed agent proposed a method of dealing with the minerals issue on the 4th April 2025, whereby in the future if the Interested Parties wish to extract minerals on the land affected by the Project and can produce evidence demonstrating the value and quantity of the minerals sterilised by the Project under the Voluntary Agreement, then the Project would compensate the Interested Party for the loss of minerals value. This method has been rejected by the Applicants in favour of a mineral development clause, which requires the Interested Parties to demonstrate a reasonable prospect of realising a loss of mineral development value by securing planning consent for an alternative use. The Applicants do not believe this sets an unnecessarily high bar for the landowner, if they have real intent of extracting the minerals and would otherwise incur a loss. The Applicant discussed the mineral development clause with the Agents acting on behalf of the Interested Parties on Monday 23rd June 2025 but the clause as currently drafted, which has been accepted by multiple interested parties in relation to alternative development, includes a time limiting factor of 10 years post OFTO divestment to put forward proposals to the Applicant and make a mitigated claim by securing planning consent for an alternative use in

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		Local Plan period 2020-2039. The Interested Parties agent cannot agree to any time limiting factor and it appears unlikely that the parties will be able to agree a voluntary agreement on this matter. Alternatively, if no voluntary agreement can be reached and Compulsory Powers are exercised, then Landowners have the recourse of securing compensation as detailed *in Article 26 of the Draft DCO (Revision 11) as set out in* ***The*** **Applicants' Responses to April 2025 Hearing Action Points** [REP4-096], Action No.51 of ISH4, at Deadline 4. *'The Applicants accept that some landowners may have mineral extraction potential and that the Projects may sterilise its extraction during operation, meaning that compensation could be payable. This is provided for by Article 26 of the Draft DCO (Revision 7) [document reference 3.1], which states that 'Parts 2 and 3 of Schedule 2 (minerals) to the Acquisition of Land Act 1981(a) are incorporated in this Order'. Schedule 2, Part 3 of the Acquisition of Land Act 1981(a) states that: '(3) Subject to paragraph 4(1) below, if the acquiring authority consider that the working of the underlying mines or minerals is likely to damage the undertaking and is willing to compensate the owner for all or any part of the mines, the owner shall not work or get them. (4) If the acquiring authority and the owner do not agree on the amount of compensation the question shall be referred to and determined by the Upper Tribunal.'*
REP8-061:16	**16. MAIN ISSUE 11: TEMPORARY POSSESSION OF LAND** 16.1 We have made written and oral representations regarding the extent and boundaries of the land required by the Applicant for temporary possession. These issues were raised as soon as the refined route for the Order Limits became known with no direct engagement from the Applicant to address the issues or explain the constraints preventing the issues being addressed. The Applicant has now, through the Inquiry, sought to address these issues retrospectively. We remain of the opinion that the area of land required for temporary possession is excessive and the boundaries could be refined to create a more limited impact on the ability to continue farming the remaining land effectively and efficiently.	The Applicants have provided a detailed response explaining why land is required by the Applicant for temporary possession of Plots 04-17 and 04-19 owned by the Interested Parties in **The Applicants' Responses to Deadline 4 Documents** [REP5-037] at Deadline 5, the Applicants further responded to R17.46 of **The Applicants' Responses to Rule 17 letter dated 9th June 2025** [REP6-057], at Deadline 6 and in **The Applicants Responses to Deadline 6 Documents** [REP7-131], REP6- 082:4 at Deadline 7. It should be noted the areas marked for TCCs on the Works Plan (Onshore) (Revision 4) [REP4-002], No. 16A/B are larger than these dimensions and each final TCC will be micro sited at the detailed design stage to no greater than the maximum parameters of 75m x 75m or 5,625m2 as set out in **Chapter 5 Project Description (Revision 4)** [REP7-032] and located with regard to accessibility to the public highway and proximity to the Onshore Cable Corridor. The TCC areas identified on the **Works Plan (Onshore) (Revision 4)** [REP4-002] and have been assessed as a worst case in the ES.
REP8-061:17	**17. MAIN ISSUE 12: APPLICANT'S APPROACH TO VOLUNTARY AGREEMENTS** 17.1 Our clients remain committed to securing a voluntary agreement and a major barrier which has delayed the implementation of more voluntary agreements is considered to be the Applicant's approach. The LiG process was ended prematurely by the Applicant before all issues raised could be satisfactorily resolved, following which the Applicant sought to reduce the level of compensation agreed with LiG, in an attempt to press landowners into entering into voluntary agreements with unresolved issues and which contain financially beneficial clauses for the Applicant unrelated to the construction of the Proposed Development. This approach was aimed at limiting the number of interested parties making representations through the Inquiry process. Attached at Appendix 2A, 2B and 2C is correspondence with the Applicant's agent recording our Client's willingness to enter into a voluntary agreement and seeking to address issues with the Applicant. Only following our participation in the Inquiry process has the Applicant been willing to address issues raised at the outset of the Proposed Development. The Applicant however continues to seek to penalise landowners financially for doing this, by removing part of the compensation agreed through the LiG process.	The Applicants do not agree with the statement made by the appointed agent that the Land Interest Group (LiG) process was ended prematurely before all issues raised could be satisfactorily resolved in the opinion of the LiG. Nor do the Applicants agree that they agreed an overall commercial package that included the incentive, irrespective of whether the parties met the qualifying criteria for the incentive or not. As stated at Deadline 7 in **The Applicant's Responses to Deadline 6 Documents** [REP7-131] REP6-082:2, the Applicants have consistently offered all affected landowners a commercial incentive of 10% of the total Easement consideration and non-deductible Option fee to agree Heads of Terms by 30th August 2024 and a further 10% to agree legal documentation for an Option and Deed of Grant by 14th February 2025 or otherwise 12 weeks from issue to the associated acting solicitor. The Agent acting on behalf of the Interested Parties failed to meet the initial deadline to agree Heads of Terms and as such didn't qualify for the additional commercial incentive, citing several outstanding points still yet to be agreed, as set out by the Agent. If the parties can agree Heads of Terms, then the Interested Parties will be afforded the same 10% commercial incentive to agree legal documentation within 12 weeks from the documents being issued to their solicitor.

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	Whilst the quantum of compensation payable under a voluntary agreement is not a matter for the Inquiry, the ability to claim compensation is a relevant issue (as noted above) as well as the Applicant's approach to securing voluntary agreements. The Applicant has only recently made limited attempts at addressing genuine landowner issues raised in 2022 and through the LiG process, with the approach to voluntary agreement negotiations considered unreasonable and overbearing. In our opinion the Applicant has not used reasonable endeavours to secure voluntary agreements with our Clients before being awarded powers of compulsory acquisition.	As such the overall consideration offered initially including incentive has reduced and the Applicants have clearly justified the revised amount offered. The Interested Parties agent made it clear in the meeting 23rd June 2025, that his client's expectation would be to receive the full consideration in order to complete voluntary agreements, irrespective of whether or not they met the qualifying requirements to receive the respective incentive payments for signing Heads of Terms by 30th August and legally completing the Option and Deed of Grant within 12 weeks of them being issued. If a voluntary option cannot be agreed, the Applicants would have to rely, as a last resort, in the compulsory acquisition powers granted by the order, when made. This would require them to serve a General Vesting Declaration which would vest the rights set out in Schedule of 7 and 9 of the **Draft DCO (Revision 11)** [document reference: 3.1] if the parties failed to reach a voluntary agreement. It would then be open to any interested party to make a claim for compensation in accordance with the relevant statutory provisions and compensation code, if agreement cannot be reached on this matter. The DCLG Planning Act 2008 Guidance related to procedures for the compulsory acquisition of land (2013) requires Applicants to seek to acquire land by negotiation wherever practicable. The Applicants have fully complied with this Guidance and have sought throughout the process to acquire land and rights voluntarily. The Applicants have meaningfully engaged with interested parties and have had an extraordinarily high success rate with reaching voluntary agreements with interested parties. The Applicants believe that the terms being offered to interested parties are reasonable, which is supported by the fact that the majority of interested parties have agreed to them. The Applicants will continue to seek to reach agreement with the interested parties following the close of examination.
REP8-061:18	**18. OBJECTION** 18.1 It is for the reasons set out in these closing statements (together with our oral and written submissions) that, on behalf of our Clients, we wish to **object** to the Applicant's application for the Proposed Development and accordingly, it is respectfully suggested that this Application be duly recommended for refusal.	No response is required.

2.2 Marine Management Organisation (MMO)

7. The Applicants have not responded to the MMO's comments on the Applicants' responses to the ExA's suggested changes to the DCO in section 5 of the MMO's submission, and would instead refer the ExA to **The Applicants' Closing Statements** [REP8-042] for the Applicants' final position on matters related to the DCO that are not covered in the other sections of this MMO response.

Table 2-2 – The Applicants' Response to the MMO's Deadline 8 Document [REP8-048]

I.D.	Marine Management Organisation's Response	Applicants' Response
REP8-048: 1.1.1	**1. Closing Statement** **1.1 General comments** The MMO would like to highlight to the Examining Authority (ExA) and Secretary of State (SoS) that requests for information from the Applicants were made during the pre-application process, specifically in relation to noise.	No response is required.
REP8-048: 1.1.2	The MMO understands that disagreements are reviewed, and recommendations are made to the SoS by the ExA, so the SoS can make a decision. However, the MMO would highlight that with the Applicants leaving some of the major issues for examination it has increased resource requirements during this process and some high priority issues remain unresolved, undermining the development consent order process. In addition to this, major decisions that should be a matter for the SoS are being included as conditions to resolve at the post consent stage. This causes additional work for all parties, increases/duplicates resources and occasionally can put the MMO in a difficult position. For example, if we require more information (at a cost to the Applicant), such as surveys which impacts the Applicants timeline and funding.	No response is required.
REP8-048: 1.1.3	The MMO would highlight a specific example where the Applicants have had nearly a year (based on the environmental statement being submitted on the 8 August 2024), to carry out a back-calculation to temporally refine the recommended restrictions (cable works and piling) during the herring spawning season. These restrictions were recommended following the review of the ES. Noting that the back-calculation approach to refining the herring spawning season to the 'peak of spawning activity' is a complex process which requires accurate data-interpretation and repeat consultations between the Applicant, the MMO and Cefas, it is incredibly disappointing that the Applicant has chosen to delay resolving this issue until half way through examination and only providing the back calculation document weeks before the final examination deadline. The issue of temporally (through back-calculations) and spatially (through examining sediment and larval data) refining the cable works restriction, as well as the issues surrounding UWN impact ranges, the use of noise abatement and UWN management strategies could have been dealt with and agreed well in advance of the final examination deadlines.	The Applicants submit that they have been ready and willing to discuss and resolve these matters in the soonest and have been highly responsive in relation to these matters throughout the course of Examination. The Applicants note that the possibility of resolving issues quickly and efficiently is contingent on the receipt of timely, clear, consistent, high-quality evidence-based advice from stakeholders. This is of particular importance where requests for mitigation, which are unsupported by evidence, have the potential to affect the viability of Critical National Priority Projects required to deliver the goals of the Clean Power 2030 Action Plan, as is the case for the matters referenced. As regards the specifics of the discussions relating to **back-calculations**, the Applicants do not recognise the MMO's characterisation of events, which appears to show some confusion over the timing and details. It is important that these details are clarified as a matter of record. The Applicants note that their Environmental Impact Assessment concluded there would be no likely significant effects on herring spawning as a result of seabed disturbance caused by the construction of the Projects (**Chapter 10 Fish and Shellfish Ecology (Revision 2)** [REP7-042]. The Applicants acknowledge that, despite the lack of any findings of likely significant effects requiring mitigation, a restriction on export cable installation activities was requested in MMO's Relevant Representations. The Applicants agree that these representations were received almost a year ago, as referenced by MMO. However, these representations made no reference to any requests for the carrying out of back-calculations. Thus, this issue could not have been resolved at this juncture, and for much of the intervening period the Applicants have been awaiting receipt of advice from MMO in relation to this matter. The original request for a temporal restriction and the Applicants' response can be found in **The Applicants' Responses to Relevant Representations** [PDA-013].

I.D.	Marine Management Organisation's Response	Applicants' Response
		Through reviewing **The Applicants' Responses to Relevant Representations** [PDA-013] it is apparent that, at this juncture, the MMO requested a full restriction on all cable installation work on the whole Offshore Export Cable Corridor for the full period August to October inclusive, further suggesting that the geographical extent of the restriction could be refined on the basis of the submission of an updated spawning heat mapping report. It is clear that this request was not grounded in evidence, as no likely significant effects were predicted in relation to this matter within the comprehensive EIA completed by the Applicants. Moreover, the restriction, as requested at this time, was drawn unnecessarily broadly (as acknowledged by the suggestion of its geographical refinement) and, as such it was unsupported by the best available scientific evidence. Furthermore, the request was not consistent with recent precedent relating to the timing and duration of restrictions as established through consideration of similar matters arising in connection to Eastern Green Link 2 (EGL2) project (which affects the same herring spawning grounds as the Projects and to a much greater extent (see response to REP8-048: 3.3.10 below for further details)), where the timing and duration of a restriction was refined and accepted through the use of a back-calculation approach. With MMO's concerns in mind, the Applicants diligently worked to produce an updated heat mapping report (**Heat Mapping Report: Atlantic Herring and Sandeel** [AS-105] which could contribute to discussions relating to the spatial refinement of any Offshore Export Cable Corridor installation restriction. In addition, this report introduced to Examination the concept of a back-calculation approach to resolving what the timing and duration of any restriction could be. This report was submitted in November 2024, over six weeks before the DBS Examination commenced. The Applicants expected to receive the MMO's full Written Representations, including any feedback on this report, and all matters on 29/01/2025 in line with the Examination timetable established by the Examining Authority (ExA) within Rule 4, 6, 9, 13 and 17 letter - Invitation to the resumed Preliminary Meeting and Notification of Hearings [PD-010]. However, the Applicants note that MMO was unable to provide full Written Representations at this deadline, deferring their response on matters pertaining to fish and shellfish until after Deadline 2 (14/2/25). Therefore, MMO's Written Representations on fish were received approximately 10 weeks after the submission of the Applicants' heat mapping report and a full eight months after the submission of the Applicants' DCO application (12/6/24, not 8/8/24 as MMO suggest). Having reviewed MMO's submission, it was apparent to the Applicants that the advice received was insufficiently clear and comprehensive to allow the progression of any back-calculation updates and that this matter could be most efficiently expedited through a meeting between the Applicants, MMO and Cefas (MMO's scientific advisors). To this end a request for a meeting was made on 20/2/25. This request highlighted a number of queries that the Applicants needed to discuss with MMO in connection with the development of the back-calculation. No response was received. A reminder about this meeting request was made in a regular update meeting between MMO and the Applicants on 27/2/25. No follow-up from MMO was forthcoming. A further reminder about the meeting request was issued via email by the Applicants 7/3/25. MMO responded 10/3/25 (almost three weeks after the original meeting request was made) stating that due to Cefas capacity-issues they would address the Applicants' queries in writing. Believing that a discussion was necessary, the Applicants continued to pursue a date for a meeting in their regular update meeting with MMO on 27/3/25, and followed this engagement up with a reminder on 3/4/25. Written responses to the queries issued by the Applicants on 20/2/25 were received 4/4/25 (six weeks after issue). A suggested meeting date was received 16/4/25 for a meeting 28/4/25, which was not a date that the Applicants had suggested for their availability. A meeting date was eventually agreed as 15/5/25 – just two months ago at the time of writing and is almost three months after the Applicants issued their original request for a meeting to progress discussions and four months into Examination.

I.D.	Marine Management Organisation's Response	Applicants' Response
		During this meeting it was apparent that a number of submissions the Applicants had made between Deadline 2-4 had not been reviewed by MMO or their advisors. Despite this, good progress was made in relation to back-calculation issues. A follow-up meeting was agreed for 6/6/25 where further matters were discussed with the outputs used to finalise the **Back-calculation of the Peak Atlantic Herring Spawning Period** [REP6-014] document, which was submitted into Examination by the Applicants promptly at Deadline 6 (16/6/25) for stakeholder review and comment. Comments were not received from MMO until 2.5 weeks later, at Deadline 8 (3/7/25). At the intervening Deadline 7 (26/6/25), in the belief that matters relating to this issue were finally resolved, the Applicants accepted a cable installation restriction condition, with wording agreed by MMO, into the **Draft Development Consent Order (DCO) (Revision 10)** [REP7-011]. Further to the discussion of the timelines of this matter presented above, the Applicants highlight that MMO did not attend any of the Issue Specific Hearings to which they were specifically invited by ExA between 14/1/25 and 7/4/25, within which these matters could have been discussed, examined and agreed in a timely manner. The Applicants highlight the implications of the cable installation restriction proposed and, therefore, the emphasis they have placed on stakeholder engagement to ensure that any restriction accepted on the Projects for an impact which is not predicted to result in a likely significant effect is as proportionate as possible and based on clear, high quality advice and evidence. The Applicants agree that this matter could have been resolved much sooner than it has been, but it is unclear how they could have progressed resolution any more rapidly given that the advice received in written form was insufficiently comprehensive to allow them to conclude the back-calculation report in a way that they felt would be likely to be acceptable to MMO. The Applicants highlight that their regular and relentless efforts to engage with MMO to agree the back-calculation report and a proportionate, evidence-based restriction were frustrated from 20/2/25 onward. As regards discussion relating to **underwater noise impacts**, the Applicants reiterate that the possibility of resolving this issue quickly and efficiently was contingent on the receipt of timely, clear, consistent, high-quality, evidence-based advice. This is of particular importance where requests for mitigation which are unsupported by clear evidence have the potential to affect the viability of Critical National Priority Projects required to deliver the goals of the Clean Power 2030 Action Plan, as is the case for the matter referenced. The Applicants note that their Environmental Impact Assessment concluded there would be no likely significant effects on herring spawning as a result of underwater noise (**Chapter 10 Fish and Shellfish Ecology (Revision 2)** [REP7-042]. The Applicants acknowledge that a restriction on piling during the Banks herring spawning season (August to October inclusive) was requested in MMO's Relevant Representations. However, the suggested restriction (and conditions) was limited **specifically** to piling in the Offshore Export Cable Corridor. In reflection of stakeholder concern restrictions had been included in DMLs 3 and 4 of the original **Draft Development Consent Order** [APP-027]. The Applicants noted in their response to the MMO's representation that Change Request 1 (**Project Change Request 1 – Offshore and Intertidal Works** [AS-141]) would see the removal of the need to pile in the Offshore Export Cable Corridor. Thus, the Applicants removed the condition from the Draft Development Consent Order as the Applicants considered the MMO's concerns had been address and this matter resolved, as there would be no piling on the Offshore Export Cable Corridor. The original request and the Applicants' response can be found in **The Applicants' Responses to Relevant Representations** [PDA-013]. However, upon receipt of MMO's delayed Written Representations received between Deadlines 2 and 3, the advice from MMO had changed, showing a lack of consistency, from requesting a restriction on piling activity in the Offshore Export Cable Corridor only, to a request for a restriction on all piling activity between August and October inclusive. The Applicants rejected the need for this restriction, highlighting the lack of a relevant, evidence-based likely significant effect on spawning herring caused by piling and the potential viability threatening nature of this

I.D.	Marine Management Organisation's Response	Applicants' Response
		restriction (see section 5.5 of **The Applicants' Closing Statements** [REP8-042] for full details). However, as soon as they were able to engage with MMO directly in relation to this matter (see detail above relating to the timelines of meeting requests) the Applicants worked to establish an agreed 'without prejudice' condition with MMO for Secretary of State consideration in determination. In a meeting 15/5/2025 the Applicants enquired as what the MMOs 'red lines' were in relation to noise impacts for spawning herring, such that the specifics of any perceived impacts could be understood and the geography of any potential 'without prejudice' condition could be developed. No clear response was forthcoming. Thus, the Applicants took it upon themselves to make a proposal in this regard which was presented to MMO on 5/6/25, ahead of a meeting between the Applicants and MMO and their scientific advisers on 6/6/25. In this meeting, the Applicants presented their view of what the geography, timing and condition wording for a 'without prejudice' condition could be. These proposals were welcomed by MMO and Cefas with no critical feedback received either in the meeting or after it. Thus, the Applicants worked to refine a 'without prejudice' herring restriction plan aligned with that first presented to MMO on 5/6/25 for MMO's consideration. This was submitted to MMO on 13/6/25. It was further submitted to MMO on 19/6/25 alongside finalised suggested wording for the 'without prejudice' noise restriction condition. MMO's minor edits for the 'without prejudice' noise restriction condition were received by the Applicants on 24/6/25, and this wording was brought into the **Draft DCO (Revision 10)** [REP7-011] at Deadline 7 on 26/6/25. Having passed no comment on the restriction plan which supported the condition, the Applicants understandably considered that the MMO and their advisors were happy with the plan. Only at Deadline 8, 3/7/25. almost a full month after having received the original copy of the plan, has it become apparent that the MMO might wish to see changes made to this document. The Applicants would have welcomed direction on this matter in the initial meeting on 15/5/25, or at any point beyond that given the number of opportunities that MMO were provided with to comment. Further to the discussion of the timelines of this matter presented above, the Applicants again highlight that MMO did not attend any of the Issue Specific Hearings to which they were specifically invited by ExA between 14/1/25 and 7/4/25, within which these matters could have been discussed, examined and agreed in a timely manner. In reflection upon the evidence presented above, the Applicants highlight that the evidential basis relating to this requested restriction is weak, that the impacts of the restriction on the Projects may threaten their viability, and that advice relating to this issue has been both inconsistent and slow to be received. The Applicants agree that this matter could have been resolved much sooner than it has been but would submit that they have made every effort in good faith to attempt to resolve it within the frame of examination. The Applicants point to the fact that the 'without prejudice' case has been agreed with Natural England as supportive evidence of their position. Finally, as regards both of the herring spawning restrictions requested by MMO, the Applicants note that it is the express purpose of the Examination process to allow complex matters such as those discussed here to be explored in detail and that this process – and the consideration of evidence presented by the Applicants and Interested Parties - takes time. It is incumbent upon all parties to engage promptly and meaningfully. It is not incumbent upon the Applicants to accept at face value highly restrictive and consequential mitigation proposals made by stakeholders where they may unduly affect the deliverability of a project, particularly those of Critical National Importance status. Notwithstanding the differing characterisations of the reasons for the lack of closure of these issues, the Applicants are keen to further engage with MMO and their scientific advisors to reach agreement in relation to both the back-calculation and the without prejudice noise restriction following the close of the DBS Examination and ahead of determination by the Secretary of State.

I.D.	Marine Management Organisation's Response	Applicants' Response
REP8-048: 1.1.4	The MMO would state that this is a trend among developers and causing significant issues especially when multiple Examinations are taking place that require a similar level of information/technical review. The MMO is raising this higher with PINS and recommend that clear guidance which outlines the expectations of the ExA that significant points of disagreement (i.e., around restrictions on activities) should be dealt with a priority and not left to the final stages of examination, is needed to rectify this issue. Especially if these have been identified in the pre-application stage.	The Applicants would warmly welcome this review, along with any further proposals which may improve the efficiency of the Nationally Significant Infrastructure Consenting process. The Applicants submit that any such review should extend to the ways in which stakeholders engage in the Examination process in order to ensure that complex matters can be resolved quickly and efficiently.
REP8-048: 1.1.5	The MMO would highlight that the Applicants have engaged on other matters with the MMO throughout the process with the aim to agree as much as possible.	No response is required.
REP8-048: 1.1.6	A summary of the remaining not agreed issues can be found in Section 2 of this document.	No response is required.
REP8-048: 1.1.7	The MMO may provide further points in a closing statement at Deadline 9.	No response is required.
REP8-048: 1.1.8	The MMO would also highlight that there are some strategic and wider positions on several of the DML conditions being discussed internally. For example, Transfer of Benefit, the MMO will be providing further information in the North Falls Examination, but this will be after the deadline closes for this project. The MMO may also be submitting something to DESNZ as a wider topic and should the Secretary of State require this information we would be able to provide this for review if requested, however we would prefer to not have additional deadline submission during the decision so that the decision is not delayed.	No response is required.
REP8-048: 2.1.1	**2. Comments on The Applicants responses to Deadline 6 documents (REP7-131), the Draft Development Consent Order (REP7-012) and Updated Documents** **2.1 Coastal processes – REP5-040 – Assessment of Coastal Processes at the Dogger Bank South Landfall** The MMO is content that the evidence presented via modelling work is adequate to address the physical process changes arising from the emplacement of scour protection around the landfall exit pit in the nearshore. In addition, the applicant presents a more discursive conceptual model (discussed on page 114, paragraph 6).	The Applicants welcome the MMO's agreement.
REP8-048: 2.1.2	The MMO is not familiar with the Litdrift' model used to examine longshore transport changes, but it is described by the applicant as a 1-Dimensional sediment transport model. Both wave and sediment transport modelling highlight the approximate (minor, local) scale of impacts (changes in wave height and sediment transport of a few percent).	No response is required.
REP8-048: 2.1.3	The impact assessment of the landfall changes raises only minor additional queries. Where the modelling gives numerical estimates of impacts on processes, it does not allow for a long-term view of morphological outcomes i.e., the models are not updating, systems models that directly address the impacts of (potential) concern i.e., incremental morphological changes over longer	No response is required.

I.D.	Marine Management Organisation's Response	Applicants' Response
	periods in response to the physical impacts. In this respect the conceptual model approach is welcome.	
REP8-048: 2.1.4	The conceptual model (of sediment build-up around the exit structure) is described consequent upon the numerical modelling but does not go further and address the subsequent impact of the sediment feature that develops i.e., the modelling only assesses the impact of the initial structure, not the eventual sediment ramp. There appears to be no data regarding the longer-term feedback between the initial physical and sediment transport impacts and the wider morphological forcing. The conceptual model does not assess this local morphological change within the context of the wider-scale forcing. The MMO believes that this would be a necessary final step.	Should cable protection be deployed in water depths of less than 10m, the Applicants have committed to undertaking monitoring of nearshore cable protection measures in water depths of less than 10m to assess change relative to the pre-construction baseline for sediment transport regimes, as outlined in the **In Principle Monitoring Plan (Revision 5)** [REP7-115]. The commitment to monitor changes in sediment transport regime in the nearshore post-construction, will provide additional site-specific data to understand longer term morphological change.
REP8-048: 2.1.5	The MMO is confident that the Applicant's estimate of the scale of impacts is reasonable i.e., that the local structure (cable protection at the exit point of the cables, several hundred metres offshore) will directly affect the physical processes only in the immediate vicinity. However, it should be noted that changes of a few percent can affect systems which are at or near 'points of inflexion' i.e., where small changes might be sufficient to alter patterns. This would often be revealed by historical patterns of volatility i.e., rapidly reversing to cyclical changes in short periods. The MMO does not expect this to be the case at this site since the wave climate is very strongly biased toward a dominant direction, while the alignment of the combined Spurn Head and Smitihic Bank are likely to dominate the geomorphic response of the wider area. However, it would be of value to obtain a final, illustrated statement of the Applicant's conceptual model of nearshore impact that discusses the present-day forcing of the shoreline e.g., the longshore transport rates north and south of the affected region, the historical trends of shoreline change, to highlight the susceptibility of the local system to minor localised interventions.	The Applicants welcome the MMO's agreement that the Applicants' estimate of the scale of impact is reasonable. The Applicants also welcomes the following statement from the MMO, "*However, it should be noted that changes of a few percent can affect systems which are at or near 'points of inflexion' i.e., where small changes might be sufficient to alter patterns. The MMO does not expect this to be the case at this site since the wave climate is very strongly biased toward a dominant direction, while the alignment of the combined Spurn Head and Smitihic Bank are likely to dominate the geomorphic response of the wider area*" as this supports their conclusion that changes in bedload sediment transport due to cable protection measures will not alter the geomorphic functioning of Spurn Head and Smithic Bank. To address the MMO's recommendations, the Applicants will integrate the data and information already provided on historical shoreline change in **Coastal Erosion Technical Note (Revision 2)** [REP3-023) and longshore sediment transport rates in **Coastal Processes at the Dogger Bank South Landfall** [REP5-040] with more recent survey and monitoring data, to define the pre-construction baseline for sediment transport regimes as outlined in the **In Principle Monitoring Plan (Revision 5)** [REP7-115].
REP8-048: 2.1.6	As per comment 1.1.5, it would be valuable to understand whether there are, at this location, strong or weak alongshore gradients (in wave forcing, or in resultant sediment transport rates, potentially visible as changes in shoreline change trends in short distances alongshore). Where gradients are weaker, or are rapidly changing, a minor intervention in the nearshore could have a potentially larger impact on shoreline change. The location of the landfall, at the southern tip of a large offshore bank feature, may be subject to such a transition, but it appears more likely that the wave shadow of the bank extends over the likely range of impact of a small-scale feature like the exit pit. However, the MMO would like to see a confirmation of this perspective presented as the basis for the assessment, rather than a simple percentage-based numerical comparison of modelled data.	Considering the rapid and stochastic nature of erosion along the Holderness coast, the strength of sediment transport gradients will vary seasonally and annually. Relatively little sediment transport modelling has been undertaken along the Holderness coast, except for the modelling presented by the **Applicants in Coastal Processes at the Dogger Bank South Landfall** [REP5-040] (and references therein). The scale of research required to understand long term and variable sediment transport gradients at the scale of the Holderness coast is disproportionate to the environmental impact assessment approach, considering the scale of changes in sediment transport at the landfall are predicted to be less than 1%. The Applicants have committed to defining the pre-construction baseline for sediment transport regimes as outlined in **In Principle Monitoring Plan (Revision 5)** [REP7-115]. As part of this, any new data or modelling on longshore sediment transport regimes that will improve understanding of sediment transport gradients will be considered.
REP8-048: 2.1.7	The MMO understands that the Applicants have committed to defining the pre-construction baseline for sediment transport regimes within 8.23 In Principle Monitoring Plan [REP7-116], which will consolidate all available survey, modelling and observational evidence, including undertaking monitoring of nearshore cable protection measures in water depths of less than 10m. The MMO is content with this approach and believes this will be resolved post consent.	The Applicants welcome the MMO's agreement.

I.D.	Marine Management Organisation's Response	Applicants' Response
REP8-048: 2.2.2	**2.2 Disposal Sites and Disposal Site Characterisation Report (REP7-114)** The MMO welcomes the Applicants comments in Section 1.6 of their response and the updates to Disposal Site Characterisation Report (REP7-114). and points them to our Deadline 7 response (REP7-148).	No response is required.
REP8-048: 2.2.3	In addition to the comments raised in our Deadline 7 response (REP7-148), the MMO does need further information in relation to the use of HU225 disposal site where the cable corridor overlaps Hornsea 4 Offshore Wind Farm cable corridor. Two disposal sites cannot overlap so the assessment needs to be updated to show the impact of Dogger Bank South Disposal within this disposal site.	After discussion and agreement with the MMO via email, the Applicants have amended the **Draft Development Consent Order (DCO) (Revision 12)** [document reference 3.1] submitted at Deadline 9, to include the text, 'and any other disposal sites approved in writing by the MMO' in the condition. In addition, the Applicants have added a commitment (C204) to the **Commitments Register (Revision 4)** [document reference 8.6] submitted at Deadline 9, which states: *At the post-consent stage, the Applicants will carry out an assessment of the disposal of sediment at Hornsea Project 4's disposal site HU225 (if required) in an updated Disposal Site Characterisation Report to be submitted to the MMO.*
REP8-048: 2.2.4	Due to the stage of examination, the MMO does not believe that this can be done prior to examination closes. The MMO believes that the risk is low and this can take place post consent. This requires 2 actions by the Applicant to give confirmation that the DML allows for disposal in other locations and so we are confident the assessment will be submitted post consent at the earliest opportunity so there are no delays at the pre-construction stage.	See response to REP8-048: 2.23, above.
REP8-048: 2.2.5	The DML needs amended to allow disposal in other sites with approval from MMO, as the disposal sites references are included the DML needs allow additions to this without a variation to enable efficiency. This can be done by the inclusion of 'and any other MMO approved disposal sites' or 'unless otherwise agreed in writing with the MMO' in the areas where disposal and disposal sites are referenced.	See response to REP8-048: 2.23.
REP8-048: 2.2.6	In addition to this the MMO requests a commitment is added to the commitment register to assess use within the HU225 post consent and submit this to the MMO. This does not have to be a condition.	See response to REP8-048: 2.23.
REP8-048: 2.2.7	The MMO has shared this with the Applicant but the updates may not have been possible for Deadline 8 and the MMO will continue to engage with the Applicant for Deadline 9 as these updates do not impact other interested parties as no parameters are changing.	See response to REP8-048: 2.23.
REP8-048: 2.3.1	**2.3 Noise** 2.3.1 The MMO welcomes the changes made to condition 15(g) and has no further comments.	The Applicants welcome the MMO's agreement.
REP8-048: 2.3.2	The MMO notes the inclusion of Condition 28 (Export Cable restriction) on DMLs 3 and 4 are only on a without prejudice basis. The MMO has major concerns if these are not included in the final DML. The MMO agrees with the wording and requires further post consent commitment in relation to the document to be certified within this condition. Please see further comments in Section 3 of this document.	The Applicants would like to correct MMO's misunderstanding. Requirements 28 in DMLs 3 and 4 are not included on a 'without prejudice' basis. Thus, the Applicants can confirm that the Export Cable Restriction has been included with full acceptance within the **Draft DCO (Revision 11)** [REP8-003] (Condition 28 of Schedules 12 & 13). See responses to REP8-048: 3.1.1 to REP8-048: 3.5.4 of this table for further comments.

I.D.	Marine Management Organisation's Response	Applicants' Response
REP8-048: 2.3.3	The MMO notes the inclusion of Condition 30 (Noise restriction) on DMLs 1-4 are only on a without prejudice basis. The MMO has major concerns if these are not included in the final DML. The MMO agrees with the wording and requires further post consent commitment in relation to the document to be certified within this condition. Please see further comments in Section 3 of this document.	The Applicants and the MMO agreed to disagree on this topic and have summarised each parties position in the **Summary of Herring Noise Impact Discussions During Examination** [REP7-134]. However, to address the potential that the Secretary of State does not agree with the Applicants' position on this matter, the Applicants have included a 'without prejudice' condition (Condition 30 of Schedules 10 & 11 and Condition 27 of Schedules 12 & 13) in the **Draft DCO (Revision 10)** [REP7-011] which has been agreed between the Applicants, MMO and Natural England to allow the Secretary of State to apply this restriction in the final order, should they be minded to do so. The Applicants had previously understood through correspondence that the MMO were satisfied with the relevant certified document. However, as this latterly appears not to be the case, the Applicants are open to continuing a dialogue with MMO following the close of Examination in order to try to satisfy any concerns that they might have.
REP8-048: 2.4	**2.4 In Principle Monitoring Plan (REP7-115)** 2.4.1 The MMO has no concerns regarding Invasive nonnative species within the latest revision of the In Principe Monitoring Plan.	The Applicants welcome the MMO's agreement.
REP8-048: 2.5.1	**2.5 Topics which the MMO and the Applicant have an agree to disagree position and these will not be resolved by the end of examination:** Transfer of Benefit – Article 5 – The MMO still maintains that reference to the DML's Article 5 should be removed. Please see Section 1.2 of REP2-061 for more information and note Section 1.8 above.	No response is required.
REP8-048: 2.5.2	Force Majeure - The MMO notes this is likely to be not agreed by the end of Examination. The MMO's position is detailed in section 1.3 of REP2-061.	No response is required.
REP8-048: 2.5.3	Determination dates - Please see section 1.7 in REP7-148.	No response is required.
REP8-048: 2.5.4	Fisheries back calculations & herring Spawning restriction plan (Export cable corridor and piling restrictions – Please see section 3 in relation to this. However, with potential minor amendments to the conditions will be content to continue this discussion post consent should the SoS include Conditions 27 and 28.	See responses to REP8-048: 3.1.1 to REP8-048: 3.5.4 of this table for further comments.
REP8-048: 2.6.1	**2.6 Topics which the MMO hopes will be resolved before the end of examination** The MMO welcome the addition of the disposal site references to the relevant DML sections - Please see section 1.3 in REP7-148 for further information on the Hornsea 4 Export Cable Corridor disposal site (HU225) as well as section 2.2 above.	See response to REP8-048: 2.23.
REP8-048: 2.6.2	Coastal processes issues as per Section 2.1 above.	The Applicants direct the MMO to the responses provided to REP8-048: 2.1.1 to REP8-048: 2.1.7 of this table.
REP8-048: 2.7	**2.7 Documents still being reviewed:** All updated Environmental Statement Chapters	No response is required.

I.D.	Marine Management Organisation's Response	Applicants' Response
	These will be reviewed and a response provided at Deadline 9.	
REP8-048: 3.1.1	**3. Fisheries comments** **3.1 Back-calculation of the Peak Atlantic Herring Spawning Period - REP6-014** The MMO welcomes the discussion on the without prejudice condition wording for UWN and piling impacts mitigation and note that the Applicants have now included a noise restriction condition (DML's1-4) as well as export cable works restriction condition (DMLs 3 and 4).	The Applicants note that the Underwater noise (UWN) and piling impacts mitigation are entirely separate from any export cable works restrictions and the two matters should not be conflated.
REP8-048: 3.1.2	Please note that the back-calculations provided within this document (REP6-014) relate entirely to the data associated with the areas of the herring spawning ground which overlie the DBS OWF's export cable corridor (ECC). Therefore, the back-calculations relate to the temporal period related to the restriction on cable installation and seabed-interacting works only (DMLs 3 and 4). Due to the analyses being constrained to the ECC area only, this back-calculation is not applicable to the recommended temporal restriction on piling activities.	The Applicants can confirm that discussions with the MMO relating to back-calculations were never intended to be used alongside a temporal restriction on piling activities. The back-calculations relate to the Export Cable Restriction which is referenced under Condition 28 of DML 3 and DML 4 of the **Draft Development Consent Order (DCO) (Revision 12)** [document reference 3.1]. The 'without prejudice' condition wording relating to restrictions on piling impacts included in Condition 30 in DMLs 1 and 2 is intended to apply from August to October inclusive and the period would not be intended for modification through a back-calculation.
REP8-048: 3.1.3	The MMO does not agree with the back-calculations presented in the document and have detailed the specific areas of issue below, including that several of the Applicant's back-calculation input parameters are incorrect.	The Applicants acknowledge the MMO's position. See responses to REP8-048: 3.2.1 to REP8-048: 3.5.4 below for further comments.
REP8-048: 3.2.1	**3.2 Back-calculation input parameters** With regards to the input parameter that "*Maximum o-ringer larval length = 9 mm*", in principle, the MMO supports the use of a 9 millimetre (mm) larval length for the purpose of calculating a conservative estimate of the **start** of peak spawning, noting that smaller larvae within the survey data will have been spawned later than the calculated start date. However, for the Banks herring stock, ICES classify newly hatched larvae as those <10mm, so taking a precautionary approach, it is also necessary to consider factoring in catches of larvae >9mm as these represent older larvae collected during the sampling period, which would indicate that some eggs are being laid in the first half of August.	The Kyle-Henney *et al.* (2024) heat mapping method was developed for the marine aggregate industry through consultation with Cefas and the MMO. Within this the Banks population o-ringer larvae are considered to have lengths <10mm. Cefas and the MMO have maintained, up until this representation, for other projects in the region and throughout the engagement for the Projects, that the maximum larval length for o-ringers is 9mm, as International Herring Larvae Survey (IHLS) data does not provide larval lengths at <1mm resolution. Older larvae (i.e. non o-ringers of length ≥10mm) are not considered at risk of cable laying activities due to their presence in the water column and tolerance of suspended sediments. The Applicants therefore maintain the position (REP5-049: 1.7.22 in **The Applicants Responses to Deadline 5 Documents** [REP6-052]), which was previously agreed with MMO, that larvae ≤9mm are representative of o-ringers for the purposes of identifying potential supporting habitat, in alignment with Kyle-Henney *et al.* (2024). The Applicants believe this matter had previously been agreed and are reluctant to alter their approach having now received different, conflicting advice so late in Examination. However, the Applicants are happy to further engage on this point should it be helpful.
REP8-048: 3.2.2	In Section 3.1, the Applicants state that "For the purposes of the back-calculation, the Offshore Export Cable Corridor is characterised by average temperatures>12.8°C". The near-seabed temperature data shows variation in near-bed temperatures for the International Herring Larvae Survey (IHLS) survey point within the ECC as being between 12°Celcuis (C) and >13°C, and the MMO does not believe that basing the back-calculation on average temperatures >12.8°C is appropriate as the data show periods where nearbed water temperatures have been lower than this, for example, temperatures of 12.01 - 12.30°C were recorded in 2012 and 2023. **To ensure that the Applicant's calculations are sufficiently conservative, the back-calculations should be based on near-bed water temperatures of between 12°C – 12.3°C as these are the lowest near-bed temperatures provided by the time series.**	The Kotthaus (1939) data recommended by Cefas for use within the back-calculation specify egg development, yolk absorption, and yolk sac absorption rates based on average water temperatures. The majority of years sampled by the IHLS record temperatures >13°C, with some variation between years as shown in the table below. The average recorded temperature was >12.8°C: **IHLS Temperature** | **No. of years Recorded** >13°C | 12 (2007, 2009, 2010, 2011, 2013, 2014, 2015, 2016, 2019, 2020, 2021, 2022)

<table>
<tr><th>I.D.</th><th>Marine Management Organisation's Response</th><th>Applicants' Response</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>12.81-13°C</td><td>1 (2008)</td></tr>
<tr><td>12.31-12.8°C</td><td>1 (2023)</td></tr>
<tr><td>12.01-12.3°C</td><td>1 (2012)</td></tr>
<tr><td>Average Recorded Temperature*</td><td>12.87°C</td></tr>
<tr><td>No data</td><td>2 (2017, 2018)</td></tr>
</table>
* Assuming the lowest value of each range per year as a precaution.

The Applicants note the MMO's concerns regarding outlier years at 12-12.3°C, however this minimum temperature is not reflective of the average temperature of 12.87°C recorded within the potential spawning habitat for Atlantic herring within the Offshore Export Cable Corridor. Therefore the Applicants believe the use of Kotthaus (1939) data at average temperatures >12.8°C remains an appropriate approach. However, the Applicants are happy to further engage on this point should it be helpful.
</td></tr>
<tr><td>REP8-048: 3.2.3</td><td>The timing of the Central North Sea (CNS) IHLS is already clearly targeted to the 'peak' of when the herring larvae will be most abundant. The CNS IHLS survey was originally comprised of three separate surveys which covered the full spawning period but has since been reduced; the full survey extent was originally 1 – 15 September (discontinued from 1999), 16 – 30 September (ongoing) and 1 – 15 October (discontinued from 2004). The survey has been reduced in duration not because the 'peak' period of spawning activity has reduced, but due to temporal and budgetary constraints. The statement by the Applicants in Section 3.2, paragraph 18 that "Due to a change in survey method and other limiting factors (e.g. weather and COVID-19), the abundance data for post-2017 monitoring is limited and does not reflect the magnitude of previous spawning activity," is incorrect.</td><td>The Applicants and the MMO / Cefas agree that the use of IHLS data collected between 15th - 30th September is appropriate for the purposes of back-calculation.

The IHLS survey method has changed post-2017, primarily in terms of the timing and number of surveys undertaken in the Southern North Sea / English Channel targeting the Downs spawning stock. However, the IHLS data collected post-2017 is not considered reflective of pre-2017 surveys due to the omission of years (2017-2018) and limiting factors (e.g. weather and COVID-19) (In pre-2017 abundances are in the thousands and tens of thousands per station, post-2017 abundances are only in the tens of thousands per station). Furthermore, the temperature data collected post-2017 is presented differently when downloading data from the ICES portal. Data is no longer recorded as 'TempMaxSam' but is presently recorded as 'BotTemp'.

The IHLS abundance data itself is orders of magnitude lower per year than pre-2017, with a maximum abundance of 57 larvae per m² at any one station (compared to 200-56,258 larvae per m² regularly recorded in the vicinity of the Offshore Export Cable Corridor pre-2017). Therefore, the more conservative approach of 10 years of data pre-2017 has been used to enhance understanding of variation in larval abundances. The Applicants would hope that this more conservative approach would meet with the approval of MMO. However, the Applicants are happy to further engage on this point should it be helpful.</td></tr>
<tr><td>REP8-048: 3.2.4</td><td>There was no change to the survey methodology for the CNS IHLS surveys in 2017 which affects the quality or representation of larval abundance data post-2017. In fact, the Applicants have used IHLS data for the years 2019, 2022 and 2023 in their temperature and larval abundance maps, so clearly the data are available and suitable for incorporation into the assessment. The Applicants should refer to Kyle-Henney et al. (2024) for further information on the years of IHLS data which should be incorporated into assessments relating to the CNS/Banks Herring spawning stock. Specifically, Sections 2.3.5.1 and Appendix D which outline the changes to the IHLS survey extent for the Downs Herring Spawning stock in the Southern North Sea and clearly state that "For the Banks herring spawning stock the IHLS surveys in which these data were collected have not</td><td>No response is required.</td></tr>
</table>

I.D.	Marine Management Organisation's Response	Applicants' Response
	changed". Further, the ICES Herring Working Group reports for the years 2018-2022 detail that CNS IHLS surveys were carried out as standard.	
REP8-048: 3.2.5	The Applicants should therefore be incorporating the full series of data available – including the most recently available data i.e., up to 2023 – into their calculations. As per point 3.2.1, the Applicant should also be including larvae ≤ 10mm in length in their analyses.	The full timeseries of data (2007-2023) has been used in to inform all conclusions to date. As above, 10mm larvae are not 0-ringers and therefore should not be used to inform the location of potential spawning habitat as per Kyle-Henney *et al.* (2024). 9mm has been agreed with Cefas and the MMO as an acceptable length for use in the back-calculation (REP5-049: 1.7.22). Having previously agreed this matter the Applicants are reluctant to alter the approach adopted. However, the Applicants are happy to further engage on this point should it be helpful.
REP8-048: 3.2.6	The temperature dependent egg development periods defined by Kotthaus (1939) in Russell (1976), replicated in Table 3.1 of the document, denote an average temperature of 12.3°C equating to an egg development period of between 7-9 days. The Applicant's chosen egg development period of < 7 days is based on their chosen near-bed temperature of 12.8°C. As per point 3.2.2, the MMO does not consider that this temperature is sufficiently conservative based on the IHLS data presented. In the context of determining the egg development period, using the average near-bed temperature of 12.3°C is appropriate. Where the Applicants have chosen the lower of the two quoted values (7 days) for egg development based on a chosen higher near-bed temperature, the MMO requests that the higher of the two quoted values (9 days) is applied based on the Applicant's IHLS near-bed temperature data showing recorded near-bed temperatures as low as 12°C (see point 3.2.2). **Therefore, the egg development period used by the Applicants is not conservative enough and should be set at 9 days.**	As stated in REP8-048: 3.2.2 above, the average temperature in the ECC is 12.87°C. The egg development period at average temperatures of 12.3°C is 7-9 days. As the average temperature in the ECC is higher than 12.3°C, egg development would be expected at <7 days. To remain precautionary, the Applicants have used a development period of 7 days to inform the back-calculation. Whilst it is noted that temperatures between 12.01-12.31°C have been recorded in one year over the 2007-2023 period, these are considered outliers and not reflective of the normal temperatures within the ECC. Therefore, the MMO's position is deemed over precautionary. However, the Applicants are happy to further engage on this point should it be helpful.
REP8-048: 3.2.7	With regards to the Applicant's discussion of Yolk Absorption, and Yolk Sac Absorption Periods in Sections 3.3 and 4 of the REP6-014, there are several points the MMO disagrees with. The first is that the Yolk Sac Absorption Period can be discounted from the analyses and that the back-calculation use the periods which relate to the External Disappearance (absorption) of the Yolk Sac. Kotthaus (1939), who provided the experiments for which the Russel (1976) herring egg and larval development period tables are based on, describes the critical point for herring larval survival as being the complete reabsorption of the yolk, not just the external disappearance of the yolk but the full reabsorption of the nutrients contained within the yolk into the body of the larvae.	No response is required.
REP8-048: 3.2.8	The original text by Kotthaus (1939), summarises the temperature-dependent development periods in herring eggs based on their observations during their larval hatching experiments. The original text by Kotthaus (1939), also provides the development period of larvae based on *"the time from hatching to the external disappearance of the yolk sac on the one hand, and to the complete resorption of the yolk on the other hand".* Although very similar-sounding, these terms represent different things and should be thought of as:	No response is required.

I.D.	Marine Management Organisation's Response	Applicants' Response
	i. External Disappearance of the Yolk Sac Period = The time from hatching to the external disappearance of the yolk sac from the outside of the body of the larvae only (critically this does not include the continued absorption of the yolk internally within the larvae). Yolk Sac Absorption Period = The time from hatching to the complete absorption of the yolk (i.e., the full reabsorption of the nutrients contained within the yolk into the body of the larvae both externally and internally).	
REP8-048: 3.2.9	The Applicants position that the back-calculation should incorporate the period for the external disappearance of the yolk only (i.e., the shorter of the two defined periods), is not conservative enough and does not account for the continued reabsorption of the nutrients contained within the yolk into the body of the larvae. It is *this* period of continued internal absorption of nutrients from the yolk which allows for continued larval development and increases the larvae's buoyancy (Dickey-Collas *et al.*, 2009). **The Applicants should therefore be using the full yolk sac absorption periods for the appropriate near-bed temperatures. For near-bed temperatures of 12.0°C (noting that using a near-bed temperature of 12.8°C is not conservative enough based on the IHLS data provided, see point 3.2.2), the full Yolk Sac Absorption Period is 14 days.**	Dickey-Collas *et al.* (2009) state in Table 2 of their research paper that '*from hatching to 80% of initial hatch weight*', *Atlantic herring larvae 'increase buoyancy until in the top 10 m of the water column*'. This statement does not make a differentiation between the external disappearance of the yolk sac or the subsequent continued absorption of any residual yolk as suggested by the MMO / Cefas. Instead, the statement made by Dickey-Collas et al. (2009) refers to the inverse relationship between yolk volume and buoyancy (i.e. buoyancy continuously increases when yolk volume decreases through absorption). Atlantic herring larvae in the water column are tolerant of the potential impacts associated with cable laying activities (primarily increases in suspended sediment concentration). To remain precautionary in the back-calculation, the Applicants have assumed that the maximum 0-ringer size (9mm) may remain at risk of cable-laying activities, which includes a growth period of 16 days from 5mm hatched larvae; in addition to the 9mm larvae being the most appropriate indicators of the location of potential spawning habitat (Kyle-Henney *et al.*, 2024). If it is the case that the MMO recommends the full yolk sac absorption period to be included, this would fall within the 16 day growth period for 9mm larvae (at 0.25mm per day). The full yolk sac absorption period for an average Offshore Export Cable Corridor temperature of 12.8°C is 9 days. The addition of 9 days to the 16 day growth period would result in double counting, please refer to the response to REP8-048: 3.3.1 below. The Applicants are happy to further engage on this point should it be helpful.
REP8-048: 3.2.10	In response to the Applicants statements that the full yolk sac absorption period can be discounted based on the assumption that larvae become positively buoyant as the yolk sac is absorbed, the MMO acknowledges that there is validity in this statement but that the data resolution to shorten the full yolk sac absorption period based on this is lacking. For instance, it is true that at some point during the later stages of larval development, larvae gain sufficient positive buoyancy to lift them away from the seabed. Noting that the IHLS survey sampling method catches larvae which are >10 mm in length (caught within 5 metres (m) of the seabed and certainly within range of disturbance from cable laying activities), it cannot be assumed when exactly larvae float off without quantitative evidence. However, the MMO does not believe the evidence exists, at present, to determine at what specific point during their yolk sac absorption period the larvae become buoyant enough to be considered as dissociated from the seabed. Noting that we cannot pinpoint the stage or the number of days into their development at which the larvae become buoyant, it is not appropriate to factor this into the back-calculation in attempt to shorten the restricted period. **Given that the data resolution does not exist, the Applicants must use the full yolk sac absorption period of 14 days based on near-bed temperatures of 12.0°C.**	Whilst it is true that the IHLS survey catches larvae >10mm, these larvae are not considered associated with the seabed and are no longer 0-ringers. At a height of 5m above the seabed, larvae are no longer at risk of direct disturbance from cable laying activities, instead being subject to secondary effects (e.g. increased suspended sediment concentration). Evidence has previously been presented to the MMO / Cefas to confirm that Atlantic herring larvae in the water column (i.e. not associated with the seabed) are tolerant of potential effects from increased suspended sediment concentration (**Appendix 10-3 Back-calculation of the Peak Atlantic Herring Spawning Period** [REP6-014]). Evidence of larval drift has been presented to the MMO by the Applicants through the spatial refinement of the proposed licence condition, where larvae have been sampled in the water column above unsuitable sediment types for spawning, >5 km from suitable sediment types. The MMO and Cefas agreed that larvae sampled at that location did not develop on the seabed at that location, therefore these larvae must have been transported by currents. As stated above, the addition of 9 days to the 16 day growth period would result in double counting, please refer to the response to REP8-048: 3.3.1 below. The Applicants are happy to further engage on this point should it be helpful.

<table>
<tr><th>I.D.</th><th>Marine Management Organisation's Response</th><th>Applicants' Response</th></tr>
<tr><td>REP8-048: 3.3.1</td><td>3.3 Larval Growth Rates and growth days

In response to the Applicant's statement in paragraph 32 that "In effect, the MMO's example back-calculation double-counts the growth period", by allocating the maximum number of days for both the full yolk sac absorption period and the period of time the larvae need to grow from a hatch length of 5mm to reach 10mm in length, the MMO believes there is some validity to this. The Applicants are correct that larvae will be undergoing growth during the yolk sac absorption period and so the MMO proposes the following way forward:

i. The full yolk sac absorption period should be 14 days (points 3.2.2, 3.2.5 and 3.2.6).

The number of days needed for a larva with a hatch length of 5 mm to grow to 10 mm in length is 20 days, based on a growth rate of 0.25 mm per day (Heath, 1993).</td><td>As discussed previously, the MMO / Cefas have changed their advice in this consultation round regarding the maximum length of 0-ringers. The Applicants maintain the position that 9mm is the maximum length as previously agreed by the MMO and Cefas, and in line with Kyle-Henney et al. (2024) as was previously agreed (REP5-049: 1.7.22 in The Applicants Responses to Deadline 5 Documents [REP6-052]).

The growth period is 16 days from 5mm to 9mm assuming the agreed upon growth rate of 0.25mm per day (4 ÷ 0.25). This period is inclusive of the full temperature-dependent yolk sac absorption period, with additional days to spare (subject to temperature differences) as shown in the table below:

<table><tr><th colspan="2">Larval Development Period (5mm to 9mm)</th></tr><tr><td>9 Days (Full yolk sac absorption period at 12.8°C)</td><td>+7 Days</td></tr><tr><td>14 Days (Full yolk sac absorption period at 12.0°C) – MMO's overprecautionary position</td><td>+2 Days</td></tr><tr><td colspan="2">16 Days (Growth rate of 0.25mm per day)</td></tr></table>
Assuming the full 16 day growth period therefore represents a sufficiently conservative assumption of the larval development period. When back-calculating from the limited number of larvae caught on the 22nd September 2015 (the earliest 9mm caught in the ECC in the 2007-2023 IHLS data), the day of hatching is considered to be the 7th September. The Applicants are happy to further engage on this point should it be helpful.</td></tr>
<tr><td>REP8-048: 3.3.2</td><td>The example provided does not necessarily double count the entire growth period, however the MMO recognises that the larvae would grow 3.5 mm in the 14-day yolk sac absorption period (reaching a length of 8.5 mm). This means that an additional 1.5 mm of growth is needed, which at a growth rate of 0.25 mm per day would take an additional 6 days for a 5 mm larva to reach 10 mm in length. The Applicants may argue that including any time after the 14-day yolk sac absorption period is inappropriate based on larvae attaining buoyancy during this period, but the fact remains that we do not have the resolution of data needed to determine at what point larvae attain buoyancy in this assessment. For the Banks herring stock, ICES classify newly hatched larvae as those <10mm, and that the IHLS survey sampling method catches larvae which are 10 mm in length within 5 m of the seabed during the survey period of 16 – 30 September. Therefore, additional time must be included in the analyses to account for additional growing time during the larvaes' development.</td><td>As discussed previously, the Applicants agree that larvae at 9mm will be buoyant and therefore no longer at risk from cable laying activities. However, the Applicants have included precaution within the back-calculation by conducting the calculation on 9mm larvae caught by the IHLS on the 22nd September 2015, resulting in a back-calculated day of hatching on the 7th September.

The Applicants do not agree with the change in MMO / Cefas advice to include 10mm larvae within the back-calculation, as these larvae are not 0-ringers. The back-calculation presented by the Applicants includes any days after the yolk sac absorption period where larvae have not grown to the maximum length of 9mm. At temperatures of 12.8°C and 12.3°C, this would be 7 days and 2 days respectively (see the table in response to REP8-048: 3.3.1 above).</td></tr>
<tr><td>REP8-048: 3.3.3</td><td>As such, the MMO requests that an additional 6 days of growth be included in the back-calculation, instead of the originally requested 16 days of growth. This, alongside the issues outlined in points 3.2.2-3.2.7, means that the input parameters for the back-calculation must be amended to the following to determine the start date for the 'peak' of spawning:

Start of 'peak' spawning period = start date of the peak of high larval abundance – (growth days + no. of days for yolk-sac absorption + no. of days for egg development)</td><td>As shown in the table in response to REP8-048: 3.3.1 above, the 16 days growth period between 5mm and 9mm includes the yolk sac absorption period and any days until the maximum 0-ringer length of 9mm has been reached.

The Applicants do not agree with the change in MMO / Cefas advice to include 10mm larvae within the back-calculation, as these larvae are not 0-ringers.

The IHLS data collected within the Offshore Export Cable Corridor do not record 9mm larvae on the 16th September, but rather the first records of 9mm larvae between 2007-2023 are on the 22nd September.</td></tr>
</table>

I.D.	Marine Management Organisation's Response	Applicants' Response
	i. Start date of the peak of high larval abundance = start of CNS IHLS Survey (already scheduled to target the peak of spawning) = 16 September. ii. Growth days = 6 days. iii. Number of days for egg development = 9 days based on nearbed temperature of 12.3°C (12.3°C and 9 days are the more conservative of the values provided, see points 3.2.2 and 3.2.4). iv. Number of days for yolk-sac absorption = 14 days based on nearbed average temperatures of 12.0°C (12.0°C and 14 days are the more conservative of the values provided, see points 3.2.2, 3.2.5 and 3.2.6). v. Therefore the 'peak' of spawning (inclusive of egg and larval development time) **= 16 September – (6 + 14 + 9) = 18 August.**	The egg development period defined by Kotthaus (1039) at average temperatures of 12.3°C is 7-9 days. As the average temperatures in the ECC are 12.87°C, the egg development period is expected to be <7 days. Unlike the external disappearance of the yolk and yolk sac absorption periods, Kotthaus (1939) does not provide egg development period data for average temperatures of 12.8°C. As such, the precautionary back-calculation should be as follows: = **22nd September – (16 days** (inclusive of the full yolk sac absorption period) **+ 7 days** (egg development period for average ECC temperatures >12.3°C)) **= 30th August**. The Applicants have presented this information in **Appendix 10-3 Back-calculation of the Peak Atlantic Herring Spawning Period** [REP6-014]. The Applicants are happy to further engage on this point should it be helpful.
REP8-048: 3.3.4	With regards to determining the end of the peak spawning period equalling the end of peak larval abundance comment in the previous advice (REP5-049), this does not mean the 'end of the peak spawning period', but the end of the larval vulnerability period. To expand on this, the end of the peak larval abundance, in IHLS terms, is when the survey ends because the CNS IHLS survey targets the peak of larval abundance. Hence, if the peak of larval abundance ends on 30 September, then it should be accepted that from 1 October onwards the majority of larvae will have fully absorbed their yolk-sacs and drifted away from the spawning ground. Thus, the last day of the peak sensitive period for herring larvae is 30 September.	The Applicants are in agreement that the period of risk to Atlantic herring larvae from cable-laying activities within the Offshore Export Cable Corridor ends on the 30th September.
REP8-048: 3.3.5	The Applicants should note that time should be allocated prior to the peak of spawning in order to allow disturbances to the area to dissipate, i.e., for sediments to settle and for suspended sediment concentrations to drop, to allow adult herring to move into the area and for aggregation and spawning to occur. This period of post-work settlement and herring aggregation has been set at **8 days** for other projects where the back-calculation option has been used.	This additional 8 day period has been suggested without any prior engagement or indication by the MMO / Cefas in this consultation round at the close of Examination. It has not been presented in any previous consultation to date. In addition to not previously being referenced in any discussions on this matter with the Applicants, this 8 day period was not included in the EGL2 back-calculation (representing the most appropriate project in terms of location to the DBS ECC and potential impacts on Atlantic herring from cable-laying activities – please see the Applicants' responses to REP8-048: 3.3.10 below). The Applicants highlight that receiving this additional, inconsistent advice at this late stage is highly frustrating given the efforts that they have made to engage on this issue. The MMO have not provided any references or evidence to support its inclusion, either in terms of sediment plume / sediment deposition modelling within the Offshore Export Cable Corridor or references to specific projects in which this period has been implemented. Therefore, the Applicants' precautionary back-calculation will not include this additional period. The Applicants are happy to further engage on this point should it be helpful, but note these methods have been applied on similar, geographically relevant projects such as EGL2.
REP8-048: 3.3.6	In this sense, the back-calculation carried out in this advice using input parameters more appropriate to the environmental conditions and developmental processes of the larvae, determines that the 'peak' of spawning occurs between the 18 August and 30 September, inclusive. **When including an 8 day post-works settlement period, this refines the period of the restriction on cable works to being from the 10 August - 30 September, inclusive.** This represents a significant, but sufficiently well-evidenced, refinement of the originally requested restriction on cable works for the period 1 August – 30 October.	As stated in response to REP8-048: 3.3.5 above, the MMO has not provided evidence to support/justify this refinement. As stated in response to REP8-048: 3.3.3 above and in **Appendix 10-3 Back-calculation of the Peak Atlantic Herring Spawning Period** [REP6-014], the precautionary back-calculated period of peak risk to Atlantic herring is 30th August-30th September, therefore the recommended refinement to the restriction on cable works is 30th August – 30th September (inclusive).

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REP8-048: 3.3.7	Therefore, the MMO requests that Condition 28 (Export cable restriction) of DML 3 and 4 is updated to include the following: *"restricted period" means **10 August to 30 September** inclusive or such other period indicated by the Back Calculation Technical Report as the period when herring are most likely to have spawned and where eggs and newly hatched larvae should be undisturbed to avoid any adverse impacts to those eggs or larvae and any such alternative period must be agreed with the MMO in writing.*	The Applicants note that within Condition 30 of DMLs 3 and 4, the "restricted period" period is presently defined as: *'**1 August to 31 October** inclusive or such other period indicated by the Back Calculation Technical Report as the period when herring are most likely to have spawned and where eggs and newly hatched larvae should be undisturbed to avoid any adverse impacts to those eggs or larvae and any such alternative period must be agreed with the MMO in writing.'* The Applicants would be happy to reduce it to the less restrictive period **10th August to 30th September** if MMO so desires. The Applicants are happy to further engage on this point should it be helpful, but believe that MMO would prefer for the dates to remain for the longer period which is stated in the Draft DCO at present. The Applicants note that the wording of this condition was agreed with MMO via email on 24/6/25. It was further agreed with Natural England on 25/6/25.
REP8-048: 3.3.8	The MMO notes that the current Back Calculation Technical Report does not have this information in. Noting the stage of the examination it is unlikely that this document can be updated. As this document can't be updated the MMO requests a commitment to be added to the commitment register to ensure that the comments within this advice are taken into any updates to this document post consent should further evidence be provided to refine the restriction further.	Whilst **Appendix 10-3 Back-calculation of the Peak Atlantic Herring Spawning Period** [REP6-014] has been written prior to the MMO's responses to Deadline 7 (i.e. the MMO's responses in column 2 of this document), the Applicants' back-calculated date remains consistent (30th August). The Applicants have added the requested commitment to the version of the **Commitments Register (Revision 4)** [document reference 8.6] submitted at Deadline 9. The Applicants are happy to further engage on these points should it be helpful, but note these methods have been applied on similar, geographically relevant projects such as EGL2.
REP8-048: 3.3.9	The MMO believes this is a suitable refinement but with the inclusion of the condition this allows for additional refinement should more evidence become available.	No response is required.
REP8-048: 3.3.10	The MMO notes that the Applicant has references EGL2 marine licence and that this included 31 days restriction. There are a number of differences between EGL2 and this project and the MMO believes the 10 August to 30 September is an appropriate refinement. Given the difference in location of the projects, and the differing pressures exerted on the spawning grounds from the Project, the MMO strongly believes this restriction is proportionate to, and reflective of, the scale of the impacts from the licensable activities.	The Applicants have referred to the EGL2 project throughout the consultation period due to the high degree of similarity between the cable-laying activities between the two projects; for which the back-calculation approach has been used to determine a temporal restriction on works. The similarities between the two projects are as follows: • The EGL2 project is located in close proximity to the DBS ECC, interacting with the spawning grounds for the Banks Atlantic herring spawning population; • The EGL2 project is a cable installation project, utilising the similar methods of cable installation as the DBS project; • The EGL2 project is of national significance through the enabling of the UK's renewable energy transition; • The EGL2 project was consented with a 31 day restriction on cable-laying activities (31st August-30th September inclusive) to protect 80 km of potential spawning habitat between KP350-KP430. The EGL2 project is a transmission cable project, therefore the pressures exerted on the spawning grounds are the same as those for the installation of the Project's Export Cables. The EGL2 project overlaps with 80km of potential spawning habitat and has a 31 day restriction whereas the Projects overlap with 20km of potential spawning habitat and yet a 52 day restriction is proposed The Applicants therefore believe that the MMO's proposal for a restriction between 10th August-30th September is not proportionate to, or reflective of, the scale of impacts from cable laying activities at the DBS ECC location or to the MMO's decision for the licencing of the EGL2 project. The Applicants would be keen to understand MMO's

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		justification for DBS being more heavily restricted than EGL2 given EGL2's much greater coincidence with potential herring spawning ground. As such, the Applicants are happy to further engage on this point.
REP8-048: 3.4.1	**3.4 'Without Prejudice' Herring Spawning Plan – REP7-135** 3.4.1 The MMO does not agree with the area of this map which indicates the "*Herring Spawning Noise Restriction Boundary (restricted area shorewards of this boundary)".* This boundary was defined with respect to cable laying works and the spatial refinement of the recommended restriction on cable installation and seabed-interacting works within the DBS OWF ECC under the without prejudice condition, based on sediment and larval abundance data only. The data was not examined in terms of the wider risk to herring spawning from Underwater Noise (UWN) disturbance as a result of unmitigated piling, and as outlined below, the Applicants have made no commitment to noise reduction levels thus far other than included condition 15(1)(g) to ensure that the use of mitigation is included in the MMMP. It is not appropriate to apply the spatially refined ECC cable works restriction boundary to UWN related impacts because the UWN pressures are far more dispersive and, in defining this boundary, the Applicants have constrained their data consideration to the area of spawning ground within the vicinity of the ECC.	It must be noted that the "*Herring Spawning Noise Restriction Boundary (restricted area shorewards of this boundary)*" figure presents the Kyle-Henney (2024) methodology data layer only, with the colours changed to highlight the relevant 0.05 herring spawning potential. No additional data has been included that relates to the Offshore Export Cable Corridor only, and no data has been subtracted. Only the presentation of these data has been updated to better fit the figure for its purpose. An early version of the boundary presented within this figure was first presented to the MMO and Cefas during the meeting held on 6th June 2025, within the section of the presentation titled "'Without Prejudice' Noise Restriction", and was discussed in that context primarily. Whilst it did help to inform the KP20-KP40 restriction relevant to the Offshore Export Cable Corridor cable works spatial restriction, this is not the primary context in which it was presented. The use of this approach to determining a boundary in relation to underwater noise was discussed during the meeting between the Applicants, and the MMO and Cefas, on 6th June 2025, with the detail previously shared with MMO the day before this on 5/6/25. This meeting was a follow up to earlier discussions on this topic held 15/5/25. During the meeting of 6/6/25, an early iteration of the figure was presented – showing the same restricted area as included in the present plan (**'Without Prejudice' Herring Spawning Plan (Revision 2)** [document reference 17.8]), and feedback from the MMO and Cefas indicated that these parties did not disagree with the proposed process, and that a finalised figure should be produced. It was confirmed by the MMO that a condition without prejudice based on this figure could be agreed to, and that a zoning approach (where restrictions on certain piles would apply based on later modelling) could be considered. A more refined version of this plan was shared with MMO for comment on 13/6/25 and on 19/6/25 together with the Applicants suggested condition wording. The restricted area indicated was the same in all iterations of the plan. Despite having four previous opportunities to comment on the proposed restricted area the MMO chose not to provide any objections. MMO provided their comments on the suggested wording for the restriction via email on 24/6/25. This wording was accepted into the order as the 'without prejudice restriction'. As no objections or reservations were received in relation to restriction plan, the Applicants not unreasonably assumed that this matter was agreed and this figure – which would have taken a few short moments to review - and relevant proposed DML text was submitted into Examination for consideration at Deadline 7 on 26/6/25. The intent of this figure is to indicate that where the 135dB contour associated with a given piling location crosses the indicated red line (with or without noise mitigation), piling at that location will not be permitted for the full 3 month herring spawning season (1st August – 31st October inclusive). Should no noise mitigation be used, it is likely that piling will not be possible across a significant region of the Projects areas during the full three month herring spawning season. Piling locations to the northern and eastern fringes may be possible without the use of mitigation, however modelling of specific locations would need to be undertaken to confirm this, as would be presented within a future Herring Spawning Piling Restriction Plan to be submitted to the MMO no later than six months prior to the commencement of the relevant activities. Meetings between the Applicants, and the MMO and Cefas prior to receipt of these comments suggested that this approach was acceptable to all parties. The Applicants maintain that the Herring Spawning Plan is sufficient at this time. If implemented by the Secretary of State, a herring spawning piling restriction plan (in accordance with the herring spawning plan) will be produced post-consent with updated underwater noise modelling based on the final project design. The Applicants are happy

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		to engage further with the MMO on this post-Examination with a view to submitting an updated agreed position to the Secretary of State in due course.
REP8-048: 3.4.2	As was outlined in REP7-148 the updated UWN noise modelling which show the potential impact range decrease when a 10 decibel (dB) noise reduction is applied is encouraging. However, the modelling presented does not represent **a clear and binding commitment by the Applicant** to implement measures which achieve a 10 dB noise reduction. The MMO notes that the ExA (PD-028) added the recommendation to a reduction of 10dB to Condition 15(1)(g). The MMO questioned what would happen if this was included and not achieved. The MMO also noted the Applicant did not take this recommendation on board.	The intention of the noise restriction (Condition 30, Schedules 10 & 11 and Condition 27, Schedules 12 & 13) in the **Draft DCO (Revision 12)** [document reference 3.1] is to ensure a requirement for underwater noise mitigation is present should piling result in an overlap of the 135dB contour with the Herring Spawning Noise Restriction Boundary during the herring spawning season (1st August – 31st October inclusive). The Applicants have never suggested, throughout their extensive engagement with MMO and other stakeholders on this matter, that they intended to offer or accept a clear or binding commitment by the Applicants to a 10dB reduction of noise impacts.
REP8-048: 3.4.3	As outlined in previous advice, the requested temporal restriction on piling activity during the herring spawning season must be maintained until an appropriate commitment to achieving a 10 dB noise reduction is made by the Applicants.	The Applicants are in agreement, on a without prejudice basis, that any restrictions relating to piling impacts should relate to the whole herring spawning season (1st August – 31st October inclusive). The conditions agreed in Condition 30 of DMLs 1 and 2 between the MMO and the Applicants clearly indicates, on a without prejudice basis, that this would be the restricted period with no alteration proposed. The Applicants determined that following the meeting between the Applicants, and the MMO and Cefas on 6th June 2025, that the approach proposed within the noise restriction (Condition 30, Schedules 10 & 11 and Condition 27, Schedules 12 & 13) in the **Draft DCO (Revision 12)** [document reference 3.1] was acceptable. During this meeting the MMO provided positive indication that zoning was a possibility, and that this may result in spatial restrictions. This noise restriction hopes to meet these criteria, with modelling indicating that a lack of underwater noise mitigation will result in significant spatial restriction on piling activity during the herring spawning season. The MMO appears to agree with the wording used within the noise restriction within REP8-048: 2.3.3. Similar positive comments have been received from Natural England within AS-184: 3 of **Table 2-8**. It must be noted that both parties agreed the wording via email on the 24th and 25th of June, respectively. The Applicants note that similar principles relating to overlaps of a 135 dB noise contour with potential herring spawning grounds have recently been agreed for Outer Dowsing and included by the Secretary of State within the DCO for Rampion 2.
REP8-048: 3.4.4	The MMO notes the Applicants have included an agreed without prejudice Noise Restriction Condition 27 within the DMLs, however as the herring spawning piling restriction plan is not agreed Condition 27(1) is being reviewed and the MMO will discuss amendments with the Applicants to be submitted at Deadline 9 (if required). Therefore until the Applicants can provide a confirmative commitment to using noise abatement systems which achieve a 10 dB noise reduction the restriction is required across the whole area.	Please refer to the Applicants' response to REP8-048: 3.4.3 above. The Applicants are happy to further engage on this point should it be helpful. The Applicants are somewhat confused as to why the MMO have agreed the condition wording that they have if the resolution they were seeking was a 10dB noise reduction. The wording for a 10dB noise reduction restriction would bear no relation to the wording that has been agreed and would not be reflective of the discussions held between MMO and the Applicants on this topic since 15th May 2025.
REP8-048: 3.5.1	**3.5 Summary** The MMO is not satisfied that the Applicant's back-calculation is sufficiently precautionary and have highlighted in points 3.2.2-3.2.7, that inappropriate input parameters for the environmental conditions and developmental processes of the larvae have been used throughout. Based on the points made by the Applicants in their documentation, the MMO has amended the number of recommended growth days to be factored into the calculation to avoid double counting and have repeated the calculation in points 3.3.2 – 3.3.6.	Please refer to the Applicants' responses to REP8-048: 3.2.2 – REP8-048: 3.2.7 above.
REP8-048: 3.5.2	MMO considers that the evidence provided has the potential to allow the restriction on cable installation and seabed-interacting works within the DBS OWF ECC to be refined from the	Please refer to the Applicants' responses to REP8-048: 3.3.7 above.

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	originally recommended period of the 1 August – 30 October, inclusive, to being the **10 August - 30 September, inclusive.**	
REP8-048: 3.5.3	The MMO notes that the back-calculations provided within this document relate entirely to the data associated with the areas of the herring spawning ground which overlie the DBS OWFs export cable corridor (ECC). **Therefore, the calculations relate to the temporal period related to the restriction on cable installation and seabed-interacting works only.** Due to the analyses being constrained to the ECC area only, this back calculation is not applicable to the recommended restriction on piling activities.	The Applicants agree that the back-calculation is specific to cable-laying activities only and are not proposing a back-calculation approach for piling. As noted in the without prejudice noise condition (Condition 30 of DMLs 1 and 2) the noise restriction would be intended to be applied from August to October inclusive, without any adjustment proposed.
REP8-048: 3.5.4	Outstanding issues in relation to the Herring Spawning Plan remain.	No response is required.
REP8-048: 4.2.1	**4. Response to the Examining Authority's Written Questions (ExQ2) – PD-022** **Fish and Shellfish ecology** **4.1 FSE 2.9** **Export cable proposed through the Flamborough Head herring spawning ground: The ExA is aware of the questions and responses between the applicants and the MMO regarding herring larval abundance mapping and presentation of the density data.** **4.2 a) Can you confirm if this issue has now been resolved and if it is satisfied with the quality and presentation of the data regarding herring larval abundance and density submitted into the examination by the applicants at DL4 [REP4-098]. If not, please explain why not?** Please see the comments in Section 3.4 above. There is agreement in relation to a spatial restriction for cable works (KP20-40) and agreement on a refined seasonal restriction for cable works. There is not agreement on the spatial requirement for underwater noise impacts from piling. The without prejudice conditions are largely agreed but discussion continues based on the references to the documents that are not agreed as set out above. The MMO largely believes this will be agreed to be resolved post consent if the conditions are within the DML. However, notes should the SoS provide any changes to this the MMO would like to review the final wording to understand how this will work in practice post consent.	Please refer to the Applicants' response to REP8-048: 3.4.3, above. The Applicants remain open to further engagement.
REP8-048: 4.3.1	**4.3 b) If so, what is your position on potential impacts of the construction and installation of the export cable corridor on spawning herring?** There are two main ways in which the construction and installation of the DBS export cable poses a significant concern in relation to the Banks herring spawning population which uses the Flamborough Head herring spawning ground. The first of these is that if construction and installation of the export cable occurs during the spawning season, this will cause immediate and direct disturbance to the herring spawning habitat itself as well as causing direct disturbance to adult herring engaged in spawning and possible mortality of eggs and larvae developing on the seabed as the plough passes along the Export Cable Corridor (ECC) route.	No response is required.

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REP8-048: 4.3.2	The second impact pathway relates to the more long-term potential for sediment composition change which would affect the extent and distribution of areas of seabed with sufficient integrity and composition to provide herring spawning habitat. The act of ploughing a trench in which to lay the export cable will bring subsurface sediments to the seabed surface, which may not have the same composition as the current surface sediments (for example, ploughed up sediments may have a sandier composition than the current more gravelly surface sediments). It is also possible that fine sediments may become suspended in the water column and resettle over the seabed on either side of the ploughed trench, introducing a higher content of mud and silt into areas of suitable spawning habitat (adult herring prefer sediments with a clean gravelly composition, and increasing the mud or silt content of an area to greater than 4% of the total sediment composition can render the sediments unsuitable as herring spawning habitat. Both processes have the potential to affect the sediment composition of the seabed, potentially reducing the suitability of the area to provide potential spawning habitat.	No response is required.
REP8-048: 4.3.3	However, there are ways to mitigate these risks. Prohibiting cable installation activities during the herring spawning season in areas where the seabed has the highest potential to provide herring spawning habitat, eliminates the risk of adult herring being disturbed during the spawning season, as well as protecting herring eggs and larvae from damage or smothering as a result of ploughing. Through the suite of evidence provided by the Applicant, the subsequent spatial refinement, and all-party-agreement of the requested restriction on cable works between kilometre points 20 – 40 of the DBS ECC route during the herring spawning season, the MMO is content that this risk has been appropriately managed.	The Applicants agree that the inclusion of a restriction in cable laying works would be sufficient to manage the potential risk to Atlantic herring from direct disturbance, noting the disagreement of when this restriction will be imposed.
REP8-048: 4.3.4	With regards to the more long-term risks posed by cable laying activities in the herring spawning ground, the MMO is generally content that the impacts from the DBS ECC specifically have been appropriately mitigated, however the MMO would highlight that DBS is not the only project with proposed works within the herring spawning ground at Flamborough Head. Disturbance of the Flamborough Head herring spawning ground by multiple projects arguably goes beyond the remit of individual project developers who, despite carrying out suitably detailed in-combination assessments as required to complete their applications, are often limited to using publicly available data and may not have sight of the specific design parameters being proposed by other developments. Individual project developers may also not have full access to projects which are in their conceptual or scoping stages and the lack of detailed assessments available for these projects (due to them being in the early stages of development) which also means that cumulative impacts cannot be fully assessed.	The Applicants have gone above and beyond the standard EIA requirement to satisfy the MMO's requests in relation to potential cumulative effects upon Atlantic herring. The Applicants maintain that the inclusion of any restrictions on works must be proportionate to the risk imposed by the project and supported by appropriate evidence. The information presented by the Applicants has been intended to ensure that proposed restrictions on works are relevant to the cable-laying activities within the Offshore Export Cable Corridor, are precautionary but still proportional to the risk upon Atlantic herring, and are supported by the best available evidence.
REP8-048: 4.3.5	It makes much more sense for cumulative assessments for areas of sensitivity (for example, the Flamborough Head herring spawning ground) to be carried out by a more centralised competent authority which has oversight of the multiple projects (inclusive of export cables, telecommunications cables for example) happening in the area of sensitivity. Such an approach would help to standardise the specific restrictions applied to each project and create an opportunity for a harmonized monitoring programme to ensure that the integrity of the spawning ground is not being eroded by subsequent projects which are individually mitigated, but	No response is required.

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	the residual impacts of which may be cumulatively degrading the spawning ground. However, the MMO notes this is unlikely to be in place for a decision.	
REP8-048: 4.4.1	**4.4 c) What is your opinion on whether the applicants have fully adhered to the mitigation hierarchy on this issue?** Broadly the principles of the mitigation hierarchy dictate that significant impacts to sensitive features should first be avoided, and where avoidance is not possible these impacts should be minimised by project design or construction strategy. Where significant impacts to sensitive features cannot be avoided or minimised, then mitigation options must be explored.	No response is required.
REP8-048: 4.4.2	In the context of the DBS OWFs export cable, the environmental statement highlighted that the export cable infrastructure had to pass through the herring spawning ground at Flamborough Head in order to reach the prescribed National Grid connection point. In the context of the export cable, the MMO believes that the Applicants have generally adhered appropriately to the principles of the mitigation hierarchy. The MMO would note that when reviewing the ES**Error! Bookmark not defined.**, the MMO was in strong disagreement with the Applicant's conclusion that "*the low magnitude of impact for both Projects together (DBS East and DBS West), combined with the medium sensitivity of effect for the demersal fish, pelagic fish, and shellfish receptor groups, results in the assessment that temporary habitat disturbance and direct damage has a minor adverse effect, and is therefore not significant in EIA terms. No additional mitigation measures are considered to be required*". This assessment encompassed the effects of direct habitat disturbance for both herring and sandeel. It was clear in the ES that the export cable could not avoid passing through the herring spawning ground given the location of the DBS OWFs arrays and the connection point, and the extent of the herring spawning ground, and that the nature of cable installation works meant that the risk of disturbance to both adult herring engaged in spawning and areas of important herring spawning habitat was significant.	No response is required.
REP8-048: 4.4.3	At this point, the MMO requested that seabed-interacting works within the ECC be prohibited during the Banks herring spawning season. The Applicants then explored how spawning habitat disturbance could be minimised. The MMO provided clear guidance on the evidence needed to both spatially and temporally refine the requested restriction on export cable installation works during the herring spawning season. The Applicants have provided the requested evidence, in an appropriate format and accompanied by a suitable considerate discussion of the evidence and this has allowed us, collectively, to spatially refine the restriction on export cable installation works. This ensures that works which disturb the seabed remain prohibited in the areas of the ECC which overlap sediments with high potential to provide spawning habitat and where spawning has actively taken place in the past, whilst allowing works to be carried out in areas of the ECC closest to the array and where sediments have low or no potential to provide herring spawning habitat.	The MMO have not provided clear guidance on this issue, evidenced by the inconsistencies and change in position presented in their latest responses to REP8-048: 3.2.1 (and subsequent consequences on the back-calculation) and REP8-048: 3.3.5. The guidance provided by the MMO to date has not reflected the guidance or learnings on the EGL2 project that represent an appropriate management of risk to Atlantic herring from cable-laying activities in the region.
REP8-048: 4.4.4	The MMO is generally content that, despite the initial disagreement on the severity of the impacts posed to the herring spawning ground by the export cable installation, the Applicants have followed the appropriate steps to provide an evidence base which allows for the impacts to adult spawning herring and the herring spawning ground to be successfully minimised.	The Applicant welcomes the MMO's comment.

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REP8-048: 4.5.1	**4.5 d) Are the applicants' proposed mitigations sufficient and are you satisfied with the way they are secured in the DMLs?** In the context of this question, which asks specifically about the **export cable proposed through the Flamborough Head herring spawning ground** and its associated installation works, the MMO considers that the now-agreed, spatially-refined, temporal restriction on works which interact with the seabed along the DBS ECC route (including seabed preparatory works, cable trenching etc) is sufficient to ensure that areas of seabed with sufficient integrity and composition to support herring spawning are adequately protected during the herring spawning period.	The Applicant welcomes the MMO's comment.
REP8-048: 4.5.2	The draft wording of the spatially refined and now-agreed export cable works restriction to be included on the DML is sufficient and that the requirement that works which interact with the seabed between kilometre points 20 – 40 of the DBS ECC route be prohibited during the herring spawning season, is appropriately captured in DML 3 & 4 in Condition 28, noting minor ongoing discussions relating to the wording due to the disagreement over the documents mentioned in the condition.	The Applicant welcomes the MMO's comment. The Applicants remain open to further engagement with MMO.
REP8-048: 4.6.1	**4.6 7 FSE 2.10** **Please provide your position on the applicants' statements in paragraph 10 on page 8 of the applicants' Fish and Shellfish Response to the MMO [REP4-098] and [paragraph 39 page 26 of the Heat Mapping Report: Atlantic Herring and Sandeel [AS-105]. Please state whether you are in agreement or not with these statements and what impact the export cable construction and installation could have on drifting, developing herring larvae.** With respect to the comment in paragraph 10 on page 8 of the Applicants' 14.13 Fish and Shellfish Response to the MMO [REP4-098]. The MMO's position has previously been outlined in REP6-014 and REP7-148. It should be understood that once fertilised, herring eggs undergo a period of development in which emerging larvae remain close to the seabed but gradually become more buoyant as they complete the yolk sack absorption stage of their development. This means that in the later stages of their initial development, herring larvae attain some buoyancy through absorbing their yolk-sacs, but do not become positively buoyant enough to fully join the pelagic ichthyoplankton. In this short period of their development, it is possible for herring larvae to drift short distances from the spawning beds they originated from.	No response is required.
REP8-048: 4.6.2	Regarding the Applicant's statement, the annual herring larvae abundance maps presented in REP4-098, the Applicant's Fish and Shellfish Response did show data for herring larval presence at the IHLS sampling point which was located between KP 50 – 60 of the ECC. However, it should be noted that the IHLS survey collects herring larval data from fixed sampling stations at set locations across the survey grid, and the DBS OWFs ECC just so happens to overlap with some of these sampling stations (between KP 20-30 and KP 50-60). In the context of the larval abundance data point located between KP 50-60, I agree with the Applicant's statement, and this was outlined in my response to the Examining Authority's (ExA) Question 1.6 FSE.2.9 a) which is provided in Section 4.2 above. The MMO recognises that the PSA analyses for the ECC shows that	The MMO's response provides clarification that Atlantic herring larvae are present at locations that are not underpinned by potential spawning habitat, therefore the larvae must have been subject to transport by currents. In the case of the IHLS station between KP50 and KP60, the nearest potential spawning habitat is >5 km to the west. Therefore, in a matter of days post-hatching, Atlantic herring larvae may be transported significant distances from their hatching location.

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	almost all the sample stations between ST 161 (located after KP 40) and the DBS OWF array areas are mostly sandy sediments and are therefore unsuitable as potential herring spawning habitat.	
REP8-048: 4.6.3	The Particle Size Analysis (PSA) data provided by the Applicant showed that the sediment composition between KP 50-60 was outside of the 'preferred' and 'marginal' compositions for herring spawning as defined by Reach *et al.*, (2013). In comparison, for the area of seabed between KP 20-40, the herring larval data and PSA data provided by the Applicant showed that this area of the ECC represented an area of importance as herring spawning habitat as the data showed high larval abundances consistently in this location throughout the timeseries used and the PSA data indicated the sediments had sufficient composition to be considered as 'preferred' and 'marginal' for herring spawning as defined by Reach *et al.*, (2013). This was not the case for the area of seabed between KP 50 – 60 of the ECC.	No response is required.
REP8-048: 4.6.4	With respect to the comment in paragraph 39 on page 26 of the Heat Mapping Report: Atlantic Herring and Sandeel [AS-105], the Applicant made the statement below: "It is important to note at this stage that the IHLS does not sample larvae on the seabed, but rather at approximately 5m above the seabed, in the water column. As such, larvae caught by the IHLS are likely to be mobilised by nearbed currents, and are not directly associated with the seabed at point of capture and therefore not considered to be at risk of potential impacts associated with the installation of cables (Kyle-Henney et al., 2024; EGL2, 2024). Considering the high energy environment off Flamborough Head and the proximity of suitable sediments either side of the Offshore Export Cable Corridor (based on EMODnet data and not site-specific ground-truthing surveys), it is likely that the majority of larvae caught at the IHLS sampling station between ST163 and ST164 hatched from spawning beds outside of the Offshore Export Cable Corridor."	No response is required.
REP8-048: 4.6.5	The MMO is generally in agreement with the statements that herring larvae can be mobilised to some degree by nearbed currents when in the later stages of their initial yolk-sac absorption developmental stage (as outlined in point 21 above). However, the MMO does not agree with the statement that *because* the larvae are slightly mobilised, this means there is *no risk* of potential impacts associated with the installation of cables. As the Applicants have noted in their response, the IHLS Gulf Plankton Sampling method collects samples within 5m of the seabed. This ensures that herring larvae in the earliest developmental stages can be sampled in the closest possible proximity to their origin point and provides the closest possible measurement of spawning activity.	The Applicants agree that, whilst early-development phase 0-ringer larvae will remain close to the seabed, the larvae are likely to be subject to nearbed currents. As the yolk is absorbed, buoyancy increases, and the larvae rise up through the water column. During this process, the risk to larvae from cable-laying activities decreases, as larvae are no longer on the seabed. The IHLS samples larvae at approximately 5m above the seabed, not on the seabed. Whilst 5mm larvae are sampled in significant quantities, the vast majority of larvae caught by the IHLS within the Offshore Export Cable Corridor are of lengths >7mm. This suggests that the IHLS has a greater efficiency at sampling the more buoyant larvae that are no longer associated with the seabed, but that the presence of 5mm larvae in IHLS data indicates active transport of newly hatched larvae by nearbed currents. The Applicants have presented their back-calculation to incorporate the earliest hatching date of 0-ringers caught within the Offshore Export Cable Corridor (22nd September), and thus incorporate sufficient precaution through the assumption that all 0-ringers caught within the Offshore Export Cable Corridor may have hatched from spawning beds located on potential spawning habitat within the Offshore Export Cable Corridor (and therefore be at risk of cable-laying activities).
REP8-048: 4.6.6	The MMO considers the implication in the Applicant's statement that the slight mobilisation of herring larvae means there is "*no risk*" of potential impacts associated with the installation of cables to be inaccurate. The works associated with ploughing a trench deep enough and wide	The Applicants do not consider slight mobilisation of larvae by nearbed currents (e.g. lateral movement along the seabed) to alleviate risk from cable-laying activities. Instead, the Applicants have reviewed and presented evidence

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	enough to accommodate the DBS OWF export cable infrastructure represents a significant source of seabed disturbance, causes sediment suspension and potential smothering effects. The small amount of mobility that herring larvae have in the later stages of their initial yolk-sac absorption developmental stage does not equate to complete immunity to disturbance and harm. As a point of best practice for future impact assessments, when discussing potential impacts to herring eggs and larvae as a result of offshore development activities, herring eggs and larvae must be treated as a stationary receptor due to the very, very limited mobility that eggs and larvae have in these early stages of development.	to support the conclusion that risk from cable-laying activities reduces as larvae increase buoyancy and move vertically through the water column during yolk absorption. Larvae are subject to transport by currents throughout the development phase, and therefore should not be considered a stationary receptor. This is evidenced by the presence of 0-ringer larvae within the water column above unsuitable spawning habitats >5 km from suitable spawning habitat locations. Eggs are adhered to the seabed sediment therefore the stationary receptor assumption would be appropriate for eggs only.
REP8-048: 4.7.1	**4.7 FSE 2.14:** **Seasonal restrictions for piling in the array areas in relation to potential impacts on herring and sandeel. Natural England (NE) has maintained its advice at DL4 that as the behavioural threshold of 135dB single strike sound exposure level (SELss) overlaps a significant area of the high and very high spawning habitat potential sites when piling in the array areas a seasonal restriction on piling may be required and defers to the Centre for Environment, Fisheries and Aquaculture Science (Cefas) for advice on timing on any such restriction. The MMO's DL4 submission states on page 15 that it agrees with NE's conclusions and agrees that a seasonal restriction is needed to reduce population impacts on the Banks Herring population.** **a) What is Cefas's advice on the timing of a potential seasonal restriction for piling in the array areas to reduce the potential impacts on herring and sandeel?** Seasonal restrictions for piling in the DBS OWFs array areas are not applicable with respect to sandeel as sandeels lack the specialised hearing apparatus (i.e., they do not have a gas bladder attached to their hearing structures) which makes them sensitive to Underwater Noise (UWN).	The Applicants welcomes the MMO's comment.
REP8-048: 4.7.2	With respect to herring in the context of this question, the MMO has highlighted multiple times that the range of impact for behavioural responses overlaps a significant area of herring spawning ground. The MMO original requested a restriction on piling activities during the herring spawning season was made to cover the *whole* of the herring spawning period, which is widely published as being 1 August – 31 October, inclusive (Coull *et al.*, 1998; Ellis *et al.*, 2012). On the basis of the evidence provided in the ES, it was requested for this whole herring spawning period to be covered by the piling restriction as this allows time for herring to migrate into and gather over the spawning ground, spawn and then disperse, accounting for herring which arrive and spawn both earlier and later than the 'peak' of spawning.	Wording presented within the noise restriction (Condition 30, Schedules 10 & 11 and Condition 27, Schedules 12 & 13) provided on a without prejudice basis in the **Draft DCO (Revision 12)** [document reference 3.1] indicates the Applicant intends to apply piling restrictions to the whole herring spawning period (1st August – 31st October inclusive). The Applicants do not propose the modification of this time period should this condition be imposed.
REP8-048: 4.7.3	Although the Applicant provided a back-calculation for the 'peak' of herring spawning in Section 3 above, it should be noted that the calculations provided related *entirely* to the data associated with the areas of the herring spawning ground which overlie the DBS OWFs ECC. Due to the analyses being constrained to the ECC area only, this back calculation is not applicable to the recommended restriction on piling activities. The Applicants have not yet provided a back-calculation for the 'peak' of herring spawning in the context of piling activities as this would require the Applicants to consider data for a wider area of the herring spawning grounds rather than the area only underlying the ECC.	The Applicant does not intend to use the back-calculated dates in reference to underwater noise impacts. Wording presented within the noise restriction (Condition 30, Schedules 10 & 11 and Condition 27, Schedules 12 & 13) in the **Draft DCO (Revision 12)** [document reference 3.1] indicates the Applicant intends to apply piling restrictions to the whole herring spawning period (1st August – 31st October inclusive).

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REP8-048: 4.7.4	The MMO understands that the outstanding issues relating to UWN impacts to herring from piling activities within the DBS OWF array areas has now been paused, to be resolved in the post-consent period due to the lack of time remaining to fully resolve this. It was outlined that the draft DML will carry a licence condition prohibiting piling activities across the whole of the DBS OWF array areas for the duration of the herring spawning period (defined as 1 August – 31 October, inclusive). This is reflected in condition 27, however as set out in Section 3 above there may be some minor amendments to this condition based on disagreements with the documents mentioned within this condition.	The context of this comment is unclear in combination with REP8-048: 4.7.2 – REP8-048: 4.7.3., which do not appear to acknowledge the use of the full herring spawning period in reference to any potential piling restrictions.
REP8-048: 4.7.5	**b) Please update the examination on the latest discussions with the applicants regarding any seasonal piling restrictions if discussions have taken place since ISH5 and DL4 submissions.** The MMO notes that the Applicants provided further evidence in REP7-148 which included additional modelling for alternative piling locations at DBS East: south location (no change) and DBS West: south-west location (remodelled location). In addition, the revised modelling also presented the predicted impact ranges for piling at the alternative locations when using noise abatement systems (NAS) which equate to a 10 dB noise reduction.	No response is required.
REP8-048: 4.7.6	In short, the modelling presented was positive and the Applicant has provided a figure (Figure 3.1) which presented the UWN impact range noise contours associated with monopiling at the DBS West north location, and the DBS East south location, with and without a 10 dB reduction. Figure 3.1 showed the UWN impact ranges for all physiological effects (Temporary Threshold Shifts (TTS), recoverable injury, mortality) to be greatly reduced when a 10 dB noise reduction was applied, as well as showing the impact range for behavioural effects to be similarly reduced with a 10 dB noise reduction. The UWN contour depicting the range of behavioural effects based on the 135 dB SEL single strike (ss) threshold, when modelled with a 10 dB noise reduction, showed that the noise contour no longer overlapped with areas of the herring spawning ground which have the highest confidence scores, however there is still some overlap with areas of the herring spawning ground which have a confidence score of 0.04 – 0.8, which the MMO considers still represents medium-high confidence for potential herring spawning habitat. Nonetheless, this modelling was encouraging.	Please note that herring heat mapping using the Kyle-Henney *et al.* (2024) with revised colour scales to better indicate regions of ≤0.05 herring spawning potential is presented within the **'Without Prejudice' Herring Spawning Plan (Revision 2)** [document reference 17.8] and indicates that these regions are limited to the shoreward region with the exception of a small number of small discrete areas.
REP8-048: 4.7.7	The Applicants have not explicitly made a formal commitment to implement mitigation measures to achieve a 10 dB noise reduction. Therefore, this modelling can only be considered an indication of what noise reduction *might* be possible and is not sufficient to remove the recommended temporal restriction on piling and Unexploded Ordnance (UXO) detonation activities. If the Applicants make a clear and definite commitment to implement mitigation measures which achieve a minimum 10 dB noise reduction, then there is potential (based on the modelling assessed in REP7-148 which illustrates a 10 dB noise reduction) that a temporal restriction on piling activities may not be required. However, the Applicants should be clear on their choice of noise abatement systems and what the minimum achievable noise reduction level is for each system based on the site-specific conditions of the DBS OWFs project site. The MMO notes this may not be possible util post consent.	The Applicants determined that following initial discussions on 15th May 2025 and the further meeting between the Applicants, and the MMO and Cefas on 6th June 2025, that the approach proposed within the noise restriction (Condition 30, Schedules 10 & 11 and Condition 27, Schedules 12 & 13) in the **Draft DCO (Revision 12)** [document reference 3.1] was acceptable noting that this relates to restrictions across the whole herring spawning period (1st August – 31st October inclusive). During this meeting the MMO provided positive indications that zoning was a possibility but that this may result in spatial restrictions (noting that this does not apply to restrictions on UXO, which would be considered under a separate licence application as required). This noise restriction hopes to meet these criteria, with modelling indicating that a lack of underwater noise mitigation will result in significant spatial restriction on piling activity during the herring spawning season. The MMO appears to agree with the wording used within the noise restriction within REP8-048: 2.3.3. Similar positive comments have been received from Natural England within AS-184: 3 of **Table 2-8**. It must be noted that both parties agreed the wording via email on the 24th and 25th of June, respectively. If MMO were seeking a 10 dB noise restriction, then the Applicants would query why they have agreed the without prejudice wording included in Conditions 30 of

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		DMLs 1 and 2. Wording relating to a 10dB reduction in noise impacts would have been drafted very differently and in any event, is unlikely to have been agreed to by the Applicants.
REP8-048: 4.7.8	Until such a commitment is made and the required supporting evidence is provided, I must maintain that it is necessary to request a temporal restriction on all piling and UXO clearance activities during the Banks herring spawning season (1 August – 31 October inclusive). This is reflected in condition 27, however as set out in Section 3 above there may be some minor amendments to this condition based on disagreements with the documents mentioned within this condition.	The context of this comment is unclear in combination with REP8-048:4.7.2 – REP8-048: 4.7.3., which do not appear to acknowledge the use of the full herring spawning period in reference to any potential piling restrictions.
REP8-048: 4.7.9	**c) During ISH5 the ExA suggested [EV10-006] the applicant, the MMO and the Applicant have reviewed this condition and the Applicants proposed a general restriction condition that could be refined post consent. Condition 27 has largely been agreed apart from minor amendments potentially being required which will be agreed for Deadline 9.** The ExA should note that the context of the Rampion 2 project application is considerably different to the current DBS OWF project. In the later stages of the examination process, the Rampion 2 project began exploring a piling zoning plan in order to spatially refine the restrictions placed on piling works with respect to nesting black seabream within the Kingmere Marine Conservation Zone.	No response is required.
REP8-048: 4.7.10	Nonetheless, *if* the Applicants wishes to explore the possibility of implementing a zoning plan in order to spatially refine the restriction on DBS piling activities, then this is something which could be supported. However, both the ExA and the Applicants should understand that this is a resource-heavy approach which requires the Applicants to know their finalised project parameters, provide multiple rounds of additional modelling based on different zoning proposals, and incorporate noise abatement and noise mitigation plans. This is not possible with the time remaining in the Examination for the DBS OWFs and if this is something which the Applicants choose to pursue then it should be done post-consent and with early engagement from the MMO, Cefas Fisheries Advisors and Natural England.	Following an initial meeting on 15th May 2025, the Applicants determined in a follow up meeting between the Applicants, and the MMO and Cefas on 6th June 2025, that the approach proposed within the noise restriction (Condition 30, Schedules 10 & 11 and Condition 27, Schedules 12 & 13) in the **Draft DCO (Revision 12)** [document reference 3.1] was acceptable, noting that this relates to restrictions across the whole herring spawning period (1st August – 31st October inclusive). During this meeting the MMO provided positive indications that zoning was a possibility but that this may result in spatial restrictions. This noise restriction hopes to meet these criteria, with modelling indicating that a lack of underwater noise mitigation will result in significant spatial restriction on piling activity during the herring spawning season. The MMO appears to agree with the wording used within the noise restriction within REP8-048: 2.3.3. Similar positive comments have been received from Natural England within AS-184: 3 of **Table 2-8**. It must be noted that both parties agreed the wording via email on the 24th and 25th of June, respectively. The Applicants would indicate that a zoning approach would be suitable and would welcome further engagement with the MMO on this matter following Examination.
REP8-048: 4.8.1	**4.8 FSE 2.12 Potential effects on sandeel and herring populations** **The ExA would welcome a brief, high level summary of the MMO's, NE's and the applicants' latest positions on the following issues including positions on whether proposed mitigation from the applicants is adequate. Cross references to other documentation submitted into the examination which give the detail would also be helpful.** **a) Potential impacts on fish from underwater noise from piling in the array areas for: i) Herring ii) Sandeel** i) Herring	No response is required.

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	4.8.1 Herring has a swim bladder that is involved in hearing, i.e. they have a functional physical connection between the swim bladder and the inner ear. They detect sound through sound pressure and particle motion and their hearing capabilities are greater than other fishes that either do not possess a swim bladder or have a swim bladder that is not involved in hearing. This makes herring (and other clupeids) particularly vulnerable to the impacts of underwater noise (UWN), especially impulsive noise (i.e. percussive piling) and explosions, such as clearance of unexploded ordnance (UXO). Herring are also benthic spawners which rely on gravel and coarse sediment substates on which to lay their eggs. This makes them particularly vulnerable to habitat disturbance during their spawning season (Banks herring spawning season = August to October, inclusive).	
REP8-048: 4.8.2	The nearest herring spawning ground is to the east of the DBS arrays off Flamborough Head. UWN modelling for piling at the DBS arrays shows that the range of impact for temporary threshold shift (TTS) (an auditory injury) overlaps the area of the herring spawning ground off Flamborough Head in areas of 'high' to 'medium' spawning potential habitat. The range of impact for behavioural responses in herring is shown in the modelling to overlap a much larger portion of the herring spawning ground covering areas of 'high' and 'high' to 'medium' spawning potential habitat.	The Applicants note that the MMO's response is incorrect, the nearest spawning ground is to the **west** of the Projects' Array Areas, off Flamborough Head; not to the east. It should also be noted that the use of 'high' and 'medium' categories of potential spawning habitat is reflective of outdated guidance from Reach *et al.* (2013). Numerical values from the revised Kyle-Henney *et al.* (2024) methodology should be used in reference to potential spawning habitat for Atlantic herring. It should be noted that the contours referred to within this comment are unmitigated, and that contours associated with a potential 10dB reduction as a result of potential underwater noise mitigation are presented within Figure 2.3 of the **Modelling of underwater noise associated with alternative piling locations to inform potential impacts on Atlantic herring spawning grounds** [REP5-042].
REP8-048: 4.8.3	In summary, herring will be vulnerable to TTS in a small portion of the spawning ground, and vulnerable to behavioural responses across a large area of the spawning ground (see Figure 1). Given that herring are substrate-specific spawners we have concerns that UWN from piling may cause behavioural disturbance which may cause fish to avoid their spawning ground due to noise disturbance. Given their reliance on specific seabed substrates, if herring react to the noise disturbance caused by piling by moving away from the spawning ground, then there is potential for spawning failure to occur.	The Applicant ascertains that herring will be exposed to underwater noise levels of up to 135dB within the spawning ground based on the modelled worst-case assessment, but that this does not equate to any known behavioural response thresholds for this species as first outlined in the Underwater Noise Memo presented within Appendix B of **The Applicants Response to Deadline 2 Documents** [REP3-028]. Further, there is no robust evidence of a likely significant effect being caused to herring or their spawning activities at this level of noise exposure.
REP8-048: 4.8.4	There is also a further risk, that piling noise may disturb herring migrating through the North Sea from north to south to reach their spawning grounds. Within Figure 1, the Applicant has also presented modelled noise contours based on the use noise abatement systems (NAS) such as hammer cushions and bubble curtains. However, the Applicants have not made a commitment to using NAS, and thus the risk to herring at the spawning ground remains and the MMO maintains that a restriction on piling should be conditioned on the DML from 1 August to 31 October, inclusive).	The Applicants determined that following the meeting between the Applicant, and the MMO and Cefas on 6th June 2025, that the approach proposed within the noise restriction (Condition 30, Schedules 10 & 11 and Condition 27, Schedules 12 & 13) in the **Draft DCO (Revision 12)** [document reference 3.1] was acceptable noting that this relates to restrictions across the whole herring spawning period (1st August – 31st October inclusive). During this meeting the MMO provided positive indications that zoning was a possibility but that this may result in spatial restrictions. This noise restriction hopes to meet these criteria, with modelling indicating that a lack of underwater noise mitigation will result in significant spatial restriction on piling activity during the herring spawning season. The MMO appears to agree with the wording used within the noise restriction within REP8-048: 2.3.3. Similar positive comments have been received from Natural England within AS-184: 3 of **Table 2-8**. It must be noted that both parties agreed the wording via email on the 24th and 25th of June, respectively.

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	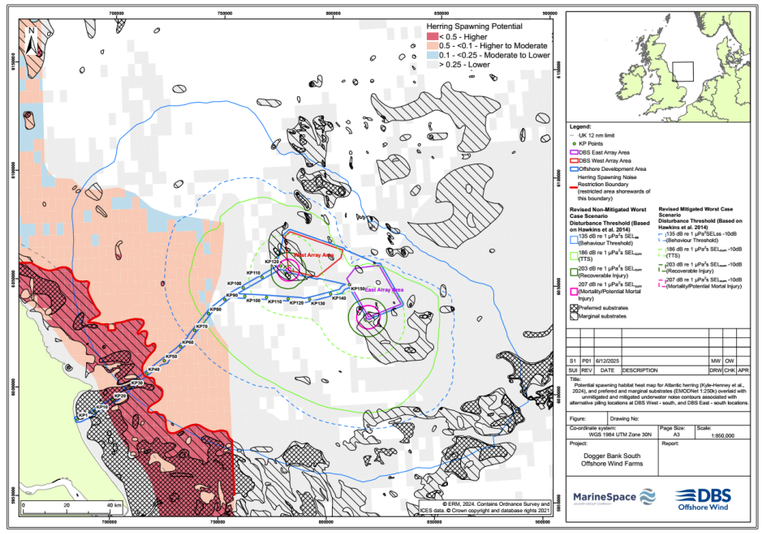 **Figure 1: UWN modelling in relation to the herring spawning ground off Flamborough Head. Showing unmitigated and mitigated noise contours (ERM 2024).**	
REP8-048: 4.8.5	<u>ii) Sandeel</u> Sandeel do not possess a swim bladder, so detect sound through particle motion. They are less considered less vulnerable to barotrauma, although some barotrauma can result from exposure to sound pressure. Sandeel have high site fidelity, and a close affiliation with the seabed. Their preferred habitat consists of sand and slightly gravelly sand substrates. They burrow into the substrate and undertake a hibernation period between November and February (inclusive), during which they also spawn laying batches of eggs which are attached to the seabed. Given the specific sediment preferences of sandeel, and their close affinity with the seabed throughout their lifecycle, sandeel are vulnerable to disturbance arising from offshore construction activities such as dredging and piling which cause physical disturbance to their sandeel habitat.	No response is required.
REP8-048: 4.8.6	The UWN modelling presented in the Applicant's Heat Mapping Report: Atlantic Herring and Sandeel (RWE Nov 2024) shows the noise contours for the range of effect for mortality and potential mortal injury, recoverable injury and TTS in sandeel (see Figure 2). As can be seen from Figure 2, the ranges of effect for mortality and potential mortal injury, recoverable injury are small in the context of the wider available habitat. However, it should be recognised that the UWN modelling represents one modelled pile in each array area, whereas in reality, these impact ranges will occur at all sites where piling of foundations takes place, across each array. The heat map of sandeel habitat suitability in Figure 2 indicates that pockets of the array areas have 'very high' levels of confidence as sandeel habitat (denoted by orange colours), with the wider area being 'high' and 'medium' confidence as sandeel habitat. The impact range for TTS encompasses	The Applicants are in agreement that piling impacts will occur at each piling location, rather than at just those locations where modelling has been undertaken. It should be clarified that Figure 2 referenced in this comment related to Figure 3.1 of the **Heat Mapping Report: Atlantic Herring and Sandeel** [AS-105]. The modelling undertaken to date represents the greatest area of potential impact associated with any two piles being installed simultaneously. It should be noted that the use of 'very high', 'high', 'medium', and 'low' potential categories is not relevant to the assessment of potential supporting habitat for sandeel, as numerical values should be used in reference to potential supporting habitat using the Reach et al. (2024) methodology. The impact range for TTS in Figure 2 (Figure 3.1 of the **Heat Mapping Report: Atlantic Herring and Sandeel** [AS-105]) therefore overlaps with the full range of lower to

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	a much wider area of the sandeel habitat, so extends across the 'very high', 'high', 'medium' and 'low' confidence areas.	higher potential supporting habitat for sandeel, with the majority of area being classified as moderate to higher potential. The orange areas on the figure are denoted as the highest confidence potential supporting habitat are records of sandeel presence within the OneBenthic database.
REP8-048: 4.8.7	Given that much of the DBS array areas is considered to an important sandeel habitat, it cannot be discounted that we can expect to see mortality and potential mortal injury and recoverable injury across the array areas at sites where piling is taking place, hence we can expect the impacts to be localised. The wider reaching effects of TTS occurring across the site are also off concern, and whilst not discounting the vulnerability of sandeel to UWN (and habitat) disturbance during construction of the windfarms, especially during their hibernation and spawning periods, we do not have major concerns that significant impacts to sandeel will occur at a population level as a result of UWN from piling. This is, in part, due to the wider availability of suitable sandeel habitat, and takes into the soft-start procedures on commencement of piling that will allow sandeel to move away from the sound disturbance and avoid auditory injury.	No response is required.
REP8-048: 4.8.8	However, the MMO welcomes that the Applicants will be undertaking post-construction monitoring of sandeel habitat suitability, to determine whether the seabed within the array areas remains suitable for recolonisation. It should be recognised that monitoring of sandeel habitat suitability is just that, i.e. it only considers whether sediments are suitable for sandeel to inhabit but does not actually gather any data on presence/absence or abundance of sandeel.	No response is required.

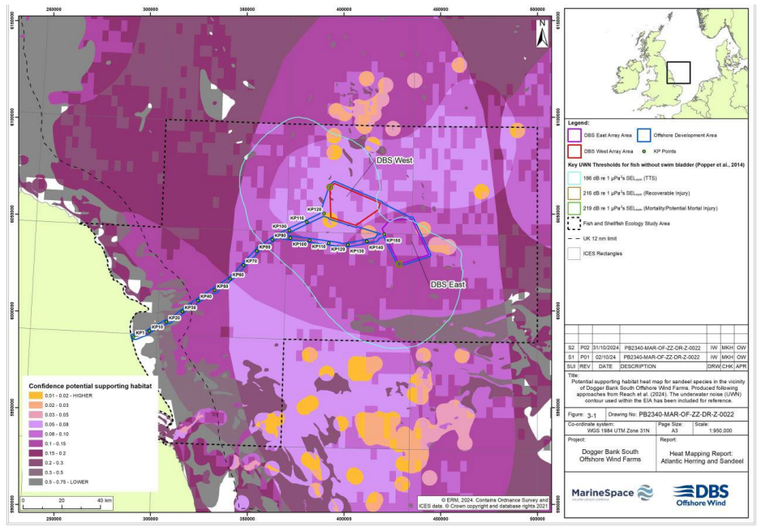


Figure 2. UWN modelling in relation to sandeel habitat and spawning ground and UWN modelling (RWE, November 2024).

I.D.	Marine Management Organisation's Response	Applicants' Response
REP8-048: 4.8.9	**b) Potential impacts on fish from construction activity along the export cable corridor through the Flamborough Head spawning ground for: i) Herring ii) Sandeel** i) Herring 4.8.9 As discussed above, herring are reliant on gravel and coarse sediment substrates on which to lay their eggs. This makes herring vulnerable to habitat disturbance during their spawning season (August to October, inclusive) caused by construction activities associated with cable laying activities, including UXO clearance, sandwave clearance, dredging and disposal of sediments. Disturbance and removal of substrate can affect spawning success in the following ways; • An absence of suitable spawning habitat on which gravid female herring can lay eggs. • Removal of eggs attached to the gravel and larvae developing close to the seabed. Smothering of developing eggs and larvae from the deposition of suspended sediments caused by disturbance to seabed during construction.	No response is required.
REP8-048: 4.8.10	Given their reliance on specific seabed substrates, if the herring spawning habitat off Flamborough Head is disturbed or removed during construction, then there is potential for spawning failure to occur in the area of impact. Whilst this could be considered as a small area of impact, relative to the whole of the spawning ground off Flamborough Head, we have raised concerns that there are multiple cable routes in the planning, consented or construction phases that have cable routes or construction activities which overlap the spawning ground off Flamborough Head e.g. EGL2 (L/2023/00211/1), EGL 3 and EGL 4 (DCO/2024/00009), Hornsea Project Four OWF export cable (DCO/2018/00014) and Dogger Bank A and B (Creyke Beck) OWF export cable (DCO/2013/00010) to name a few. These projects have all been identified as having potential to cause disturbance to herring spawning habitat, (i.e. through sea-bed levelling, cable laying etc), unless they are managed through suitable mitigation measures or appropriate scheduling of works outside the Banks herring spawning season. Hence it is important to look at the cumulative impact of all construction activities affecting the spawning ground as a whole, rather than considering DBS in isolation.	No response is required.
REP8-048: 4.8.11	For this reason, we have recommended a temporal piling restriction on all cable laying activities for the DBS export cable corridor (ECC) during the Banks herring spawning season. We have agreed with the Applicant that the restriction can be spatially refined to the area between kilometre points (KP) KP20 – KP40 where coarse gravel sediments, which are suitable for herring spawning are found. The Applicants also wish to reduce the duration of the temporal element of this restriction to the 'peak' of spawning activity (as opposed to the full spawning season of August to October, inclusive), however, the MMO does not agree with the evidence to support this refinement, and have asked for changes to be made to some of the parameters used by the Applicant in their back-calculation method. For the time being we maintain that the restriction on construction activities between KP20 – KP40 is conditioned on the DML from 1 August to 31 October, inclusive). Further consideration of the back-calculation method and refinement of the temporal condition will be reviewed post-consent.	The evidence presented to the MMO aligns with the evidence used by EGL2 to refine their temporal restriction of EGL2 cable-laying activities to 31 days (31st August – 30th September inclusive). The Applicants therefore believe that the evidence provided to inform the back-calculation is appropriate to sufficiently mitigate risk to Atlantic herring and are disappointed that the MMO has not applied the same approach given the similarities in between the two projects in terms of their potential impact on Atlantic herring spawning and their national socio-economic significance. The MMO's current proposal of 10th August – 30th September is not appropriately evidenced, does not support the consenting decision made on the similar but larger magnitude EGL2 project, and is not proportional to the risk through the use of an over precautionary approach. The Applicants remain open to further engagement in relation to this matter.

<table>
<tr><th>I.D.</th><th>Marine Management Organisation's Response</th><th>Applicants' Response</th></tr>
<tr><td>REP8-048: 4.8.12</td><td>ii) Sandeel

As discussed above, sandeel are highly vulnerable to habitat disturbance due to their close affiliation with the seabed. This is especially the case when habitat removal and disturbance occur during their winter hibernation and spawning months when the sandeel are burrowed in the sediment, and the eggs are on adhered to the sediment. Figure 2 shows the 'heat' map of sandeel habitat suitability for the DBS arrays and the ECC. The 'heat' map indicates that inshore areas of the ECC between KP1 – KP30 are of low confidence as spawning habitat. From KP30 to KP120 (at DBS West array) and KP150 (DBS East array) the 'heat' map confidence scores are a mix of 'medium', 'high' and 'very high', indicating that much of the ECC is suitable as sandeel habitat. However, as can be seen in the 'heat' map, areas of 'medium', 'high' and 'very high' are available across the wider Central North Sea.</td><td>No response is required.</td></tr>
<tr><td>REP8-048: 4.8.13</td><td>The MMO would therefore have to assume that disturbed sandeel may seek alternative habitat available nearby, and that where mortality or injury occurred, there remains a population of sandeel across the wider available habitat. Therefore, the MMO does not have any major concerns that impacts to sandeel at a population level will occur as a result of construction along the ECC.</td><td>The Applicant welcomes the MMO's comment.</td></tr>
<tr><td>REP8-048: 4.8.14</td><td>c) Potential impacts on fish from underwater noise from UXO clearance in the array areas and along the export cable corridor through the Flamborough Head spawning ground for: i) Herring ii) Sandeel

4.8.14 In Chapter 5 of the ES (Project Description) for DBS it states that "A Marine Licence application would be applied for post-consent to allow for the investigation and clearance of any UXO to ensure appropriate". For this reason, the primary focus of our advice so far has been to consider the impacts of all other construction activities in relation to fisheries and fish ecology e.g. UWN from piling, habitat disturbance etc. However, the MMO notes that some UWN modelling to predict the range of effect from UXO in fish was presented in the ES Underwater Noise Modelling Report (Appendix 11-3) which have been presented in Table 1 below.

Table 1. Noise impact ranges for fish from UXO detonations
<table>
<tr><th rowspan="2">of various charge weights Popper et al. (2014) Unweighted SPLRMS</th><th colspan="2">Mortality and potential mortal injury</th></tr>
<tr><th>234 dB</th><th>229 dB</th></tr>
<tr><td>Low yield</td><td>130 m</td><td>210 m</td></tr>
<tr><td>Low order (0.25 kg)</td><td>40 m</td><td>65 m</td></tr>
<tr><td>25 kg + donor</td><td>170 m</td><td>290 m</td></tr>
<tr><td>55 kg + donor</td><td>230 m</td><td>380 m</td></tr>
<tr><td>120 kg + donor</td><td>300 m</td><td>490 m</td></tr>
<tr><td>240 kg + donor</td><td>370 m</td><td>620 m</td></tr>
<tr><td>525 kg + donor</td><td>490 m</td><td>810 m</td></tr>
<tr><td>698 kg + donor</td><td>530 m</td><td>890 m</td></tr>
</table></td><td>No response is required.</td></tr>
</table>

<table>
<tr><th>I.D.</th><th>Marine Management Organisation's Response</th><th>Applicants' Response</th></tr>
<tr><td>REP8-048: 4.8.15</td><td>Please note that in addition to the above impact ranges for mortality and potential mortal injury, we can expect recoverable injury, TTS and behavioural responses to occur over greater distances. The Popper et al. (2014) 'guidelines' for injury thresholds in fish from explosions only provides a quantitative threshold for mortality and potential mortal injury of 229 - 234 dB peak, whereas for the effects of recoverable injury, TTS and behavioural responses, qualitative thresholds are given whereby the relative risk (high, moderate, low) is given for fish at three distances from the source defined in relative terms as near (N) (ten of metres), intermediate (I) (hundreds of metres), and far (F) (thousands of metres). See Table 2 below:

Table 2. Qualitative thresholds for effects in fish from explosions (adapted from Popper et al. 2014)
<table><tr><th>Type of Animal</th><th colspan="3">Impairment</th></tr><tr><th></th><th>Recoverable injury</th><th>TTS</th><th>Behaviour</th></tr><tr><td>Fish: no swim bladder (particle motion detection)</td><td>(N) High
(I) Low
(F) Low</td><td>(N) High
(I) Moderate
(L) Low</td><td>(N) High
(I) Moderate
(F) Low</td></tr><tr><td>Fish where swim bladder is not involved in hearing (particle motion detection)</td><td>(N) High
(I) High
(F) Low</td><td>(N) High
(I) Moderate
(F) Low</td><td>(N) High
(I) High
(F) Low</td></tr><tr><td>Fish where swim bladder is involved in hearing (primarily pressure detection)</td><td>(N) High
(I) High
(F) Low</td><td>(N) High
(I) High
(F) Low</td><td>(N) High
(I) High
(F) Low</td></tr><tr><td>Eggs and larvae</td><td>(N) High
(I) Low
(F) Low</td><td>(N) High
(I) Low
(F) Low</td><td>(N) High
(I) Low
(F) Low</td></tr></table></td><td>No response is required.</td></tr>
<tr><td>REP8-048: 4.8.16</td><td>Please note that the modelled impact ranges have not been mapped over fish habitats or spawning grounds, so the MMO is unable to comment on the extent of impact to sensitive fish receptors. However, noting that a separate marine licence will be applied for to allow for the investigation and clearance of any UXO, the MMO recognises that the locations of potential UXOs are not yet known, and therefore it is not possible to model site-specific UXO clearance activities in relation to fish habitats. With this in mind, it is not appropriate to request any mitigation or licence conditions pertaining to UXO clearance activities as they are not relevant to the DML in question and suitable site-specific UWN modelling has been presented for review.</td><td>No response is required.</td></tr>
<tr><td>REP8-048: 4.8.17</td><td>d) Potential effects on fish spawning areas from benthic ecological halo effects associated with above ground structures including cable protection installed on the seabed for: i) Herring ii) Sandeel

<u>i & ii Herring / Sandeel</u>

Benthic ecological halos caused by habitat modification can result in changes to the existing / baseline seabed habitat such as changes in the composition of benthic infauna/epifauna communities and changes to sediment characteristics. When a habitat is modified it may either become more suitable for certain benthic infaunal and/or epifaunal species, creating an attraction around the modified area, or it could make the area less suited to the species, causing them to move elsewhere to more favourable habitat. Changes in benthic communities which provide prey</td><td>No response is required.</td></tr>
</table>

I.D.	Marine Management Organisation's Response	Applicants' Response
	species for fish can therefore influence the suitability of the affected area for fish communities, again either through attraction to the prey or through avoidance by seeking prey elsewhere.	
REP8-048: 4.8.18	The MMO can also assume that changes to both benthic and fish communities may result in either an increase or decrease in the predation of fish eggs or larvae, in areas where benthic ecological halos occur in demersal spawning grounds, depending on the species that move in/out of the affected area. Given that sandeel are entirely demersal and have a close affiliation with the seabed, we might expect that they will come under increased pressure, either from predation, depending on how the community changes, or from changes to the species it preys upon. Herring are primarily a pelagic species, so only require gravel and coarse sediment substrates during their spawning seasons, thus, assuming that the sediment remains suitable for herring to spawn on, the primary concerns regarding changes to benthic and fish communities as a result of a halo effect would be the predation of eggs and larvae.	No response is required.
REP8-048: 4.8.19	Changes in sediment characteristics can be caused by changes to the component sediment fractions, removal of the sediments, scouring of sediment, or placement of objects (e.g. cable protection, turbine foundations etc). Such changes can make the seabed sediments become more or less suitable as habitat / spawning habitat for demersal species such as sandeel and herring. In the context of herring, if the sediments become too fine, e.g. too sandy/silty/muddy, then the habitat will not be suitable to lay eggs on. In the context of sandeel, if the sediments become too coarse (e.g. gravel) or too fine (e.g. silt/mud) then they will become unsuitable as sandeel habitat and unsuitable for spawning. The placement of infrastructure on the seabed such as turbine foundations and cable protection results in long-term habitat loss, or permanent habitat loss, if the infrastructure is not removed at the end of the project's lifetime. Placement of infrastructure in areas of herring spawning habitat and sandeel habitat results in areas of habitat becoming unavailable, the scale of impact for a particular species will depend upon the total area of the habitat that is affected compared to the wider available habitat that is suitable.	No response is required.
REP8-048: 4.8.20	Ideally, modification of seabed habitat for species such a herring and sandeel that rely on specific substrates for part or all of their life stages should be minimised as much as possible through appropriate design measures such as; limiting the footprint of wind turbine foundations and offshore platforms (where possible), the burial of cables wherever possible (subject to local geology and crossing of existing infrastructure), where cable protection is required (e.g. at crossing with other assets), the footprint of cable protection placed on the seabed should be minimised as far as is practicable and safe. The MMO has not requested any mitigation measures pertaining to benthic halo effects on sandeel or herring but expect the Applicants to follow best-practice measures in minimising the footprint of the OWF's infrastructure.	Commitment CO92 of the **Commitments Register (Revision 4)** [document reference 8.6] states: *Following industry best-practice the Applicants will seek to minimise the use of scour protection and external cable protection for any stretches of unburied cables and cable crossings. This is presented in two Cable Burial Risk Assessments and secured in Cable Protection Plans, produced in line with the detail outlined in **Volume 8, Cable Statement (application ref: 8.20)** that has been submitted with the DCO application, and which will be updated in accordance with Conditions attached to the Deemed Marine Licences (DMLs) in **Volume 3, Draft DCO (application ref: 3.1**).* *In addition, the Applicants will seek to minimise the use of foundation scour protection. This is presented in **Volume 8, Outline Scour Protection Plan (application ref: 8.27)** that has been submitted with the DCO application, and which will be updated in accordance with Conditions attached to the DMLs in **Volume 3, Draft DCO (application ref: 3.1)**.* In addition, through the pre-application and Examination process the Applicants have reduced the number of Offshore Platforms for the Projects from eleven to three. As such, the Applicants have demonstrated a clear commitment to minimising the footprint of the Projects' infrastructure where practicable.

I.D.	Marine Management Organisation's Response	Applicants' Response
REP8-048: 4.8.21	**e) Potential effects on fish spawning areas from EMF effects and the localised heating of sediment within the array areas and along the export cable corridor for: i) Herring ii) Sandeel** It should be noted that the sensitivity of marine fish larvae to magnetic fields varies with species. As juveniles and adults, sandeels live in association with specific areas of the sea bottom, where they spend most of their time buried in the sediment (Wright *et al.*, 2000), occasionally forming schools that rise up into the water column to feed (Johnsen *et al.*, 2017) or spawn (Bergstad *et al.*, 2001; Gauld and Hutcheon, 1990). With respect to electromagnetic fields (EMF) produced by OWF export cables, it is difficult to replicate the exact conditions produced by either active HVDC or HVAC cable infrastructure without carrying out field investigations. However, recent laboratory investigations which exposed sandeel larvae to EMFs produced by direct currents suggested that sandeel larvae would not be attracted to or repelled from HVDC subsea cables associated with OWFs as the EMFs did not affect the spatial distribution or the swimming behaviour of sandeel larvae (Cresci *et al.*, 2022).	No response is required.
REP8-048: 4.8.22	In addition, current scientific understanding generally accepts that adult sandeel do not possess the type of specialised sensory organ which would create a sensitivity to EMF emissions. For example, elasmobranchs are considered the most sensitive fish receptor group to EMF effects, because they possess electrosensitive sensory organs, such as the Ampullae of Lorenzini, used for navigation and prey species detection. While adult sandeel are not believed to possess such sensory structures within their physical anatomy, it is possible that EMF emissions have potential to influence other aspects of sandeel ecology, for example behavioural responses to external stimuli which increases the risk of predation or effects on the motility of spermatozoa which may have consequences for sandeel egg fertilisation (Formicki et al., 2019). However, quantitative studies of impacts to sandeel specifically in the context of EMF are lacking and therefore no definitive impact pathway can be concluded.	No response is required.
REP8-048: 4.8.23	With respect to the effects of sediment heating due to the presence of export cables beneath the sediment, sandeel species burrow to depths of between 20cm to of 50cm depending on sediment type (Holland *et al.*, 2005 and Rowley, 2008), so there is potential for sandeels to be exposed to the effects of thermal heating in the sediment layers they inhabit. This question can only really be answered broadly as the effect on sandeel from sediment heating will be dependent on the temperatures associated with the cable infrastructure. For example, small fluctuations in sediment temperature may be within the sandeels tolerable range, however greater sediment temperature fluctuations may potentially warm the near-seabed water and reduce oxygen availability for respiration (Behrens et al., 2009). Again, this highlights a gap in our understanding of the possible likelihood and significance of sediment heating as an impact pathway for sandeel.	No response is required.
REP8-048: 4.8.24	Herring are a pelagic species and so it is considered that adult herring will generally exist outside of the range of impact of possible EMF emissions (i.e.., they will spend the majority of their lives in the water column rather than on the sediment). In this sense, the impacts of EMF and sediment heating on herring are more relevant to the eggs and larvae which are demersal. There is limited research which indicates that increased water temperatures may affect the mitochondrial function of embryos, as well as the proportion of eggs able to hatch, the size of larvae at the point of hatching and the subsequent survivability of the larvae (Leo *et al.*, 2018). Observed effects have	No response is required.

I.D.	Marine Management Organisation's Response	Applicants' Response
	indicated that temperature plays a role in shaping embryonic mitochondrial respiration, with subsequent effects on embryonic respiration and body length at hatching (Peck *et al.*, 2012).	
REP8-048: 4.8.25	That being said, it should be noted that these studies have been conducted primarily to investigate herring eggs and larval development under different climate change-related scenarios and so the effects observed must be considered with caution. In the context of impacts associated with OWF export cables, the key impact pathways with respect to herring eggs and larvae remain the risk of direct damage, smothering and prevention of oxygenation, all pathway which have the potential to result in herring egg and larvae mortality.	No response is required.
REP8-048: 4.8.26	Although significant gaps in our understanding of the effects of EMF and sediment heating on both the egg and larval and adult life stages of herring and sandeel specifically remain, the MMO does not consider that herring or sandeel are notably receptive or sensitive to EMF emissions or sediment heating effects. The MMO would not consider the presence of EMFs to be a significant cause of concern for herring and sandeel spawning areas.	No response is required.
REP8-048: 4.8.27	**f) Potential cumulative effects from the proposed development in combination with other planned projects on: i) Herring ii) Sandeel** It is somewhat unclear what information the ExA is seeking to obtain through this question. The importance of examining impacts to herring and sandeel habitat suitability has been outlined throughout the consultation and examination process, as well as being touched within this representation.	No response is required.
REP8-048: 4.8.28	**g) Potential long term or permanent effects if cable protection was not removed from the export cable corridor post decommissioning within areas of high - very high potential spawning habitat for: i) Herring ii) Sandeel** The initial thoughts on this are that cable protection should not be being laid through areas of high – very high potential herring spawning habitat as the key aspect of protecting herring spawning habitat is ensuring that the quality, integrity and distribution of available spawning habitat is maintained. This is something which should be being managed above the individual project level as individual project impact assessments cannot fully capture the extent of damaging being done to the spawning ground across the multiple projects from the various industries being permitted to carry out activities within the spawning ground (i.e., OWF development, but also aggregate extraction, other cable laying works, commercial bottom trawl fisheries etc.,).	No response is required.
REP8-048: 4.8.29	With respect to the issues posed by cable protection being left permanently in situ post-decommissioning, this is dependent upon the type of cable protection as the type of cable protection will affect the residual impacts. For example, boulder protection (i.e., piles of rock boulders laid along the cable length to prevent cable exposure or snagging) structurally changes and fragments the available habitat. The presence of a large rock wall prevents the free movement of species from one area of the array to the other. This has ramifications for species migrations (through the presence of new obstacles), feeding opportunities (through fish community change) and potentially reproductive success (physical loss of spawning habitat). In	The Applicants note that in reality, any cable protection measures would likely span over short stretches as opposed to a single continuous length, and being at most 1.4m in height, would not represent a '*large rock wall*' blocking species movement as fish would be able to swim over and around any structures that might be installed.

I.D.	Marine Management Organisation's Response	Applicants' Response
	comparison, mattress-form cable protection also has the potential to change habitat through changing sediment deposition characteristics, whereby larger or smaller fractions of sediment being transported by natural processes will become caught in the mattress. This may result in benthic community change which may influence feeding opportunities for fish, which could in turn change the assemblage of the fish community present in the area. There are some excellent published literatures reviews which examine the range of effects associated with habitat changes due to OWF (Bat *et al.*, 2013; Van Hal *et al.,* 2017; Hogan *et al.,* 2023, for example).	
REP8-048: 4.8.30	Whilst the MMO is fortunate to have a standardised methodology for determining areas of seabed with the greatest value to herring and sandeel as spawning habitat during the impact assessment process (Kyle-Henny *et al.,* 2024, Reach *et al.*, 2024), there is no standardised pre- or post-construction monitoring scheme in place to allow for wide scale, harmonized monitoring of effects from OWF on the herring spawning grounds and areas of sandeel habitat. It is therefore difficult to use the current sporadically implemented pre- and post-construction monitoring carried out by individual OWF projects to really quantify what effect OWF expansion is having on herring spawning habitat and sandeel habitat quality and availability over an ecologically meaningful scale (i.e., at the regional or national level). This information is necessary in monitoring changes to herring spawning habitat and sandeel habitat in a wider and more long-term context and is essential inbuilding our collective understanding of what the impact from OWF developments is and what the actual recoverability of spawning habitat is. This is for a wider discussion within regulators and industries and does not believe this can be answered within this Examination.	No response is required.

2.3 Ministry of Defence (MOD)

Table 2-3 – The Applicants' Response to the MOD's Deadline 8 Document [REP8-047]

I.D.	MOD Response	Applicants' Response
REP8-047: 1	**Application by RWE Renewables UK Dogger Bank South (West) Ltd and RWE Renewables UK Dogger Bank South (East) Ltd for an Order Granting Development Consent for the Dogger Bank South Offshore Wind Farms** I write to provide an update on the MOD position with regard to the above application. In response to consultation, the MOD originally objected to the proposed development on the basis that review of the proposals has identified that a significant and detrimental impact on the effective operation and capability of air defence radar systems sited/deployed at Remote Radar Head (RRH) Staxton Wold. The MOD has also identified that the development, during either or both the implementation and operational phases, has the potential to introduce physical obstacles to low flying aircraft. Through a subsequent letter, dated 7 April 2025, the MOD withdrew that objection subject to a requirement designed to secure appropriate mitigation. Specific requirement wording was provided in an annex to that letter. Following discussions and further work with the applicant, the MOD has amended the proposed requirement wording to make clear that it would apply to a specific part of the development, the Dogger Bank South, DBS West Project, Offshore works as defined in the draft Development Consent Order (Revision 10) at Schedule 1, Part 1 as Work No.1B(a). The updated wording is provided at Annex A.	The Applicants note that the MOD's preferred Requirement wording was included in the **Draft Development Consent Order (DCO) (Revision 11)** [REP8-003] submitted at Deadline 8. The Applicants now consider matters pertaining to the impacts of the Projects on military radars to be resolved.
REP8-047: 2	**Military Low Flying – Lighting and Charting.** As set out in previous representations, the introduction of physical obstructions in the low flying system would normally be mitigated by requirements/conditions that require the submission, approval and implementation of an aviation lighting scheme, and that sufficient data is submitted to ensure that structures can be accurately charted to allow deconfliction. The applicant has recognised the need for these conditions, and has set out provisions within the submitted draft Development Consent Order (Revision 10, dated June 2025) at: • Schedule 10, Deemed Marine Licence 1: DBS East Project Offshore Generation – Work Nos. 1A, 4A and 7A, Part 2, Condition 12; • Schedule 11, Deemed Marine Licence 2: DBS West Project Offshore Generation – Work No. 1B, 4B and 7B, Part 2, Condition 12; • Schedule 12, Deemed Marine Licence 3: DBS East Project Offshore Transmission – Work Nos. 2A, 3A, 7A and 8A, Part 2, Condition 10; • Schedule 13, Deemed Marine Licence 4: DBS West Project Offshore Transmission – Work Nos. 2B, 3B, 7B and 8B, Part 2, Condition 10; and • Schedule 14, Deemed Marine Licence 5: DBS East Project and DBS West Project Offshore Transmission – Work Nos. 5A, 5B, 7A and 7B, Part 2, Condition 8.	The Applicants welcome MOD's agreement in this regard.

I.D.	MOD Response	Applicants' Response
	Subject to these conditions being applied through any Development Consent Order that might be made, the MOD is content that the potential for the development to degrade aviation safety for aircraft operating at low level within the locality of the proposed Dogger Bank South Offshore Wind Farms would be mitigated.	
REP8-047: 3	**Conclusion.** In summary, subject to the Requirement wording set out at Annex A of this letter being added to any Development Consent Order that might be made, and the retention of the conditions identified above and set out in the applicant's draft Development Consent Order, the MOD has no objection to this development. I trust this adequately explains our position on this matter. Please do not hesitate to contact me should you require any additional information, or should you wish to discuss matters.	The Applicants note that the MOD's preferred Requirement wording was included in the **Draft DCO (Revision 11)** [REP8-003] submitted at Deadline 8. The Applicants now consider matters pertaining to the impacts of the Projects on military radars to be resolved and welcome that the MOD has no objection to the Projects subject to the Secretary of State retaining the wording as currently included in the Draft DCO.
REP8-047: 4	**Annex A** **Ministry of Defence Surveillance Operations.** 1) No wind turbine generator forming part of Work No. 1B is permitted to rotate its rotor blades on its horizontal axis until the Secretary of State, having consulted with the Ministry of Defence, confirms satisfaction in writing that appropriate mitigation will be implemented and maintained for the life of the DBS West Project Offshore works and that arrangements have been put in place with the Ministry of Defence to ensure that the approved mitigation is implemented. 2) For the purposes of this requirement— a) "appropriate mitigation" means measures to prevent or remove any adverse effects which the DBS West Project Offshore works will have on the air defence radar(s) at Remote Radar Head (RRH) Staxton Wold, and the Ministry of Defence's air surveillance and control operations; b) "approved mitigation" means the detailed Radar Mitigation Scheme (RMS) that will set out the appropriate measures and timescales for implementation as agreed with the Ministry of Defence at the time the Secretary of State confirms satisfaction in writing in accordance with paragraph (1); and c) "Ministry of Defence" means the Ministry of Defence as represented by Defence Infrastructure Organisation – Safeguarding, St George's House, DIO Head Office, DMS Whittington, Lichfield, Staffordshire, WS14 9PY or any successor body. 3) The undertaker must thereafter comply with all other obligations contained within the approved mitigation for the life of the DBS West Project Offshore works.	The Applicants note that the MOD's preferred Requirement wording was included in the **Draft DCO (Revision 11)** [REP8-003] submitted at Deadline 8. The Applicants now consider matters pertaining to the impacts of the Projects on military radars to be resolved.

2.4 Natural England – Cover Letter

Table 2-4 – The Applicants' Response to Natural England's Deadline 8 Cover Letter [REP8-051]

I.D.	Natural England's Response	Applicants' Response
REP8-051: 1	**Natural England's Deadline 8 Submissions** Natural England has reviewed the documents submitted by the Applicant at Deadline 8. An update of Natural England's position regarding documents relevant to our remit is provided in Annex 1, including anticipated timing of responses. Natural England is also submitting the following detailed responses, signposted from Annex 1: • EN010125 517371 DBS – Natural England's Risk and Issues Log Deadline 8 • EN010125 517371 DBS Appendix B8 - Natural England's End of Examination Position for Marine Processes and Benthic Ecology • EN010125 517371 DBS Appendix E8 - Natural England's End of Examination Position on Fish and Shellfish Deadline 8 (to be submitted on 4th July 2025) • EN010125 517371 DBS Appendix G8 - Natural England's End of Examination Position on Offshore Ornithology Deadline 8 • EN010125 517371 DBS Appendix H8 - Natural England's End of Examination Position on Offshore Ornithology Compensation Deadline 8 EN010125 517371 DBS Appendix - P8 Natural England's Comments on Environmental Statement Conclusions (from Rule 17 letter dated 19 June 2025)	No response is required.
REP8-051: 2	**Natural England's Approach to Final Deadlines** Due to the volume of updated documents submitted by the Applicant at Deadline 7, and limited time between Deadlines 7, 8 and 9, Natural England has deferred comments on some of the Applicant's submissions until Deadline 9. For Deadline 8, we have prioritised provision of our Closing Statements (listed in Section 1) and outstanding comments on the Rule 17 letter dated 19th June 2025 [PD-027]. Of the Applicant's Deadline 7 submissions, we have reviewed a selection of the documents, focussing on new updates. We will provide comment on any outstanding new updates, and on whether previously resolved issues have been successfully carried through to the updated ES Chapters submitted at Deadline 7, at Deadline 9. Please see Annex 1 for signposting of the documents reviewed. We have also highlighted in the Risk and Issues (R&I) Log where comments have been deferred to Deadline 9. In our Deadline 7 comments on The Examining Authority's Schedule of Recommended Amendments to the Applicant's draft Development Consent Order [REP7-151], Natural England stated that further comments regarding monitoring conditions would be provided at Deadline 8. We are currently liaising with the Marine Management Organisation on these amendments and will provide further comment at Deadline 9. Natural England highlights that should the Applicant submit substantial new information at Deadline 8, it is unlikely that Natural England will be able to provide comments on it prior to the close of Examination.	The Applicants acknowledge this comment.

I.D.	Natural England's Response	Applicants' Response
REP8-051: 3	**Statement of Common Ground** Natural England has worked with the Applicant to aid the submission of an agreed Statement of Common Ground (SoCG) by the Applicant at this Deadline. Whilst the SoCG is based on Natural England's R&I log, it is important to note that the definitions used for the RAG status are not the same as in our R&I log, resulting in some issues being categorised differently. A further update to the SoCG will be provided at Deadline 9 as needed, should further issues be resolved following review of all of the Deadline 7 submissions.	The Applicants confirm that an updated version of the **Natural England Statement of Common Ground (SoCG) (Revision 2)** [document reference 9.23] has been agreed with Natural England and submitted at Deadline 9 of Examination.
REP8-051: 4	**Risk and Issues Log** As we are now approaching the End of Examination, resolution of outstanding concerns is less likely to occur. Natural England have upgraded certain amber issues in our R&I log to red to reflect that resolution and/or agreement on key risks and issues, which we consider material considerations for project determination, will not be reached within Examination.	The Applicants acknowledge this comment.
REP8-051: 5	**Natural England's Comments on Environmental Statement Conclusions** Further to the comments provided by Natural England in Annex 2 of our Deadline 7 Cover Letter [REP7-153], we signpost to Appendix P8 Natural England's Comments on Environmental Statement Conclusions (from Rule 17 letter dated 19 June 2025) [PD-027] of our Deadline 8 submission, for any outstanding comments on the Examining Authority's requests.	See the Applicants' responses to Appendix P8 Natural England's Comments on Environmental Statement Conclusions in **Table 2-11** of this document.
REP8-051: 6	**Comments on Deadline 7 documents** For the avoidance of doubt and audit trail purposes, under the Habitats Regulations, the onus is on the Applicant to demonstrate that there will not be an Adverse Effect on Integrity (AEoI). It is not for Natural England to demonstrate that there will be one. There appears to be a misconception by the Applicant throughout their responses on this matter.	No response is required.
REP8-051: 7	**Offshore Ornithology** Natural England welcome the Applicant's provision of spatial mapping in 17.10 Appendix A - Offshore Ornithology Year 1 and 2 Combined Spatial Plots [REP7-137], however it is insufficient to address our concerns with respect to density hotspot modelling [R&I, G18]. to which we have provided the Applicant with the following comments prior to this Deadline: 1. Plate 1-4 shows Raw Observations of Gannet, however the equivalent raw data has not been presented for Kittiwake, Guillemot, Razorbill and Puffin. Natural England advise this is presented for all species. 2. The survey years have been combined for all data presentation. Natural England advise the results and the raw data are presented for each year separately as well. 3. Currently, generic 'breeding' and 'non-breeding' seasons have been used in the mapping instead of using the species-specific seasons, which would be more useful to identify any correlations between species usage in the area presented. We consider these should be provided for the survey years separately and combined.	The Applicants confirm that an updated **Appendix A - Offshore Ornithology Year 1 and 2 Combined Spatial Plots (Revision 2)** [REP8-040] was submitted at Deadline 8 which addressed points 1,2 and 5 noted in Natural England's response. Regarding points 3 and 4, the Applicants note that this exercise would require additional modelling to be undertaken for which there is insufficient time available to meet submission deadlines and allow feedback. In addition, the Applicants highlight that given the variability of seabird distributions through time, these monthly snapshots are not considered to represent static and consistent locations, therefore additional modelling is not considered worthwhile. However, the raw data of monthly locations provided in **Appendix A - Offshore Ornithology Year 1 and 2 Combined Spatial Plots (Revision 2)** [REP8-040] offers very similar information should it be required.

I.D.	Natural England's Response	Applicants' Response
	4. If the modelling method allows, we would also welcome monthly provision of the data/mapping. We highlight that the aim of this analysis is not just to see whether there is high usage, but to see whether there are consistent areas of high usage. It is therefore useful to see the results divided by year, season, month etc. 5. There is currently no information regarding the model used to present these outputs and the evidence to support them. Natural England have provided this advice directly to the Applicant and they have indicated that they will be submitting an updated version of the document at Deadline 8, addressing points 1, 2 and 5. However, provision of monthly (point 2) and/or species-specific breeding season (point 3) data will not be provided within Examination timeframes. Whilst we welcome the Applicant's endeavours to present this information in a short amount of time, without addressing all of the above concerns, this issue is unlikely to be resolved.	
REP8-051: 8	**Benthic ecology** Natural England welcomes the provision of the Applicant's updated habitat loss estimates for halo effects in [REP7-128] and [REP7-021], applying a 50m buffer in full around infrastructure. Whilst we stand by the advised 50m buffer for halo effects surrounding turbine foundations and scour, we acknowledge that halo effects around cable protection are likely to be lower and agree with the Applicant's concerns that 50m is likely over-precautionary. On that basis, we'd be happy to consider an alternative buffer for cable protection proposed by the Applicant.	The Applicants direct Natural England to REP8-052: 9.1 in **Table 2-7** of this document.
REP8-051: 9	**The Natural Features Potentially Affected by this Application** Following on from our Deadline 5 Cover Letter [REP5-053] and as requested in the Examiner's Question [PD-021] HRA.2.5, Annex 2 provides updated Tables of designated sites and interest features which may be significantly affected by the proposed project, based on the information provided to date. GOV.UK links have been provided to Natural England's Designated Site View system where the citation, conservation objectives and supplementary advice for designated nature conservation sites can be located. We have provided links, as these are large and live documents which are updated on a regular basis to incorporate the most up to date evidence. To avoid potentially out of date or inaccurate documents being referred to during the Examination we recommend that the links are utilised.	See the Applicants' responses to Annex 2 in **Table 2-5** and **Table 2-6** of this document.

Table 2-5 The Applicants' Response to Natural England's Table 1: Designated Nature Conservation Sites [REP5-053]

Site Name	Conservation Advice	Features for which Outstanding Concerns Remain	Reason why feature still remains a concern.	Features no longer a concern and why.	Applicants' Response
Holderness Inshore MCZ	Marine site detail (naturalengland.org.uk)	High energy circalittoral rock Intertidal sand and muddy sand Moderate energy circalittoral rock	Natural England advise that insufficient evidence has been provided to demonstrate that the placement of cable protection in the nearshore will not interrupt sediment transport processes and hinder the		The Applicants direct Natural England to section 5.4 of **The Applicants' Closing Statements** [REP8-042] for the Applicants' final position on this matter.

Site Name	Conservation Advice	Features for which Outstanding Concerns Remain	Reason why feature still remains a concern.	Features no longer a concern and why.	Applicants' Response
		Spurn Head (subtidal) and "the Binks" Subtidal coarse sediment Subtidal mixed sediments Subtidal mud Subtidal sand	conservation objectives of the site. Please see our Risk and Issues Log Deadline 8 and Appendix B8 of our Deadline 8 soubmission for Natural England's End of Examination Position on the Applicant's Assessment of Marine Physical Environment & Benthic and Intertidal Ecology for further detail.		
Holderness Offshore MCZ	Holderness Offshore MPA | JNCC - Adviser to Government on Nature Conservation	Subtidal coarse sediment Subtidal sand Subtidal mixed sediments Ocean quahog *(Arctica islandica)* North Sea glacial tunnel valleys	Whilst we are satisfied with the Applicant's assessment predictions that sediment deposition from trenching and levelling for the offshore export cable corridor is predicted to be localised and the seabed recoverable, this is dependent on the appropriate mitigation being secured. The Applicant maintains their position and will not commit to depositing sediment updrift of dredging locations or to using a fall pipe for deposition.		The Applicants direct Natural England to the Applicants responses provided in REP5-054: B12 of **The Applicants' Responses to Deadline 5 Documents** [REP6-052] for the Applicants' position regarding sediment updrift of dredging locations and use of a fall pipe for deposition.
Dogger Bank SAC	Dogger Bank MPA | JNCC - Adviser to Government on Nature Conservation	Sandbanks slightly covered by seawater all the time	It has already been concluded in the Plan Level HRA that an AEoI cannot be ruled out for this feature, discussions are now focussed on the quantification of impact. As such this feature will remain in this table.		The Applicants acknowledge Natural England's comment.
Humber Estuary SAC	Marine site detail (naturalengland.org.uk)	Atlantic salt meadows (Glauco-Puccinellietalia maritimae) Estuaries Mudflats and sandflats not covered by seawater at low tide Salicornia and other annuals colonising mud and sand Sandbanks which are slightly covered by sea water all the time	An AEoI cannot be ruled out for the Humber Estuary SAC as there remains uncertainty in the assessment of nearshore cable protection on nearshore sediment transport processes and coastal morphology. Whilst the Applicant has provided a response [REP7-131] to our advice [REP6-072] on the Applicant's detailed assessment [REP5-040] of the potential impacts of nearshore cable protection on nearshore sediment transport processes and coastal morphology, our position remains unchanged on the RIAA (and MCZ Assessment). Please see Appendix B8 of our Deadline 8 submission for Natural England's End of Examination Position on the Applicant's Assessment of Marine	The Applicant has updated the DCO condition [REP7-011] to include a commitment to noise mitigation for piling. We advise that we are satisfied that this updated condition sufficiently secures the application of additional primary and/or secondary mitigation to support the assessment conclusions. Whilst the Applicant has not committed to a specific level of noise reduction in dB, we are satisfied that the assessment provided in the Illustrative Noise Reduction Technical Note [REP7-126] has demonstrated that mitigation could be applied to reduce impacts to a level where AEoI can be ruled out. We therefore agree that an AEoI can	The Applicants welcome Natural England's agreement that Adverse Effects on Integrity (AEoI) on grey seal within the Humber Estuary Special Area of Conservation (SAC) can be ruled out. Regarding the nearshore cable protection, the Applicants direct Natural England to section 5.4 of **The Applicants' Closing Statements** [REP8-042] for the Applicants' final position on this matter.

Site Name	Conservation Advice	Features for which Outstanding Concerns Remain	Reason why feature still remains a concern.	Features no longer a concern and why.	Applicants' Response
			Physical Environment & Benthic and Intertidal Ecology.	be ruled out for grey seal in the Humber Estuary SAC.	
Southern North Sea (SNS) SAC	Southern North Sea MPA | JNCC - Adviser to Government on Nature Conservation	Harbour porpoise (Phocoena phocoena)		The Applicant has updated the DCO condition [REP7-011] to include a commitment to noise mitigation for piling. We advise that we are satisfied that this updated condition sufficiently secures the application of additional primary and/or secondary mitigation to support the assessment conclusions. Whilst the Applicant has not committed to a specific level of noise reduction in dB, we are satisfied that the assessment provided in the Illustrative Noise Reduction Technical Note [REP7-126] has demonstrated that mitigation could be applied to reduce impacts to a level where AEoI can be ruled out. We therefore agree that an AEoI can be ruled out for harbour porpoise in the Southern North Sea SAC	The Applicants welcome Natural England's agreement that an AEoI can be ruled out for harbour porpoise in the Southern North Sea SAC.
Berwickshire North Northumberland Coast (BNNC) SAC	Berwickshire and North Northumberland Coast - Special Areas of Conservation (jncc.gov.uk)	Grey seal (Halichoerus grypus)		The Applicant has updated the DCO condition [REP7-011] to include a commitment to noise mitigation for piling. We advise that we are satisfied that this updated condition sufficiently secures the application of additional primary and/or secondary mitigation to support the assessment conclusions Whilst the Applicant has not committed to a specific level of noise reduction in dB, we are satisfied that the assessment provided in the Illustrative Noise Reduction Technical Note [REP7-126] has demonstrated that mitigation could be applied to reduce impacts to a level where AEoI can be ruled out. We therefore agree that an AEoI can be ruled out for grey seal in the BNNC SAC.	The Applicants welcome Natural England's agreement that an AEoI can be ruled out for grey seal in the Berwickshire North Northumberland Coast (BNNC) SAC.
Farne Islands SPA	Marine site detail (naturalengland.org.uk)	Guillemot (Uria aalge), Breeding	An AEoI cannot be ruled out for impacts to guillemot in-combination with other plans and projects. Please refer to Natural		The Applicants direct Natural England to section 4.3.4 and 5.1.4 of **The Applicants' Closing Statements**

Site Name	Conservation Advice	Features for which Outstanding Concerns Remain	Reason why feature still remains a concern.	Features no longer a concern and why.	Applicants' Response
			England's Deadline 8, Appendix G8 for further detail.		[REP8-042] for the Applicants' final position on this matter.
Flamborough and Filey Coast SPA	Marine site detail (naturalengland.org.uk)	Guillemot (Uria aalge), Breeding Kittiwake (Rissa tridactyla), Breeding Razorbill (Alca torda), Breeding Seabird assemblage, Breeding	Natural England advise that AEoI cannot be ruled out for: - Kittiwake (both alone and in-combination), -Guillemot (in-combination) -Razorbill (in-combination) -Seabird Assemblage (in-combination) Please refer to Natural England's Deadline 8, Appendix G8 for further detail.		The Applicants direct Natural England to section 4.3.4, 5.1.3 and 5.1.4 of **The Applicants' Closing Statements** [REP8-042] for the Applicants' final position on this matter. With respect to Natural England's position on in-combination AEoI for the seabird assemblage, the Applicants consider this to be a reflection of Natural England's position on individual species (i.e. kittiwake, guillemot and razorbill) which contribute to the assemblage, rather than the impact on this as a feature in its own right. This understanding is further supported by Natural England's statements that compensation is not required for the assemblage as a feature, for example (REP7-152, 4.6.3; Q51) states: "*Natural England are satisfied that compensation for the seabird assemblage will be sufficiently accounted for via the project specific proposals*".
Humber Estuary SPA	Marine site detail (naturalengland.org.uk)	Avocet (Recurvirostra avosetta) Bar-tailed godwit (Limosa lapponica) Bittern (Botaurus stellaris) Black-tailed godwit (Limosa limosa islandica) Dunlin (Calidris alpina alpina) Golden plover (Pluvialis apricaria) Hen harrier (Circus cyaneus) Knot (Calidris canutus) Little tern (Sternula albifrons) Marsh harrier (Circus aeruginosus) Redshank (Tringa totanus) Ruff (Calidris pugnax) Shelduck (Tadorna tadorna) Waterbird assemblage	Natural England do not consider these features to be of immediate concern, however they could become a concern if impacts to the Humber Estuary SAC cannot be ruled out.		The Applicants direct Natural England to section 5.4 of **The Applicants' Closing Statements** [REP8-042] for the Applicants' final position on this matter.

Site Name	Conservation Advice	Features for which Outstanding Concerns Remain	Reason why feature still remains a concern.	Features no longer a concern and why.	Applicants' Response
Humber Estuary Ramsar	Designated Sites View (naturalengland.org.uk)	Bar-tailed godwit (Limosa lapponica) Black-tailed godwit (Limosa limosa) Dunlin (Calidris alpina) Golden plover (Pluvialis apricaria) Knot (Calidris canutus) Redshank (Tringa tetanus) Shelduck (Tadorna tadorna), Wintering	As for Humber Estuary SPA.	Grey seal (Halichoerus grypus) are no longer a concern for Humber Estuary Ramsar. Please see Humber Estuary SPA for reasoning. As detailed in our response to the RIES [REP7-152], natterjack toad was previously included in error.	The Applicants welcome Natural England's agreement that potential impacts from grey seal in the Humber Estuary Ramsar can be ruled out and confirmation that natterjack toad was previously included in error. Regarding the nearshore cable protection, the Applicants direct Natural England to section 5.4 of **The Applicants' Closing Statements** [REP8-042] for the Applicants' final position on this matter.

Table 2-6 The Applicants' Response to Natural England's Table 2: National Sites [REP5-053]

Site Name	Conservation Advice	Features for which Outstanding Concerns Remain	Reason why feature still remains a concern.	Features no longer a concern and why.	Applicants' Response
Farne Islands SSSI	SSSI detail (naturalengland.org.uk)	Guillemot (Uria aalge)	Guillemot. As for Farne Islands SPA		The Applicants direct Natural England to section 4.3.4 and 5.1.4 of **The Applicants' Closing Statements** [REP8-042] for the Applicants' final position on this matter.
Humber Estuary SSSI	Humber Estuary - 2000480 SSSI - 2000480	As per Humber Estuary SPA Above. Non-breeding birds: Brent goose (dark-bellied) (Branta bernicla bernicla) Curlew (Numenius arquata) Golden plover (Pluvialis apricaria) Lapwing (Vanellus vanellus) Marine Mammals: Features: Assemblages of breeding birds - Lowland open waters and their margins	As per Humber Estuary SAC Above.	Grey seal, (Halichoerus grypus) - As for Humber Estuary SAC	The Applicants welcome Natural England's agreement that effects on grey seal within the Humber Estuary Site of Special Scientific Interest (SSSI) can be ruled out. Regarding the nearshore cable protection, the Applicants direct Natural England to section 5.4 of **The Applicants' Closing Statements** [REP8-042] for the Applicants' final position on this matter.

2.5 Natural England – Appendix B8

8. The Applicants note that responses have been provided only to select matters in this appendix where new information has been provided or the Applicants wish to reiterate their current position.

Table 2-7 – The Applicants' Response to Natural England's End of Examination Position on the Applicant's Assessment of Marine Physical Environment & Benthic and Intertidal Ecology – Appendix B8 [REP8-052]

I.D.	Natural England's Response	Applicants' Response
REP8-052: 5.2	5.2 Cable protection in the nearshore Natural England is concerned that the placement of cable protection in the nearshore could cause permanent disruption to nearshore and longshore sediment transport on the Holderness Coast, and impact features of the Holderness Inshore MCZ, the Humber Estuary SAC and Smithic Bank (please see our Relevant Representations (B2, B35, B50 [RR-039])). We highlighted in our Risk and Issues Log Deadline 6 [REP6-077] (Point B23), that the Applicant has carried out a more detailed assessment [REP5-040] of the potential impacts of nearshore cable protection on nearshore sediment transport processes and coastal morphology. However, it was not sufficient to address our concerns (see [REP6-072]). We advise that there remains uncertainty regarding potential impacts to the adjacent coastline, and therefore we remain unable to rule out an AEoI on the Humber Estuary SAC and maintain the view that hinderance of the conservation objectives of the Holderness Inshore MCZ cannot be excluded. Whilst the Applicant has provided a response to this [REP7-131], our position remains unchanged. In addition, contrary to the Applicant's assertions, modelling of nearshore sediment processes where impacts to designated sites are predicted is expected, and has been provided for North Falls, Five Estuaries and Outer Dowsing OWFs. [R&I, B23, B28, B41]	The Applicants have undertaken modelling of the effect of cable protection in the nearshore as outlined in **Assessment of Coastal Processes at the Dogger Bank South Landfall** [REP5-040], therefore applying the same approach as is/has been undertaken for North Falls, Five Estuaries and Outer Dowsing Offshore Wind Farms, although noting the designated sites in the case of these Projects are less than 10km from their respective landfalls, whereas the receptor of concern in the case of nearshore cable protection at Dogger Bank South is located approximately 53km away.
REP8-052: 9.1	**Habitat loss** Halo effect As outlined in our Relevant Representations (C18, [RR-039]) Natural England is concerned about the likely cumulation of benthic 'ecological halo effect' which can be expected following the placement of structures on the seabed. Owing to localised changes in biological communities colonising hard structures, combined with the changes to the physical processes which are expected, the physical structure and function, and subsequent biological structure and function of the benthos can be expected to be altered over an area multiple times that of the original infrastructure footprint. The Applicant presented an assessment of ecological halo effects [REP5-041] upon which we provided further recommendations for refinement of the worst-case area of habitat loss [REP6-073]. The Applicant has followed up with a submission of '15.7 Appendix E - Ecological Halo Effects Technical Note (Revision 2)' [REP7-128] which has incorporated our recommendations on such refinement. Whilst the Applicant and Natural England do not agree on the significance of any potential 'ecological halo effect', we welcome the Applicant's updated habitat loss estimates for halo effects applying a 50m buffer in full. Whilst we stand by the advised 50m buffer for halo effects surrounding turbine foundations and scour, we acknowledge that halo effects around cable protection are likely to be lower and agree with the Applicant's concerns that 50m is likely over-precautionary. On that basis, we'd be happy to consider an alternative buffer for cable protection proposed by the Applicant. [R&I, C8, C13]	The Applicants note that Natural England accepts that there is no justification for a 50m 'halo effect' from cable protection. The Applicants highlight that none of the literature reviewed for the **Appendix E - Ecological Halo Effects Technical Note (Revision 2)** [REP7-127] included consideration of small scale infrastructure such as cable protection, therefore there is no evidence base for proposing a footprint, other than this would be in very close proximity (likely a few metres) of the cable protection. Any value placed on this therefore is entirely arbitrary. In addition, the disturbance swathe from cable installation would be 20m (see Tables 5-12, 5-13 and 5-14 of **Chapter 5 Project Description (Revision 4)** [REP7-032]) which would encompass any area affected by 'halo effects'. If the Secretary of State concludes that disturbance contributes to AEoI, as per Natural England's position, then this area is already encompassed by the disturbance footprint. This would equate to Scenario 3 in Table 4-4 of **Habitats Regulations Derogation Provision of Evidence (Revision 4)** [REP7-018].

2.6 Natural England – Appendix E8

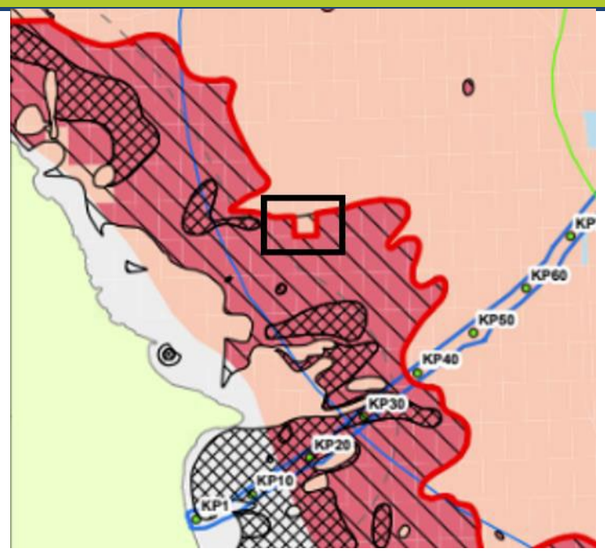
Table 2-8 –The Applicants' Response to Natural England's End of Examination Position on the Applicant's Assessment of Fish and Shellfish – Appendix E8 [AS-184]

I.D.	Natural England's Response	Applicants' Response
AS-184: 0	**Appendix E7 – Natural England's Advice on Fish and Shellfish at Deadline 7** In formulating these comments, the following documents submitted by the Applicant have been considered in relation to the impacts of Dogger Bank South (East and West) Offshore Wind Farm (DBS) on Fish and Shellfish: • [REP6-050] 14.8 Effects on Prey Species Technical Note (Revision 2) (Tracked) • [REP6-052] 15.3 The Applicants' Responses to Deadline 5 Documents • [REP7-135] 17.8 'Without Prejudice' Herring Spawning Plan • [REP7-011] 3.1 Draft Development Consent Order (Revision 10) • [REP7-017] 6.1 RIAA HRA Part 2 of 4 – Annex I Offshore Habitats and Annex II Migratory Fish (Revision 5) (Tracked) • [REP7-043] 7.10 ES Chapter 10 - Fish and Shellfish Ecology (Revision 2) (Tracked) • [REP7-044] 7.10.1 ES Chapter 10 - Fish and Shellfish Ecology Figure 10-1 to Figure 10-10 (Revision 2).pdf [REP7-126] 14.9 Illustrative Noise Reduction Technical Note (Revision 3) (Tracked).pdf	No response is required.
AS-184: 1	**1. Indirect effects** Natural England have previously provided detailed advice on the indirect effects assessment and impacts to sandeel in [REP3-057], [REP5-056], [REP7-152]. We have not repeated this advice within this document, but have referenced it within the text so it can be read alongside as needed. Natural England provided our final conclusions with respect to indirect impacts on designated predator species through impacts on prey species in our response to the RIES [REP7-152]. With respect to harbour porpoise, were an AEoI to be concluded for SNS SAC harbour porpoise overall, we would have considered that indirect impacts to prey species would likely be having a contributing effect. However, with the securing of additional mitigation for underwater noise impacts, we do not consider the risk to harbour porpoise from indirect impacts on prey species is sufficient to drive an AEoI conclusion for SNS SAS harbour porpoise alone. For ornithology receptors, Natural England consider that for those features where AEoI cannot be ruled out (kittiwake, guillemot and razorbill at FFC SPA), this impact pathway will, without resulting in an AEoI in its own right, intensify the effects on those species. Whilst Natural England would have welcomed a more robust assessment by the Applicant, we acknowledge any such assessment would carry a high degree of uncertainty and consider that provision of such an assessment at this stage would be unlikely to materially affect our conclusions.	No response is required.
AS-184: 1.1	**1.1 Updated sandeel mapping** In the updated Effects on Prey Species Technical Note [REP6-050], Figures 7-1 to 7-4 present the same data sets provided in the Heat Mapping Report Atlantic Herring and Sandeel [AS-105], however the following text has not been carried over: 'it can be assumed that the heat scores of <0.08 are indicative of 'high-higher' potential [sandeel] supporting habitat at a regional scale'. We	The use of different metrics is noted in updated **Effects on Prey Species Technical Note (Revision 2)** [REP6-049], but this does not change the outcome of the **Report to Inform Appropriate Assessment Habitats Regulations Assessment Part 2 of 4 – Annex I Offshore Habitats and Annex II Migratory Fish (Revision 5)** [REP7-016]. This is covered in paragraph 80 of [REP6-049].

I.D.	Natural England's Response	Applicants' Response
	consider this to provide important context when interpreting the figures. We also note the confidence scoring system is different to that presented in previous assessments, and therefore alters the references outlined in the RIAA HRA Part 2 of 4 – Annex I Offshore Habitats and Annex II Migratory Fish [REP4-015].	*However, the sandeel potential mapping is undertaken* [i.e. using the Latto *et al*. (2013) method used in the Application or Reach *et al*. (2024) used in **Heat Mapping Report: Atlantic Herring and Sandeel** [AS-105]], *it remains the case that:* • The Array Areas account for about 5.7% of the Dogger Bank Special Area of Conservation (SAC) area. • Within this there are varying degrees of suitability of the substrate for sandeel. • However, even assuming that the entirety of the Offshore Development Area is sandeel habitat only a small percentage of that will either be subject to permanent habitat loss (1.82km² / 0.015% of the SAC) or disturbance (25km² / 0.2%). • Assuming that species subject to displacement (such as guillemot and razorbill) are already excluded, this means that the effects on other species (such as kittiwake or marine mammals) from impacted area for prey / spawning habitat is minimal. Therefore, no updates to [REP7-016] are required.
AS-184: 1.2	**1.2 Ornithology prey availability** Natural England note the Applicant's argument that 'where birds are subject to displacement effects (such as razorbill, guillemot and potentially gannet), the mortality from this is assumed to result from a reduction in access to prey. So, in this case, consideration of any indirect effects via effects on prey is double counting to some degree (e.g. the birds are already displaced from the Array Areas so effects on prey within these locations have no additional effect)'. Natural England do not disagree with this and consider that is supports impacts to/access to prey as a valid likely significant effect (LSE) pathway contributing to AEoI conclusions. Where predators are not subject to displacement, the Applicant considers the following: "1) The area which can no longer be used for foraging which is confined to the immediate footprint of the infrastructure (or disturbance footprint if following Natural England position) within the Array Areas (and within the Export Cable Corridor small sections of cable protection) which is permanently lost. 2) The direct effects on the prey themselves (disturbance, noise impacts etc). Therefore, the assessment has covered all the potential pathways for impacts". However, this does not take into account the long term operational impacts from loss of spawning habitat, which may have implications over a wider area beyond where predators are directly excluded. We also note that the Applicant has highlighted that climate change and fisheries have been identified as the main drivers of impacts on sandeel/prey rather than offshore wind farms (OWF). Natural England do not dispute this, however not being a dominant driver of impacts does not mean that an OWF is not having an impact, particularly when it is located in an area known to be important for sandeel.	With regard to displacement, it is clearly double counting to assume that displacement leads to mortality (due to reduced potential for feeding) and state that indirect effects contribute to Adverse Effects on Integrity (AEoI). It is the same effect. The Applicants do not consider that prey effects '*intensify the effect*' for kittiwake, given the minimal footprint of infrastructure (even if disturbance is considered a permanent footprint excluding sandeel). The Applicants have provided evidence of recovery in sandeel from disturbance in **Review of Evidence on Recovery of Sandbank Habitat Following Habitat Damage (Revision 2)** [REP3-021].
AS-184: 1.3	**1.3 Habitat loss in the fish study area** Whilst we welcome the Applicant's additional calculation of habitat loss resulting from ecological halo effects, UXO clearance and jack-up operations provided in the Updated RIAA HRA Part 2 of 4 [REP7-017], Natural England maintain our previous advice [REP5-056] that it would be beneficial for updated estimates to be provided including potential sandeel habitat loss from both existing and proposed developments (e.g. aggregates, oil and gas, cables and pipelines) occurring within the foraging ranges of affected designated predator species, or within Dogger Bank SAC and	No response is required.

I.D.	Natural England's Response	Applicants' Response
	Southern North Sea SAC as a minimum. Whilst the Applicant lists potential developments to screen in for the final cumulative effects assessment (CEA) in ES Chapter 10 [REP7-043], they are not taken through to the screened in developments for further assessments due to operational projects (Tier 1 schemes) being considered part of the baseline for the CEA methodology. Whilst we acknowledge that this is usually the case, we highlight that this does not align with the approach taken by the Applicant to cumulative impacts caused by other offshore wind farms in Dogger Bank SAC and SNS SAC in 6.1.2 Appendix B - Sandeel Habitat Potential in the Dogger Bank SAC and Southern North Sea SAC [APP-050]. In addition, the Applicant has repeatedly stated that suitable sandeel (and herring) habitat and foraging areas are available elsewhere, for example "*the potential area of habitat affected within the sites* [Dogger Bank SAC] *is a small fraction of the available habitat. The habitat within the designated sites is not unique in its potential to support sandeel, with areas of similar potential surrounding the sites"* [REP6-050]. Whilst the area of habitat affected might be a small percentage of the SAC, the SAC cannot be considered to be uniformly important to sandeel or to foraging birds. This is evidenced in the Applicant's mapping (Figure 7-1, [REP6-050]), in vessel fishing data [AS-105], in tracking data from FFC SPA and the predator impact values of these projects (see Appendix G8 of our Deadline 8 submission) which show that the Western edge, and the Dogger Bank South location specifically, is more important than elsewhere in the SAC. The Applicant's position also does not account for loss that may have occurred in these areas due to existing industry (e.g. existing Dogger Bank OWFs present in high-very high potential habitat to the north (Figure 7-1, [REP6-050])). We therefore consider that the provision of the requested wider habitat loss information would have provided important additional context to the Applicant's positions. However, we acknowledge that at this late stage in the Examination, the provision of this information would not materially affect our conclusions.	
AS-184: 2	**2. Impacts on sandeel** In response to Natural England's advice on heat impacts on sandeel [REP5-056], the Applicant has cited research (Emeana et al., 2016, [REP6-052]) that suggests that heat transfer from high voltage cables can occur to distances of 40 cm – 1 m depending on the sediment type, with sediment temperature increases of >10 oC possible. Given that sandeel are a burrowing species and the target cable burial depth for inter-array cables is 0.5-1.5 m, we consider that overlap between cable heat transfer and habitat utilised by sandeel cannot be ruled out. We highlight that the inter-array cables will be High Voltage Alternating Current, which are known to be less efficient (i.e. emit more heat). Natural England therefore maintain our previous advice that monitoring to validate the thermal radius of heat transfer from inter-array cables buried in high potential sandeel habitat is secured in the In-Principle Monitoring Plan and/or DCO/dML.	An overlap between sediment experiencing temperature change, and sediment that sandeel may utilise as habitat is acknowledged. However, when considering the total area of sediment likely to undergo heating effects when compared to the overall availability of sandeel habitat within the region, any potential habitat loss is considered negligible. When assuming a total of 373km for one Project alone, or 861km of cable for DBS East and DBS West together (Array and Inter-Platform Cables), the total area of increased temperature associated with these cables may be considered up to 1m either side of the cable. This results in a total area of 0.746km^2 per Array Area, or 1.722km^2 across both Projects. For both Projects together, this comprises 0.006% of the Fish and Shellfish Ecology Study Area, or 0.20% of the Array Areas (874km^2). Figure 10-5 of **Chapter 10 Fish and Shellfish Ecology Figure 10-1 to Figure 10-10 (Revision 2**) [REP7-044] indicates that whilst potential for sandeel does exist within the Array Area, regions both to the north and south of the Project comprise areas of seabed of higher sandeel habitat potential. Due to both the small footprint of heating effects, and the substantial availability of equivalent and higher potential habitat for sandeel within the region, any effect is considered negligible and therefore not significant. Therefore, no requirement for the monitoring of heat transfer from inter-array cables is determined necessary. In addition, the Applicants note that the study cited in a previous response (Emeana *et al.*, 2016) [REP6-052] was a 2-D laboratory experiment using two 2.5m^2 tanks representing a buried submarine HV cable. The study also highlights that '*there has been very limited study on the actual temperatures generated around submarine cables, with only one*

I.D.	Natural England's Response	Applicants' Response
		reported field study (Meissner et al., 2007)' and '*there are also only a few papers on the thermal properties of shelf sediments*'. The study also states that '*In addition to the lack of knowledge of the potential impacts of the heat generated by the cable on the environment, there is also little knowledge of the relationship between the thermal properties of marine sediments and the current that may be reliably carried by submarine HV cables*.' Due to the lack of knowledge on the matter and a negligible significance of effect, the Applicants maintain that any need for monitoring is not proportionate. It must be noted that the MMO, in their Deadline 8 submission [REP-048], consider that '*Although significant gaps in our understanding of the effects of EMF and sediment heating on both the egg and larval and adult life stages of herring and sandeel specifically remain, the MMO does not consider that herring or sandeel are notably receptive or sensitive to EMF emissions or sediment heating effects. The MMO would not consider the presence of EMFs to be a significant cause of concern for herring and sandeel spawning areas*' (see MMO response in REP8-048: 4.8.26 of **Table 2-2**).
AS-184: 3	**3. Herring mitigation** The Applicant has provided clarification in their Response to Deadline 6 Documents [REP7-131], that the modelling presented in the Illustrative Underwater Noise Reduction Technical Note [REP7-126] to demonstrate impacts with a 10 dB reduction in underwater noise applied, used frequency bands applicable to fish receptors as well as marine mammals. We advise this same approach should be taken for any post-consent modelling provided in support of the DCO conditions discussed below. Natural England welcomes the Applicant's inclusion of a condition in the DCO [REP7-011] to restrict export cable preparatory and installation works within the area of highest potential herring spawning habitat (depicted in [REP7-135]) during the herring spawning season. We also welcome the piling restriction condition included in the DCO [REP7-011] and are supportive of the need for a restriction being implemented being determined post-consent, once there is a better understanding of the final design parameters and mitigation to be applied. We acknowledge that the piling restriction condition has been provided on a without prejudice basis, however Natural England advise that this should be secured in the DCO. Combined with the updated DCO [REP7-011] condition to secure additional primary and/or secondary mitigation for underwater noise impacts, we consider that were all of these conditions secured in the consented DCO, the predicted impacts to herring would be significantly reduced. To note – we believe there may be an error in the restriction boundary line presented in the Herring Spawning Plan [REP7-135] where it does not align with the underlying marginal substrates boundary (Figure 1).	The Applicants acknowledge this comment. Regarding the notch in the **'Without Prejudice' Herring Spawning Plan** [REP7-135], this section does not meet the ≤0.05 spawning potential per the Kyle-Henney *et al.* (2024) methodology. As a result, this area does not meet the criteria of being both in an area of marginal or preferred sediment, and in a region of ≤0.05 herring spawning potential. However, as the area is small and is unlikely to be affected by underwater noise without the very nearby areas also being affected, the Applicants have updated the **'Without Prejudice' Herring Spawning Plan (Revision 2)** [document reference 17.8] submitted at Deadline 9 to align with the underlying marginal substrates boundary.

I.D.	Natural England's Response	Applicants' Response
	 **Figure 1:** Section of Figure 17.8 taken from the Applicant's Herring Spawning Plan [REP7-135]. The black rectangle has been added by Natural England to highlight where the restriction boundary (red line) does not align with the underlying substrate boundary (black line).	

2.7 Natural England – Appendix G8

9. The Applicants note that responses have been provided only to select matters in this appendix where new information has been provided or the Applicants wish to reiterate their current position.

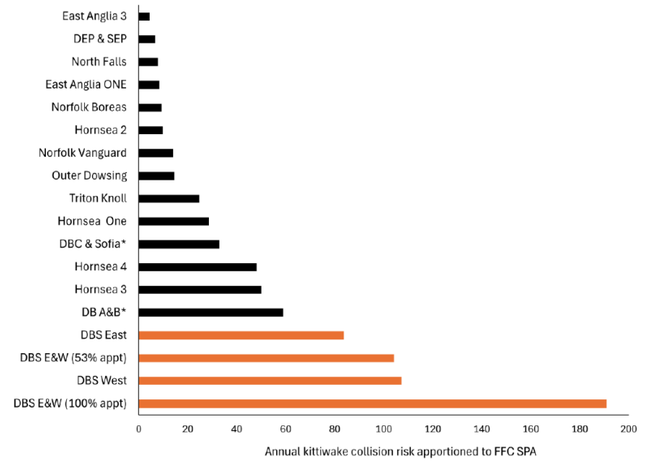
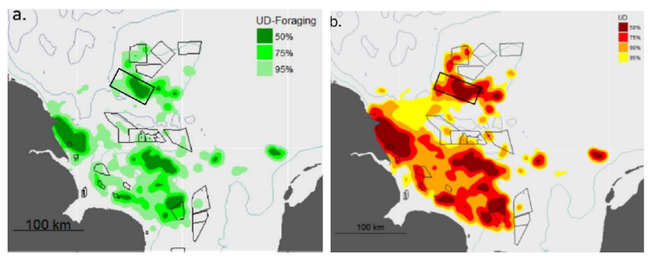
Table 2-9 – The Applicants' Response to Natural England's End of Examination position on Offshore Ornithology – Appendix G8 [REP8-053]

I.D.	Natural England's Response	Applicants' Response
REP8-053: 1	**Indirect impacts** Natural England advise that the DBS array areas are located within areas that are considered to be important for sandeel in the North Sea. This is clearly evidenced by mapping work done by Langton et al (2021), by the Applicant themselves, as presented in their 'Sandeel Habitat Potential in the Dogger Bank SAC and Southern North Sea SAC' [APP-050], and by Reach et al (2024), as presented by the Applicant in their 'Effects of Prey Species Technical Note' [REP6-050]. These maps show that the DBS array areas, particularly DBS West, are located in areas with high habitat potential for sandeel. Sandeel are a key prey species for seabirds in the North Sea, particularly for kittiwake, guillemot, razorbill, and puffin, and seabirds are known to congregate in areas where foraging opportunities are higher. The baseline data for the Projects shows high densities of these species within the array areas, which lead to high levels of predicted impacts on these species. Tracking data from kittiwake breeding at FFC SPA also clearly show that not only is there a high level of connectivity between the SPA and the array areas (particularly DBS West), but that the array areas (particularly DBS West) appear to be an important foraging location for FFC SPA kittiwake (Wischnewski et al 2017; Figure 1), which could be explained by high availability of sandeel in the area. Baseline densities of guillemot, razorbill, puffin, and kittiwake during the breeding season were also higher in DBS West than in DBS East. This may reflect the higher habitat potential for sandeel in DBS West as well as its closer proximity to FFC SPA. We note that, while no tracking data is available for guillemot or razorbill breeding at FFC SPA, both array areas are well within the standard mean maximum foraging range plus 1SD (Woodward et al 2024) from the SPA for these species. Natural England therefore consider that breeding season connectivity is likely to be significant for guillemot and razorbill, and this is reflected in our apportioning advice. We therefore consider that there is potential for indirect impacts on these seabird features of FFC SPA via impacts of the Projects on their sandeel prey. The Applicant has provided an assessment of potential impacts on seabird prey species within their 'Effects of Prey Species Technical Note' [REP6-050]. While we acknowledge the difficulties associated with quantifying these potential impacts, Natural England do not agree with the Applicant's conclusions that they will not result in indirect impacts on seabird features. In particular, we consider that for those FFC SPA features where AEoI cannot be ruled out (kittiwake, guillemot, and razorbill), this impact pathway will, without resulting in an AEoI in its own right, intensify the effects of the Projects [REP7-152]. We consider this to be important context when considering impacts on these features, as well as a potential source of under-precaution in the assessment. Please see Appendix E8 of our Deadline 8 submission for further comments on Indirect Effects.	The Applicants note that Natural England states: *"this impact pathway will, without resulting in an AEoI in its own right, intensify the effects of the Projects "* The Applicants reiterate the following points from **Effects on Prey Species Technical Note (Revision 2)** [REP6-049]: Where individuals (predators) are subject to displacement effects, the mortality from this is assumed to result from a reduction in access to prey. So, in this case, consideration of any indirect effects via effects on prey is double counting to some degree (e.g. the predators are already displaced from the Array Areas so effects on prey within these locations have no additional effect). This area, covering the whole of the Array Areas plus 2km buffer, is much greater than the total area of habitat loss or disturbance. This would therefore cover effects to guillemot and razorbill. Where predators are not displaced, there are two considerations. 1) The area which can no longer be used for foraging which is confined to the immediate footprint of the infrastructure (or disturbance footprint if following Natural England position) within the Array Areas (and within the Offshore Export Cable Corridor small sections of cable protection) which is permanently lost. 2) The direct effects on the prey themselves (disturbance, noise impacts etc). The area of such effects would be minimal compared with the Array Areas themselves or the wider area available for foraging. This would cover kittiwake. In summary: • Prey effects are included already in displacement and by definition cannot 'intensify the effect' for guillemot and razorbill. • The Applicants do not consider that prey effects 'intensify the effect' for kittiwake, given the minimal footprint of infrastructure (even if seabed disturbance is considered a permanent footprint excluding sandeel).
REP8-053: 2	**Mitigation**	The Applicants have, in recognition of the potential ornithological impacts, proposed a blade clearance significantly in excess of most consented and operational offshore wind farms (typically 22m above LAT), and have demonstrated

I.D.	Natural England's Response	Applicants' Response
	OWF sizes vary and therefore comparisons are not straight-forward, however, DBS is the highest impacting OWF on FFC SPA kittiwake to date, for the Projects both alone and combined (Figure 1). We highlight that the impacts illustrated for DBS East (83.8) and West (107.3) alone in Figure 1 are according to SNCB advised apportioning rates, and therefore are more likely to be comparable with those of the other projects presented. However, were the Applicant's approach to be applied, DBS West (58.3) would remain a higher impact than all other single OWF (the combined impacts of Dogger Bank A&B are 59), and only Hornsea 3 (50.1) and Hornsea 4 (48.1) would have a higher impact than DBS East (45.9). Given the scale of the predicted impacts of the Projects on seabird features, Natural England advised that further consideration should be given to potential mitigation measures to reduce impacts, noting the requirements set out in the HRA mitigation hierarchy. We advised that these could include array reductions, changes to the design and/or layout of arrays, or increasing the hub height of turbines to reduce collision impacts. We have also advised since the pre-application stage that the Applicant should undertake hotspot modelling of seabird densities and distributions within the Project areas, in order to identify areas where impacts may be particularly high, and that may therefore be suitable for changes to array size or layout to mitigate impacts. The Applicant has stated that they do not consider density hotspot modelling to be an appropriate way of investigating potential ornithological mitigation measures, due to the variability of seabird distributions over time. Natural England disagree with this position, noting that seabird distributions during the breeding season are constrained to areas within foraging range, and their distribution is also strongly affected by the availability of prey. Given that the Projects (particularly DBS West) are located within areas that are likely to be of high importance for sandeel, and that sandeel are relatively sedentary, Natural England consider that these areas may represent a consistent food source for breeding seabirds. Furthermore, tracking data for FFC SPA kittiwake demonstrates repeated use of areas overlapping with the Projects (Wischnewski et al 2017; Figure 2). We note that if, as the Applicant claims, there are no areas of consistent high usage within the Project areas, then density hotspot modelling would demonstrate this. Whilst the Applicant has now provided spatial mapping for the array areas [REP7-137], the raw data has only been provided for gannet and limited information has been provided on the modelling undertaken. The combining of the data for the two survey years and the lack of a breakdown by species-specific seasons or individual months also makes it difficult to identify consistent areas of high usage based on this mapping (please see our Deadline 8 cover letter for further comments). It is therefore welcome, but insufficient to address our concerns. We therefore maintain that this avenue for potential mitigation has not been sufficiently explored. Please also see our comments [REP7-151] on the draft DCO condition proposed by the ExA to address this [PD-028]. We further note that the Applicant has stated [REP6-052] that any reductions in the developable area would risk making the Projects economically unviable. The Applicant has also stated previously that they are unable to raise the hub height of turbines as a mitigation measure to	why further increases would not be suitable and potentially risk the viability of the Projects (see **Ornithological Mitigation Option Report (Revision 2)** [REP4-081]). Whilst the Applicants note the point made on the impacts of the Projects relative to other Offshore Wind Farms (OWFs), this does not change the conclusions on Project viability vs further mitigation presented in [REP4-081]. The Applicants provided further information on the spatial modelling undertaken pre-Application on bird abundances and how this had led to refinements of the Array Area boundaries in **Appendix A - Offshore Ornithology Year 1 and 2 Combined Spatial Plots (Revision 2)** [REP8-040]. This was in response to discussions with Natural England via email. In this document the Applicants highlighted, that whilst such modelling can be used at the broad scale to define areas of search for initial site selection early in project definition, this exercise is not useful within tightly defined boundaries as there is little space to 'play with' and the variability of data from month to month or year to year. This point is illustrated not only by the monthly plots of abundance presented in [REP8-040] but also from comparison of the mapping taken from Wischnewski *et al.* (2017) presented by Natural England (at left) and similar tracking work presented by the Applicants in **Effects on Prey Species Technical Note (Revision 2)** [REP6-049] from the same authors (Wischnewski, *et al.* 2022)[1] and Cleasby *et al.* (2020)[2]. Indeed, Wischnewski, *et al.* (2022) data show different results from different colonies within the same study. The Applicants note that this comment from Natural England was provided before they had seen [REP8-040], which may have satisfied them on this point. The Applicants reiterate that there is no more to be gained from further modelling of distribution within the Array Areas themselves.

[1] Wischnewski, S, King, A, Fairlamb, H, Franklin, K, McCluskie, A & L. Wright (2022) Seabirds and Windfarms: Seabird Tracking in the Flamborough & Filey Coast SPA Fieldwork Report 2022 RSPB

[2] Cleasby, I.R., Owen, E, Wilson, L, Wakefield, E, O'Connell, P and Bolton, M (2020) Identifying important at-sea areas for seabirds using species distribution models and hotspot mapping, Biological Conservation 241

I.D.	Natural England's Response	Applicants' Response
	reduce collision impacts for reasons relating to the technical and commercial viability of the Projects [REP4-082]. Natural England note that, as these are not ecological arguments, it is not within Natural England's field of expertise to comment on them. The Applicant has also claimed that site selection is an embedded mitigation measure because connectivity with FFC SPA is low. Natural England disagree strongly with this position. Given the high levels of predicted impact, particularly to kittiwake, we do not consider site selection to have been an effective embedded mitigation measure for the Projects with respect to FFC SPA seabird features (see section 3 above, OR.1.4 and 1.39 in [REP3-057] and ISH7 in [REP5-060]).  **Figure 1: Mean annual kittiwake collision risk apportioned to FFC SPA for the DBS array areas compared to other offshore wind farms.** Figure compiled from data within [REP6-009]. (*Values presented are for the impacts of two array areas.)  **Figure 2: Foraging (a) and overall (b) utilisation distributions of kittiwakes breeding at FFC SPA.** Data is from kittiwake tracked during the 2017 breeding season, based on 168 trips from 18 birds and showing 50, 75, 90 and 95% utilisation distributions. Taken from Wischnewski et al (2017). N.B. The black rectangle has been added by NE and shows the approximate location of the DBS East and West arrays. Figure (b) was previously provided and explained in further detail in our response to ExQ OR.1.39 [REP3-057].	

Annex 1: Natural England's Position regarding potential for Adverse Effects on Integrity (AEoI) on SPAs under Habitats Regulations Assessment (HRA)

I.D.	Natural England's Response	Applicants' Response
REP8-053: A1.1	**FFC SPA Kittiwake** *Predicted Impacts and Integrity Judgement: Dogger Bank South (East and West) alone* The Applicant has followed Natural England's advice on CRM, as outlined in our interim advice note (Natural England 2022). Applying Natural England's advised 100% adult apportioning, this results in annual collision impacts of the Projects combined on FFC SPA kittiwake of 191 adult birds (REP6-009, Table 9-21 and see Table 3). This results in an increase in the baseline mortality rate of 1.47%, therefore further investigation of population-level impacts via PVA is required. The PVA run by the Applicants showed that, after 30 years, the population growth rate was reduced by 0.25% per annum (CGR 0.9975) and the population size by 7.58% (CPS 0.9242; REP6-009, Table 9-24 and see Table 3). FFC SPA has a conservation objective for kittiwake to restore the size of the breeding population to a level which is above 83,700 breeding pairs, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent. The most recent count in 2022 indicated a population size of 44,574 pairs, which was a 2% decrease compared to the previous count in 2017 of 45,504 breeding pairs. The predicted impact from the Projects is the largest impact predicted from any offshore wind farm development to date (see Section 4), and accounts for approximately a third of all in-combination impacts on this feature (see section below). Furthermore, Natural England consider that indirect impacts on sandeel are likely to intensify the direct impacts of the Projects on FFC SPA kittiwake (see Section 3). The potential effects of HPAI and future predicted impacts of climate change on this species add further uncertainty to the potential long-term status of kittiwake at FFC SPA. Natural England therefore consider that the level of impact predicted for the Projects is likely to negatively affect this conservation objective. **Natural England cannot, therefore, rule out adverse effect on integrity (AEoI) on FFC SPA due to impacts on the kittiwake feature for Dogger Bank South (East and West) alone.**	The Applicants do not agree with the conclusion of project-alone Adverse Effects on Integrity (AEoI) for the reasons set out in the **Report to Inform Appropriate Assessment Habitats Regulations Assessment Part 4 of 4 – Marine Ornithological Features (Revision 5)** [REP6-008]. As set out in REP6-008 (see sections 9.6.2.2.3.1.3 and 9.6.2.2.5.2.) the project alone mortality estimated by the Applicants was 98 individuals which would result in an increase in background mortality of 0.8%, less than the 1% threshold below which Natural England agrees impacts are sufficiently small that no further assessment would be required (and hence no AEoI). This mortality estimate is lower than that assumed by Natural England because it is not based on the precautionary assumption that all the birds recorded in the wind farms during the breeding season are breeding adults, but rather applies demographic evidence which indicates a figure of 54% is more appropriate. However, even if a more precautionary adult proportion of 70% was applied, this would still result in a mortality increase of less than 1% and a conclusion of no AEoI. Furthermore, even when considering Natural England's assumption (of 100% adults in the breeding season), the Population Viability Analysis (PVA) predicted a decrease in the population growth rate of only 0.25%. Comparing this to the FFC SPA kittiwake population's annual average growth rate of 2.1% it can be seen that this would only result in a small decrease to 1.85%. On this basis the Applicants' do not agree that there will be a project alone AEoI, even if Natural England's approach is applied, and that Natural England has only reached this conclusion as a result of several layers of precaution. The Applicants do not consider prey effects to '*intensify*' direct effects from collisions (see response to REP8-053: 1 '**Indirect Impacts**' above).
	FFC SPA Guillemot *Predicted Impacts and Integrity Judgement: Dogger Bank South (East and West) alone* Natural England's advised approach to displacement assessment is to provide impact values based on a species-specific range of displacement rates and mortality rates. For guillemot, this range is 30%-70% displacement and 1%-10% displacement. The Applicant has stated that their preferred approach is to use single rates of 50% displacement and 1% mortality, and has presented impacts according to these values. Natural England disagree with the Applicant's preferred approach and have outlined our reasons in detail in earlier submissions [REP3-057, REP4-124]. The Applicant has also provided their assessment according to Natural England's advice (REP6-009, Table 9-26), and we have based our conclusions based on these impact figures. Applying Natural England's advice on displacement and mortality rates and apportioning (see Section 2), annual displacement impacts of the Projects combined on FFC SPA guillemot are predicted of between 98 and 2279 adult birds (see Table 4). Acknowledging that recent consent decisions have generally been based on impacts at a 70% displacement rate and 2% mortality	The Applicants do not consider prey effects to '*intensify*' direct effects from displacement as they are already accounted for in this effect pathway (see response to REP8-053: 1 '**Indirect Impacts**' above).

I.D.	Natural England's Response	Applicants' Response
	rate, Natural England will focus on these values. At a 70% displacement and 2% mortality rate, the predicted impacts of the Projects are 456 adult birds (Table 4). Natural England note that the Applicant also provided an assessment of potential cumulative displacement impacts on auks in the area between the two Dogger Bank South arrays. At 30%-70% displacement and 1%-10% mortality, this concluded that between 13 and 302 additional FFC SPA adult guillemot could be impacted, while at 70% displacement and 2% mortality, 60 additional FFC SPA adult guillemot could be impacted. Natural England considers that this information provides valuable additional context to the potential impacts of the Projects on guillemot, but have agreed that these figures do not need to be included in the assessment totals (see section 2). Furthermore, Natural England consider that indirect impacts on sandeel are likely to intensify direct impacts of the Projects on FFC SPA guillemot (see Section 3). For every level of impact within the range presented, the baseline mortality rate is increased by more than 1%. Further investigation of population-level impacts is therefore required via PVA. The PVAs run by the Applicant showed that, after 30 years, the impact of the Projects at 70% displacement and 2% mortality would result in a reduction in population growth rate per annum of 0.34 (CGR 0.9966) and a reduction in population size of 10% (CPS 0.8999). FFC SPA has a conservation objective for guillemot to maintain the size of the breeding population to a level which is above 41,607 breeding pairs, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent. The most recent count indicates a population size of 74,989 breeding pairs, and the population grew by an average of 3.8% annually between 1986 and 2017. While this annual average growth rate cannot be assumed to continue for the next 30 years, particularly given recent declines in productivity, Natural England considers it unlikely that the predicted level of impact from the Projects alone would affect the conservation objective for the species. **Natural England can therefore advise no AEoI on FFC SPA due to impacts on the guillemot feature for Dogger Bank South (East and West) alone.**	
	FFC SPA Razorbill *Predicted Impacts and Integrity Judgement: Dogger Bank South (East and West) alone* Natural England's advised approach to displacement assessment is to provide impact values based on a species-specific range of displacement rates and mortality rates. For razorbill, this range is 30%-70% displacement and 1%-10% displacement. The Applicant has stated that their preferred approach is to use single rates of 50% displacement and 1% mortality, and has presented impacts according to these values. Natural England disagree with the Applicant's preferred approach and have outlined our reasons in detail in [REP3-057] and [REP4-124]. The Applicant has also provided their assessment according to Natural England's advice ([REP6-009], Table 9-34), and we have based our conclusions based on these impact figures. Applying Natural England's advice on displacement and mortality rates and apportioning (see Section 2), annual displacement impacts of the Projects combined on FFC SPA guillemot are predicted of between 30 and 702 adult birds (see Table 4). Acknowledging that recent consent decisions have generally been based on impacts at a 70% displacement rate and 2% mortality	The Applicants do not consider prey effects to '*intensify*' direct effects from displacement as they are already accounted for in this effect pathway (see response to REP8-053: 1 '**Indirect Impacts**' above).

I.D.	Natural England's Response	Applicants' Response
	rate, Natural England will focus on these values. At a 70% displacement and 2% mortality rate, the predicted impacts of the Projects are 140 adult birds (Table 5). This results in an increase in baseline mortality rate of 2.18%, therefore further investigation of population-level impacts is therefore required via PVA. Natural England note that the Applicant also provided an assessment of potential cumulative displacement impacts on auks in the area between the two Dogger Bank South arrays. At 30%-70% displacement and 1%-10% mortality, this concluded that between 2 and 42 additional FFC SPA adult razorbill could be impacted, while at 70% displacement and 2% mortality, 8 additional FFC SPA adult razorbill could be impacted. Natural England considers that this information provides valuable additional context to the potential impacts of the Projects on razorbill, but have agreed that these figures do not need to be included in the assessment totals (see section 2). Furthermore, Natural England consider that indirect impacts on sandeel are likely to intensify direct impacts of the Projects on FFC SPA razorbill (see section 3). The PVAs run by the Applicant showed that, after 30 years, the impact of the Projects at 70% displacement and 2% mortality would result in a reduction in population growth rate per annum of 0.26% (CGR 0.9974) and a reduction in population size of 7.79% (CPS 0.9221). Based on this level of impact, **Natural England can advise no AEoI on FFC SPA due to displacement impacts on the razorbill feature for Dogger Bank South (East and West) alone.**	
	Predicted Impacts and Integrity Judgement: Dogger Bank South (East and West) In-Combination with Other Plans and Projects For the in-combination assessment, the Applicant has estimated the total abundance of razorbill at other relevant projects and applied displacement and mortality rates to these. The Applicant has calculated totals both including and excluding compensated projects, but Natural England note that, to date, no projects have had to compensate for FFC SPA razorbill. We have therefore based our conclusions on the totals presented including all projects (Table 5). As for guillemot, for the in-combination total, Natural England will refer to the figure obtained when applying 70% displacement and 2% mortality to all projects except for Hornsea 4, for which 70% displacement and 5% mortality is used. This results in a total of 411 adult birds (Table 5). Natural England has run the PVA for this figure, as the Applicant had not (Table 5). At this level of impact, the PVA showed that after 30 years the population growth rate would be reduced by 0.8% per annum (CGR 0.992), and the population size would be reduced by 21.2% (CPS 0.788). FFC SPA has a conservation objective for razorbill to maintain the size of the breeding population to a level which is above 10,570 breeding pairs, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent. The most recent count in 2022 indicated a population size of 30,673 pairs. While this represents an increase from the previous count in 2017 of 27,967 pairs, and the recent trend is of population growth with an average annual growth rate of 6%, this trend cannot be assumed to continue for the next 30 years, particularly given recent declines in productivity and uncertainty surrounding the long-term impacts of HPAI and climate change. **Table 5: Predicted impacts on the razorbill FFC SPA population as presented in the Applicant's RIAA [REP6-009] for project alone and in-combination displacement impacts.**	The Applicants do not agree with the conclusion of AEoI based on the results of population modelling as set out in the **Report to Inform Appropriate Assessment Habitats Regulations Assessment Part 4 of 4 – Marine Ornithological Features (Revision 5)** [REP6-008] – see section 9.6.2.5.5.2. Nonetheless without prejudice compensation has been proposed (see **Guillemot and Razorbill Compensation Plan (Revision 6)** [REP6-012]).

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Razorbill: Flamborough & Filey Coast SPA				
Assessment description	Displacement mortality (adult birds)	% Baseline mortality using 2022 count data*	Reduction in population growth rate per annum after 30 years (CGR**)	Reduction in population size after 30 years (CPS**)
Dogger Bank South (East and West) alone (30% displacement, 1% mortality)	30	Not calculated	PVA not run	PVA not run
Dogger Bank South (East and West) alone (70% displacement, 10% mortality)	702	10.9	1.31% (0.9869)	33.49% (0.6651)
Dogger Bank South (East and West) alone (70% displacement, 2% mortality)	140	2.18	0.26% (0.9974)	7.79% (0.9221)
Consented projects, plus Tier 1d, applying 70% displacement and 2% mortality to all projects	343	5.32	0.64% (0.9936)	17.98% (0.8202)
Consented projects, plus Tier 1d, applying 70% displacement and 2% mortality to all projects except H4 at 70% displacement and 5% mortality***	411	6.38	0.8% (0.992)	21.2% (0.788)

* 61,345 breeding adults, baseline mortality of 6,441
** CGR (counterfactual of growth rate) and CPS (counterfactual of population size) values are mean values derived from PVA
*** Razorbill impacts of H4 are assessed at 70% displacement and 5% mortality, as per Natural England's advice. The total number of birds at H4 subject to displacement is 3258, so applying 70% displacement and 5% mortality rate gives an impact of 68, increases the in-combination impact to 411. Note that this PVA was run by Natural England, not by the Applicant.

For the Hornsea 4, Sheringham and Dudgeon Extensions, Rampion 2, Five Estuaries and Outer Dowsing projects, Natural England concluded that, considering the colony's current and likely future growth rates, an AEoI could not be ruled out for the razorbill feature of the FFC SPA. These considerations remain valid, and the Projects will be contributing significant numbers to the in-combination impacts for this species at FFC SPA.

With the potential long-term impacts of HPAI and climate change adding further uncertainty to the potential long-term population status for razorbill at FFC SPA, Natural England's advice regarding in-combination displacement impacts to FFC SPA razorbill therefore remains unchanged from that set out in our End of Examination responses for recent North Sea OWF Examinations. Namely that, because there are indications that the predicted level of mortality would mean the population could decline from current levels should the current population growth rate not be sustained, **it is therefore not possible to rule out AEoI on FFC SPA due to displacement impacts from Dogger Bank South (East and West) on the razorbill feature in-combination with other plans and projects.**

	Predicted Impacts and Integrity Judgement: Dogger Bank South (East and West) in combination with other plans and projects	The Applicants do not agree with the conclusion of AEoI based on the results of population modelling as set out in the **Report to Inform Appropriate Assessment Habitats Regulations Assessment Part 4 of 4 – Marine**

I.D.	Natural England's Response	Applicants' Response
	For the in-combination assessment, the Applicant has estimated the total abundance of guillemot at other relevant projects and applied displacement and mortality rates to these. This results in predicted in-combination totals of between 93 and 2174 adult birds ([REP6-009], Table 9-46). At Natural England's reference rates of 70% displacement and 2% mortality, the total in-combination impact excluding compensated projects is 435 adult birds (Table 6). Every impact level within this range results in an increase in baseline mortality greater than 1%. Further investigation of population-level impacts is therefore required via PVA. The PVAs run by the Applicant showed that, after 30 years, the in-combination total at 70% displacement and 2% mortality of 435 adult birds results in a reduction in population growth rate of 0.76% per annum (CGR 0.9924) and a reduction in population size of 21% (CPS 0.7895). **Table 6: Predicted impacts on the guillemot Farne Islands SPA population as presented in the Applicant's RIAA [REP6-009] for project alone and in-combination displacement impacts.**	**Ornithological Features (Revision 5)** [REP6-008] – see section 9.8.2.2.5.2. Nonetheless without prejudice compensation has been proposed (see **Guillemot and Razorbill Compensation Plan (Revision 6)** [REP6-012]).

Guillemot: Flamborough & Filey Coast SPA				
Assessment description	Displacement mortality (adult birds)	% Baseline mortality using 2019 count data*	Reduction in population growth rate per annum after 30 years (CGR**)	Reduction in population size after 30 years (CPS***)
Dogger Bank South (East and West) alone (30-70% displacement, 1-10% mortality)	3 - 65	0.08 - 1.66	PVAs not run	PVAs not run
Dogger Bank South (East and West) alone (70% displacement, 2% mortality)	13	0.33	PVAs not run	PVAs not run
Consented projects, plus Tier 1d (30-70% displacement, 1-10% mortality)	93 - 2174	2.3 - 55.7	PVAs not run	PVAs not run
Consented projects, plus Tier 1d, applying 70% displacement and 2% mortality to all projects.	435	11.1	0.76% (0.9924)	21.05% (0.7895)

* 64,042 breeding adults, baseline mortality of 3906
** CGR (counterfactual of growth rate) and CPS (counterfactual of population size) values are mean values derived from PVA

The Farne Islands SPA has a conservation objective for guillemot to maintain the size of the breeding population at a level which is above 37,875 breeding pairs, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent. The 2019 count, used by the Applicant in their assessment, was of 32,021 breeding pairs. However, since then, the population size has declined to an estimated 21,446 breeding pairs in 2024, a 33% decrease, partly attributed to impacts of HPAI (SMP 2025, Tremlett et al 2024).

Natural England have previously advised regulators that we cannot rule out an AEoI on guillemot at the Farne Islands SPA in-combination, due to the substantial impacts of the Berwick Bank OWF both alone and in-combination with other plans and projects. The Dogger Bank South projects will be contributing to this impact. Given this, along with uncertainty over the long-term impacts of HPAI and climate change on guillemot populations, Natural England consider that the predicted level of in-combination impacts on Farne Islands SPA guillemot are likely to negatively

I.D.	Natural England's Response	Applicants' Response
	affect the conservation objectives for this species. **Therefore, we are unable to rule out AEoI on the Farne Islands SPA due to displacement impacts from Dogger Bank South (East and West) on the guillemot feature in combination with other projects.**	
Annex 2: Summary of Natural England's Position regarding potential for significant adverse impacts under Environmental Impact Assessment (EIA)		
REP8-053: A2.2	**2.2 Detailed Comments and Conclusions on Dogger Bank South (East and West) OWFs Alone and Cumulative Impacts for Environmental Impact Assessment (EIA)** ***Gannet*** The predicted impact of the Projects alone, for displacement and collision impacts combined is of 41 birds, which increases the baseline mortality against the BDMPS by 0.048%. For the cumulative assessment, the Applicant has estimated the total number of collisions according to the most recent CRM guidance, using an updated avoidance rate of 99.2% and a 70% macro-avoidance rate (SNCBs 2024) and presented the results in Table 12-102 of the ES [REP6-016]. The total annual cumulative impact for collision and displacement impacts, as estimated by the Applicant, is between 1091 and 1215 birds (Table 9). This increases the baseline mortality against the BDMPS by 1.28-1.42%. As this is above 1%, further investigation of population-level impacts via PVA was required. The PVAs run by the Applicant showed that, after 30 years, the population growth rate was reduced by up to 0.28% per annum (CGR 0.9972) and the population size was reduced by up to 8.5% (CPS 0.9153). Gannet is listed Amber under UK BOCC (Birds of Conservation Concern) and classed as 'Least Concern' under the GB IUCN assessment (Stanbury et al. 2024). While the UK gannet population has been increasing in recent decades (growth rates of 2-3% per annum), the recent HPAI outbreaks have had significant impacts, with Tremlett et al (2024) estimating that the UK gannet population declined by 25% between the last census and 2023. There is considerable uncertainty as regards the long-term population-level impacts of HPAI on gannets in the UK. This is particularly relevant at an EIA scale, as the population includes numerous Scottish colonies that have been very severely impacted by HPAI. Natural England advise that, given uncertainty around the true level of cumulative impact and the future population trends for gannet, **we remain unable to rule out a significant adverse impact**. This is in line with previous advice to North Sea OWF Examinations.	The Applicants acknowledge Natural England's position on gannet impacts, however they dispute Natural England's conclusion that they are unable to rule out that cumulatively this could result in a significant impact. The Applicants consider that this is a reflection of the layered precaution Natural England apply to seabird impact assessments which over-estimate mortality through the methods and parameter values they require to be used and underestimate the resilience of populations through their insistence that only density independent PVA results are appropriate (see **Precaution in the Ornithology Assessment and Implications for Compensation Quantum** [REP3-030] for further discussion on these points). Notably, even allowing for these precautionary assumptions, the cumulative impact on gannets only results in a 0.28% decline in population growth rate – approximately one tenth of the long-term positive growth trend for this species. Since assessing impacts following Natural England guidance undoubtedly results in the absolute worst case estimation of impact magnitudes, and even then is predicted to have a very small effect, it is difficult to understand how Natural England then concludes that they cannot rule out a significant effect. The Applicants disagree with this conclusion and consider that they have clearly demonstrated that the Projects will not give rise to a significant impact on the gannet population either from the Projects alone or cumulatively.
	Razorbill The predicted impact of the Projects alone is between 87 and 2022 birds (30% x 1% to 70% x 10% displacement and mortality). At Natural England's reference rates of 70% displacement and 2% mortality, the predicted impact is of 404 birds which increases the baseline mortality against the BDMPS by 0.525% (Table 9). For the cumulative assessment, the Applicant has estimated the total number of birds at risk, and applied displacement and mortality rates to them (REP6-016, Table 12-97). At Natural England's reference rates of 70% displacement and 2% mortality, the cumulative total for all projects including the DBS Projects, as estimated by the Applicant, is 3012 birds, which increases the baseline mortality against the BDMPS by 3.908% (Table 9). As this is above 1%, further investigation of population-level impacts via PVA was required. The PVAs run	The Applicants acknowledge Natural England's position on razorbill impacts, however the Applicants dispute Natural England's conclusion that they are unable to rule out that cumulatively this could result in a significant impact. The Applicants consider that this is a reflection of the layered precaution Natural England apply to seabird impact assessments which over-estimate mortality through the methods and parameter values they require to be used and underestimate the resilience of populations through their insistence that only density independent PVA results are appropriate (see **Precaution in the Ornithology Assessment and Implications for Compensation Quantum** [REP3-030] for further discussion on these points). For these reasons the Applicants disagree with Natural England's conclusion and consider that they have clearly demonstrated that the Projects will not give rise to a significant impact on the razorbill population either from the Projects alone or cumulatively.

I.D.	Natural England's Response	Applicants' Response
	by the Applicant showed that, for this level of impact, after 30 years, the population growth rate was reduced by 0.58% per annum (CGR 0.9942) and the population size was reduced by 16.55% (CPS 0.8345). Natural England note that the Applicant also provided an assessment of potential cumulative displacement impacts on auks in the area between the two DBS arrays. At 30%-70% displacement and 1%-10% mortality, this concluded that between 5 and 110 additional razorbill could be impacted, while at 70% displacement and 2% mortality, 22 additional razorbill could be impacted. Natural England considers that this information provides valuable additional context to the potential impacts of the Projects on razorbill, but have agreed that these figures do not need to be included in the assessment totals (see section 2). Razorbill is listed Amber under UK BOCC (Birds of Conservation Concern) and classed as 'Vulnerable' under the GB IUCN assessment (Stanbury et al. 2024). While the UK population has increased recently (Burnell et al 2023), it is predicted to decrease under climate change (Stanbury et al 2024). The species may also have been affected by recent HPAI outbreaks (Tremlett et al 2024). Natural England's position remains as it was during recent North Sea OWF examinations, that **we are unable to rule out a significant adverse impact on razorbill due to cumulative impacts.**	

2.8 Natural England – Appendix H8

10. The Applicants note that responses have been provided only to select matters in this appendix where new information has been provided or the Applicants wish to reiterate their current position.

Table 2-10 – The Applicants' Response to Natural England's End of Examination Position on the Applicant's Proposed Offshore Ornithology Compensatory Measures – Appendix H8 [REP8-054]

I.D.	Natural England's Response	Applicants' Response
REP8-054: A 1.2	**1.2 Compensatory measure: Offshore Artificial Nest Structure** The Applicant has proposed the delivery of a single project-led offshore ANS to compensate for the predicted impacts of the Projects on kittiwake at FFC SPA, with a collaborative approach proposed for the delivery of a second offshore ANS by ODOW OWF. It is proposed that the two ANS together will provide sufficient compensation for the impacts of ODOW and DBS combined. The combined compensation requirements of both ODOW and the DBS Projects therefore need to be considered in the context of the proposed measure (ODOW predicted requirement: 542 breeding pairs (2:1), 813 breeding pairs (3:1)[3]). We note that the smaller impacts of ODOW provide an opportunity for an ODOW-led structure to supply a significant proportion of DBS's kittiwake compensation requirements, whilst the provision of two ANS would also provide resilience against one structure not performing as expected. The Applicant maintain that, should the collaborative approach with ODOW not proceed, they would be able to provide sufficient compensation through a single ANS (though we note economic arguments casting doubt on this have been included in the most recent KCP [REP6-011]). However, given the scale of the predicted impacts of the DBS Projects, Natural England consider that a single ANS may not be sufficient to deliver the level of compensation required. We note that, while the Applicant has stated that their ANS design can be scaled to meet whatever the final agreed compensation requirements of the Projects may be, no designs have been submitted into the Examination, and the Applicant has stated that the design will be developed post-consent. We are therefore unable to advise the Examination on the design of the proposed ANS or the number of nesting spaces it will provide.	The Applicants clarify that Natural England has misinterpreted how far the Artificial Nesting Structure (ANS) 'can be scaled'. As discussed in **The Applicants' Closing Statements** [REP8-042]: *Given the need to progress the offshore ANS rapidly to meet the 2030 targets for the Projects, the Applicants have progressed at pace to develop mature design plans for the structure.* ***The Applicants are confident that their ANS design is sufficient to accommodate the number of breeding pairs required based on the H4 approach, a compensation ratio of 3:1 using the mean impact value and apportionment of 100% adults if required.*** *The Applicants existing ANS design could be scaled to meet the 95% confidence level of the above scenario but this would limit any headroom for Adaptive Management and wider industry benefit in providing for future offshore wind project compensation requirements (in alignment with NPS EN-3 and DESNZ guidance).* In short, the ANS design could potentially meet the requirement for 3022 breeding pairs *However, 'scaling' to the number of nesting spaces as proposed by Natural England using their preferred methodology (Hornsea 3 part 2) would not be possible using the current design base case without severely impacting both the ANS and wider delivery programme and budget.* Re-designing the offshore ANS to accommodate 6,258 pairs would cost millions, increasing the existing cost burden to the industry and the end-consumer and the already eye-watering cost compared to the mean impact value. There is currently no precedent for scaling compensation, and while the Applicants intend to accommodate substantial headroom in the ANS design, there are major financial and programme implications for scaling compensation to the upper 95%CI or at ratios greater than 2:1.
REP8-054: A 2.3	**2.3 Delivery and lead-in time** The Applicant originally stated their intention to begin predator eradication two years in advance of turbine installation. However, the need to wait for the development of the Isles of Scilly eradication as a strategic measure means that this may not be possible. We further note that it may take longer than two years to complete an eradication and that implementation before impact is not analogous to delivering compensation before impact. There are therefore potential consequences relating to the accrual of mortality debt. The Applicant maintain that an eradication on the Isles of Scilly will provide sufficient overcompensation to account for any delay in implementation, however we have raised concerns regarding the methods used by the Applicant to estimate the compensation potential of the site [REP5-059, REP6-076]. Natural England therefore urge some caution regarding estimates of the compensation potential, and particularly over-compensation potential, of the site until the results of the relevant work being undertaken	In Table 6 of this response (shown in the screenshot included in this response) Natural England states: For guillemot: *Given the uncertainties associated with the response of guillemot to the proposed measures, the potential for indirect impacts on prey to intensify impacts (see Appendix G8 Section 3), Natural England consider it appropriate to scale the provision of the measures at a minimum ratio of 2:1 (sufficient space for 7,924 breeding pairs of guillemot), and in the light of the likely implementation timetable, invite the Secretary of State to consider whether a ratio of 3:1 is warranted.* For razorbill: *Given the uncertainties associated with the response of razorbill to the proposed measures, and the potential for indirect impacts on prey to intensify impacts, Natural England consider it appropriate to scale the provision of the measures at a minimum ratio of 2:1 (sufficient space for 3,337 breeding pairs of razorbill), and in the light of the likely implementation timetable, invite the Secretary of State to consider whether a ratio of 3:1 is warranted.*

[3] Natural England (2025) EN010130-002326-EN010130 506611 ODOW Appendix G5 - Natural England's End of Examination Position on Offshore Ornithology Compensation Deadline 6.pdf

I.D.	Natural England's Response	Applicants' Response

by the Isles of Scilly Seabird Recovery Partnership and the Isles of Scilly Task and Finish group become available.

Table 6: Natural England's Summary position of compensation measures proposed for guillemot (FFC SPA and Farne Islands SPA) and razorbill (FFC SPA).

Guillemot (FFC SPA and Farne Islands SPA) and Razorbill (FFC SPA) compensation: Predator eradication on the Isles of Scilly		
Overall confidence in the measure		Natural England consider that delivering compensation for guillemot and razorbill via predator eradication is theoretically possible, and that the Isles of Scilly has considerable potential as a compensation eradication site. However, the deliverability of this measure depends on a strategic approach which is currently still being developed.
End of Examination Position		
Theoretical merit to deliver compensation		Removing predators such as brown rat could allow for colonisation of new areas or reduce predation pressure on existing colonies, and thus increase both breeding populations and productivity of seabirds. However, we do highlight that evidence of it being effective for guillemot and razorbill is limited, as these species have not been the target beneficiary for previous predator eradications.
Technical feasibility		Proven techniques exist for the eradication of rats on islands, and ongoing biosecurity measures can maintain rat free status. However, eradication programs are challenging, can be prone to delays, and other issues arising from unforeseen circumstances.
Agreed compensation level		Whilst Natural England and the Applicant do not agree on the appropriate impact or compensation level required, values have been provided in line with SNCB advice. <u>Guillemot:</u> The mean annual impact of the Projects combined on guillemot at FFC SPA has been calculated as 456 birds (95% UCL 878), while the mean annual impact of the Projects combined on guillemot at the Farne Islands SPA has been calculated as 13 birds (95%

The Applicants highlight that:

- Given that predator eradication has been accepted as a measure in the Library of Strategic Compensation Measures (LoSCM), and Natural England were integral to agreeing the LoSCM, there must be relatively high confidence in such a measure being successful.
- **Isles of Scilly Guillemot and Razorbill Survey and Habitat Assessment** [REP4-097] shows the likely quantum of compensation available at the Isles of Scilly (between 24,000 and 56, 000) which should give confidence that compensation can be delivered
- The Applicants consider that use of the 50% displacement and 1% mortality rates are suitably precautionary and given the confidence in the measure, there is no requirement for further ratios to be applied to the compensation quantum.
- Where individuals (predators) are subject to displacement effects, the mortality from this is assumed to result from a reduction in access to prey. So, in this case, consideration of any indirect effects via effects on prey is double counting to some degree (e.g. the predators are already displaced from the Array Areas so effects on prey within these locations have no additional effect). This area, covering the whole of the Array Areas plus 2km buffer is much greater than the total area of habitat loss or disturbance. Prey effects are included already in displacement and by definition cannot 'intensify the effect' for guillemot and razorbill.

Therefore, the Applicants consider that applying a ratio of 3:1 is unwarranted. In addition, the Applicants reiterate the risk to the offshore wind industry in exercising the level of over-precaution being suggested by Natural England, as there are limited sites for predator eradication available, hence the application of over-precaution could leave the UK with minimal further opportunities to compensate for impacts and therefore may prevent future projects being able to obtain consent which is directly in opposition to Government policy for growth and net zero targets.

I.D.	Natural England's Response			Applicants' Response
			UCL 18.3) Using the H4 method and the 95% UCL, this results in a compensation requirement for both SPAs of 3,962 breeding pairs of guillemot at a 1:1 ratio (see Tables 3 & 4 above). **Given the uncertainties associated with the response of guillemot to the proposed measures, the potential for indirect impacts on prey to intensify impacts (see Appendix G8 Section 3), Natural England consider it appropriate to scale the provision of the measures at a minimum ratio of 2:1 (sufficient space for 7,924 breeding pairs of guillemot), and in the light of the likely implementation timetable, invite the Secretary of State to consider whether a ratio of 3:1 is warranted.** Razorbill: The mean annual impact of the Projects combined on razorbill at FFC SPA has been calculated as 140 birds (95% UCL 430). Using the Hornsea 4 (H4) method and the 95% UCL, this results in a compensation requirement of 1669 breeding pairs of razorbill at a 1:1 ratio (see Table 5). **Given the uncertainties associated with the response of razorbill to the proposed measures, and the potential for indirect impacts on prey to intensify impacts, Natural England consider it appropriate to scale the provision of the measures at a minimum ratio of 2:1 (sufficient space for 3,337 breeding pairs of razorbill), and in the light of the likely implementation timetable, invite the Secretary of State to consider whether a ratio of 3:1 is warranted.**
	Scale/extent of measure		The Applicant has presented an estimation of the compensation potential of the Isles of Scilly for guillemot and razorbill. However, Natural England have raised several concerns relating to the methods used to arrive at these estimates. These are related to likely nesting densities of guillemot and razorbill, the assessment of habitat potential for razorbill, the assessment of the potential of three-dimensional habitats, and likely colony growth rates [REP5-059, REP6-076]. As such, we cannot agree with the Applicant's statements regarding the potential of the site to overcompensate for the Projects' impacts. However, Natural England agree that the Isles of Scilly has significant potential as a compensation site and consider that it may have the potential to deliver sufficient compensation to meet the requirements of the Projects.
	Timing: Deliverable before impact		The Applicant originally stated their intention to begin predator eradication two years in advance of turbine installation. However, the need to wait for the development of the Isles of Scilly eradication as a strategic measure means that this may not be possible, and it cannot currently be guaranteed that Scilly will provide sufficient overcompensation to account for any delay in implementation.

I.D.	Natural England's Response			Applicants' Response
			For every year that the Projects are operational without compensation in place, the full compensation target for each species will need to be added to the Projects' total compensation requirements. We highlight the need to factor in any mortality debt accrued before compensation measures begin to deliver sufficient benefits and note that it is currently unclear to what extent this measure could account for the build-up of mortality debt.	
	Location of measure		A location for Project-led delivery cannot be considered to be sufficiently in scope or secured at this time. Natural England welcome the Applicant's inclusion of the Isles of Scilly as a potential site and agree is has considerable potential. While we acknowledge that the issues with delivery of strategic compensation are outside of the Applicant's control, we note that a delivery mechanism for compensation on the Isles of Scilly has yet to be established and secured, although a Task & Finish Group has been set up to achieve this. While guillemot and razorbill do not currently occur in numbers to meet either of the criteria to be included as named assemblage components in the Isles of Scilly SPA seabird assemblage (national importance and over 2,000 individuals), they nevertheless form part of the SPA's seabird assemblage and contribute to its abundance and diversity. As such, any additional breeding guillemot and razorbill on the Isles of Scilly that arise as part of the strategic approach will directly benefit the National Site Network and fall under the protective provisions of the Habitats Regulations. Furthermore, it is possible that a successful eradication campaign delivered at scale could boost numbers to the extent that guillemot and razorbill become named assemblage components in the future.	
	Long term implementation		Natural England welcome the inclusion of predator monitoring and the implementation of biosecurity measures within the Outline Guillemot [and Razorbill] Compensation Implementation and Monitoring Plan. We highlight that the success of the measure will depend on adequate biosecurity measures post-eradication, including rapid response should any incursions be detected. Projections of colony growth rates undertaken by the Applicant suggest that it could take longer than the lifetime of the Projects to sufficiently compensate for the Projects' impacts. Natural England advise that it may therefore be necessary for the Applicant to continue to maintain biosecurity measures and monitoring on the Isles of Scilly beyond the lifetime of the Projects. The Applicant has proposed two potential adaptive management measures for guillemot and razorbill: offshore ANS and bycatch reduction. Natural England note that there is currently a lack of evidence demonstrating the likely effectiveness of offshore ANS	

I.D.	Natural England's Response			Applicants' Response
			for guillemot and razorbill. However, we agree that this measure has potential as adaptive management, and would welcome the Applicant including scope for it in their kittiwake ANS designs. Natural England welcome the Applicant's commitment to implementing bycatch reduction measures as a compensatory measure if "*robust evidence demonstrating the effectiveness of techniques to reduce the bycatch of auks became available*." We note that such evidence does not currently exist, but should it become available, we agree that this may be a suitable adaptive management measure.	
	Success criteria/Ability to prove additionality		As detailed in Section 3.2.2 of the introduction, Habitats Regulations Assessments have generally set the target or objective for the compensation to achieve with respect to the central impact value. We therefore consider the key success criteria for the measure would likely be the delivery of a sufficient number of breeding pairs with sufficiently high productivity to provide enough fledglings to produce 469 adult guillemot and 140 adult razorbill per annum. Natural England welcome the inclusion of both predator and seabird monitoring in the Outline Guillemot [and Razorbill] Compensation Implementation and Monitoring Plan (G[R]IMP) [REP4-023]. We also welcome the inclusion of productivity monitoring as well as colony counts. We consider that increased productivity and increased abundance of both guillemot and razorbill will be essential measures of success. We advise that subsequent versions of the G[R]IMP should provide further detail on monitoring, reporting of monitoring results, and potential triggers for deployment of adaptive management measures.	
	Suitable as sole measure for target species		Although there are grounds for optimism, there remains some uncertainty regarding the ability of predator eradication to deliver benefits to guillemot and razorbill populations at the scale required. We therefore welcome the Applicant's commitment to exploring the potential of ANS provision and, if viable techniques emerge, bycatch reduction, which could potentially provide useful adaptive management measures.	
	Key uncertainties			
	Delivery mechanism		While we acknowledge that the issues with delivery of strategic compensation are outside of the Applicant's control, we note that a delivery mechanism for compensation on the isles of Scilly has yet to be established and secured. Outstanding concerns therefore remain relating to the timescales for beginning and achieving compensation, as well as the compensation potential of the site, with potential consequences for the accrual of mortality debt.	

2.9 Natural England – Appendix P8

Table 2-11 – The Applicants' Response to Natural England's Comments on Environmental Statement Conclusions – Appendix P8 [REP8-055]

I.D.	Natural England's Response	Applicants' Response
REP8-055: 1	In formulating these comments, the following documents have been considered: • [REP7-036] 7.8 ES Chapter 8 Physical Environment (Revision 2) (Tracked) • [REP7-038] 7.9 ES Chapter 9 – Benthic and Intertidal Ecology (Revision 2) (Tracked) • [REP7-043] 7.10 ES Chapter 10 - Fish and Shellfish Ecology (Revision 2) (Tracked) • [REP7-046] 7.11 ES Chapter 11 - Marine Mammals (Revision 2) (Tracked) [REP6-016] 7.12 Environmental Statement Chapter 12 - Offshore Ornithology (Revision 4) (Tracked)	No response is required.
REP8-055:2	**Introduction** In response to questions posed in the Examining Authority's (ExA) Rule 17 Letter dated 19 June 2025 [PD-027], this document provides an overview of Natural England's outstanding concerns with respect to the Applicant's EIA assessment and conclusions. We note that the ExA has requested confirmation on whether Natural England agree with all of the Applicants' ES conclusions of potential significant adverse impacts detailed in the summary tables of each thematic area's ES chapter. Due to the scale of these tables and the limited time available, we have not commented on each individual conclusion. Instead, we have provided a summary of our outstanding areas of concern for each assessment and how they relate to the EIA conclusions in Tables 1-5 below. We also stress that due to the nature of EIA assessments, whereby conclusions are drawn based on expert judgement views on significance, value, magnitude and sensitivity, there may be elements of the assessment of significance which we do not agree with, but which may not ultimately change the overall conclusion of significant adverse impacts.	No response is required.

Table 2-12 The Applicants' Response to Natural England's Response to the ExA's Rule 17 questions [REP8-055]

I.D.	Question	Natural England's Response	Applicants' Response
Marine Physical Environment			
REP8-055: 3	**Applicants' environmental statement conclusions for marine physical environment** The Examining Authority (ExA) notes your disagreement with the applicants' updated impact and cumulative effects assessment of the Flamborough Front at deadline 5 [REP5-050]. Please confirm whether you agree with all the other applicants' ES conclusions detailed in Table 8-67 of ES Chapter 8 [APP-080], and updates outlined in Project Change Request 1 – Offshore and Intertidal Works	**Flamborough Front** Natural England does not agree with the assessment on significance of effect for 'Changes to water circulation (Flamborough Front) due to the presence of infrastructure (wind turbines and offshore platforms)' during operation for the Flamborough Front. We note that the Applicant has updated this in Table 8-71 (Table 8-67) of ES Chapter 8 [REP7-036] with the following: • Sensitivity - updated to low (from negligible) • Magnitude of impact – updated to medium (from low) (near-field) and to medium (from negligible) (far-field)	**Flamborough Front** Natural England in their response acknowledge the "current evidence gaps" in understanding impacts on water stratification from Offshore Wind Farm (OWF) clusters. Considering the evidence gaps, the Applicants are concerned that Natural England may be over inflating the significance of effect without the numerical or observational evidence to support their conclusions. The Applicants have defined the evidence gaps within **Review of Flamborough Front** [REP4-092] and have used these as the basis to design a monitoring approach, outlined in the **In Principle Monitoring Plan (Revision 5)** [REP7-115] that will provide the

I.D.	Question	Natural England's Response	Applicants' Response
	[AS-141] and Assessment of Coastal Processes at the Dogger Bank South Landfall [REP5-040]. If not, please specify which impact conclusions you disagree with and, if possible, include a cross reference to your submissions which explain why.	• Pre-mitigation effect & residual effect – updated to minor adverse (from negligible adverse) However, we maintain our previous concerns. As advised in our Relevant Representations (B33, B41 [RR-039]), the presence of large OWF clusters could provoke large-scale hydrodynamic changes that impact marine primary production and the wider marine ecosystem. Therefore, we are concerned that structures in the DBS Arrays could cause turbulent current wakes which impact circulation, stratification, mixing, and sediment resuspension. Changes to the Flamborough Front could have far-reaching and long-term consequences since the frontal system gives rise to nutrient-rich waters which create a biodiversity hotspot attracting seabirds and marine mammals to the area each year. Therefore, whilst the EIA assessment has been updated, we maintain that a more precautionary approach is appropriate given the current evidence gaps and potentially long-term and wide-scale nature of the impact and high ecological value of the Flamborough Front. [R&I, B22] [REP5-054] We advise that as a minimum this could be addressed though adopting similar requirements placed on Hornsea Project 4 i.e. pre-construction update of modelling of the final built out design and inclusion of monitoring. **Dogger Bank** Natural England welcomes that the value of Dogger Bank has been updated by the Applicant to high (from low) in the Sensitivity and Value Assessment tables within sections 8.7.3. and 8.7.4 of ES Chapter 8 [REP7-036]. However, the Applicant considers that as the relevant impacts assessed do not influence the broad-scale morphology of Dogger Bank, which in turn influences oceanographic conditions, its value is not considered in the definition of sensitivity and thus has mostly been defined as negligible, with non-significant (in EIA terms) residual effects (Table 8-71 (Table 8-67) of ES Chapter 8 [REP7-036]. Natural England does not agree with this method of sensitivity assessment. Therefore, we advise that there is a requirement for an updated pre-construction modelling report of the final built out design to be submitted and signed off by the MMO in consultation with the relevant SNCB, and that monitoring is a requirement of the DCO/dML. [R&I, B25, B27] Furthermore, as previously advised [REP6-072], we remain concerned and cannot support the conclusions regarding changes to bedload sediment transport and seabed morphology due to the presence of cable protection measures. The significance of changes in sediment transport due to the presence of cable protection on Dogger Bank is likely to be greater than negligible. We do not agree that the seabed at Dogger Bank can recover quickly as the presence of cable protection would persist over the lifetime of the Projects (and potentially beyond, if not removed at end of Project life)	data to both fill the evidence gaps and test the conclusions of the Environmental Statement (ES). Natural England advise "as a minimum this could be addressed though adopting similar requirements placed on Hornsea Project 4". The Applicants have already followed this advice and committed to updating the pre-construction baseline within the **In Principle Monitoring Plan (Revision 5)** [REP7-115], following the same principals defined in the Hornsea Project 4 monitoring plan. As they have acted on the advice received in this regard, the Applicants do not believe this is an outstanding issue. **Dogger Bank** Natural England are concerned about the definition of the sensitivity of the receptor and have advised "there is a requirement for an updated pre-construction modelling report of the final built out design to be submitted". As the hydrodynamic modelling is used to determine the magnitude of impact based on a realistic worse case scenario, updated modelling would not lead to a change in the definition of sensitivity. Furthermore, the Applicants have undertaken three iterations of hydrodynamic modelling to present a "realistic" worst case scenario (**Appendix 8-3 Marine Physical Processes Modelling Technical Report (Revision 3)** [REP2-017]. This was requested by Natural England as, due to design changes that led to a reduction in the worst case scenario, Natural England did not believe that the initial modelling was representative and needed convincing that a lower number of structures and reduction in the overall length of cabling would not lead to a greater magnitude of impact. If the Applicants were to undertake further modelling during the pre-construction phase this would undermine the Rochdale Envelope approach which is a fundamental basis to the EIA process and which is a supported by policy under Section 2.6 of EN-3. Additionally, the Projects final built design will be no worse than the realistic worst case scenario already modelled, so any new modelling will simply show the effect is less than predicted, which would lead to no material change in the definition of sensitivity. As such, this fulfilling this request would add little value and is not considered by the Applicants to be proportionate. With regards to cable protection measures and seabed recovery, Natural England "do not agree that the seabed at Dogger Bank can recover quickly". However, they present no evidence base to support their assumptions. The Applicants have collated and reviewed evidence of recovery observed across the SAC. The Applicants have based their assessment of seabed recovery on this evidence, drawn from repeat bathymetric surveys around seabed infrastructure on Dogger Bank (see **Appendix 8-2 - Met Mast Survey Analysis** [APP-083]). The Applicants have also committed to improving the evidence base through pre- and post-construction surveys as defined in the **In Principle Monitoring Plan (Revision 5)** [REP7-115].

I.D.	Question	Natural England's Response	Applicants' Response
		meaning potential seabed recovery would not occur for several decades. We are also concerned that interactions between the installed infrastructure with tidal currents and wave-driven currents may result in changes to the sediment dynamics and seabed morphology. [R&I, B29] **Smithic Bank** Natural England maintains our previous advice (B38 [RR-039]) that we do not agree with the low value assigned to Smithic Bank by the Applicant. We advise that the value is high and therefore disagree with the assessment on significance of effect for this receptor summarised in Table 8-71 (Table 8-67) of ES Chapter 8 [REP7-036]. Smithic Bank provides shelter to the northern part of the Holderness Coast including the town of Bridlington. It is an important fish nursery and feeding ground, in turn supporting the birds at Flamborough Head. [R&I, B25] We advise that as a minimum this could be addressed though adopting similar requirements placed on Hornsea Project 4 i.e. pre-construction update of modelling of the final built out design and inclusion of monitoring. **Decommissioning** Natural England maintains our previous advice (B44 [RR-039]) and continue to disagree with the Applicant's assessment that the magnitude of decommissioning effects on the marine physical environment can be assumed to be comparable to those during the construction phase. We consider that the baseline conditions at the end of design life may differ significantly from those at pre-construction and the value of receptors may change over the lifetime of the project. Consequently, the EIA cannot confidently determine decommissioning impacts at the end of the design life of the Projects. [R&I, B30].	**Smithic Bank** The Applicants agree that Smithic Bank is important at a local scale in sheltering the coast at Bridlington, and considering its local, and undesignated status, its value was defined as low according to the assessment methodology outlined in **Chapter 8 Marine Physical Processes (Revision 2)** [REP7-035]. The value of fish nursery and feeding grounds is considered in **Chapter 10 Fish and Shellfish Ecology (Revision 2)** [REP7-042]. Furthermore, there is no clear pathway to impact between the Projects and Smithic Bank as a receptor as the landfall and Offshore Export Cable Corridor is located south of Smithic Bank and the prevailing longshore sediment transport direction at the coast is North to South, as proven by the sediment transport modelling presented in **Assessment of Coastal Processes at the Dogger Bank South Landfall** [REP5-040]. With regards to updating the modelling with a final built out design, the Applicants maintain the position that they have modelled the realistic worst case scenario, and further modelling would undermine the Rochdale Envelope approach which is a fundamental basis to the EIA process, and which is a supported by policy under Section 2.6 of EN-3 (see earlier discussion). The Applicants have also committed to undertaking pre- and post-construction monitoring as outlined in the **In Principle Monitoring Plan (Revision 5)** [REP7-115], and of particular reference to Smithic Bank, is the commitment to monitor changes in sediment transport around any cable protection measures in water depths of less than 10m should any cable protection be deployed in this area. **Decommissioning** At this stage, it is not possible for the Applicants to determine whether components would be left in situ or removed from the seabed as part of decommissioning. This will be determined as part of the decommissioning programme which must be submitted to the Secretary of State for approval prior to commencement of offshore works (secured within Schedule 2, Part 1, Requirement 7 of the **Draft Development Consent Order (DCO) (Revision 12)** [document reference 3.1]. The benefits and disbenefits of retrieving cable and scour protection will need to be balanced at that point. There are a number of compelling reasons to consider leaving cable and scour protection infrastructure in situ, including lesser impacts in terms of disturbance effects, the preservation of potential reef habit and lower health and safety risks realised through not retrieving and handling protection material. In addition to these arguable benefits, there may be practical issues associated with the removal of protection at certain locations such as protection deployed to protect cable crossings. At such locations the Applicants may not be in a position to decommission such external protection in crossing locations (as the export and / or array cables would be crossing or be crossed by third party assets). It is expected that most

I.D.	Question	Natural England's Response	Applicants' Response
			array and export cables (and any associated cable protection) would be left in situ. Exposed sections of cable are more likely to be cut and removed to ensure they do not become hazards to other users of the seabed. At this point in time, it cannot be accurately determined whether and which cables would be exposed at the time of decommissioning. With regards to assessing the worst case impacts to physical processes, it is assumed that decommissioning would be a reversal of the construction process whereby infrastructure would be removed. Nevertheless, it is also assumed that such impacts during decommissioning would be of similar or lesser scale compared to the construction phase. As such, the effects of decommissioning on the marine physical environment will be comparable to those during the constructions phase: • Changes in suspended sediment concentration due to foundation removal; • Changes in suspended sediment concentrations due to removal of parts of the array, Inter-Platform and Offshore Export Cables; • Deterioration in water quality associated with the release of sediment bound contamination; • Changes in seabed level due to removal of parts of the array, Inter-Platform and Offshore Export Cables; and, • Indentations on the seabed due to decommissioning vessels. The magnitude of effects would be comparable to or less than those identified for the construction phase. Accordingly, given the construction phase assessments concluded negligible significance of effect on the marine physical environment, it is anticipated that the same would be valid for the decommissioning phase regardless of the final decommissioning methodologies. The significance of effects will be the same for DBS East or DBS West in isolation and for DBS East and DBS West together. It should be noted that the *Decommissioning of offshore renewable energy installations under the Energy Act 2004: guidance notes for industry* (2019) – a process intended to act as a one stop shop for decommissioning matter – notes that further surveys and assessment updates are expected throughout the life of a project. Hence, Natural England can take comfort that the assessments will be updated as part of well-established policy as the Projects are delivered and throughout their period of operation.
Benthic Ecology			
REP8-055: 4	**Applicants' environmental statement conclusions for benthic ecology** Confirm whether you agree with the applicants' ES conclusions in Table 9-27 of ES Chapter 9 [APP-089] and updates outlined in Project Change Request 1 – Offshore and Intertidal Works [AS-141]. If not, please	Natural England continues to disagree with the Applicant regarding biotopes contributing to Annex 1 feature being classed as low value, particularly where they will be subject to permanent loss/change and therefore for which sensitivity cannot be used to downgrade overall value as per the Applicants outlined methods. However, we acknowledge these will be given further consideration in the RIAA.	The Applicants direct Natural England to section 5.2.2 **The Applicants' Closing Statements** [REP8-042] for the Applicants' final position regarding this discussion on receptor value and its implications with regards to EIA and HRA.

I.D.	Question	Natural England's Response	Applicants' Response
	specify which impact conclusions you disagree with and, if possible, include a cross reference to your submissions which explain why..	[C9, R&I] Natural England maintains our previous advice (C10, [RR-039]) concerns with "Habitats or species that provide prey items for other species of conservation value" being considered of low value in the assessment. Of note are spawning/nursery grounds for sandeel and herring, both of which are an important prey resource for Annex I bird species and Annex II marine mammal features of designated sites. Within the wider marine environment impacts to habitats that provide prey availability may be considered as low. However, it should be recognised that some areas remain more important than others. Whilst we maintain our advice that a generic low value should not be attributed to all areas within the red line boundary, we note that this impact pathway has been given further consideration under HRA. Please see our response to RIES questions 32, 46, 52, 53 in [REP7-152] and Appendix B8 and P8 of our Deadline 8 submission for our most recent advice on this topic. [C10, R&I]	
Fish and Shellfish Ecology			
REP8-055: 5	**Applicants' environmental statement conclusions for fish and shellfish ecology** Confirm whether you agree with the applicants' ES conclusions in Table 10-35 of ES Chapter 10 [APP-091] and updates outlined in Project Change Request 1 – Offshore and Intertidal Works [AS-141]. If not, please specify which impact conclusions you disagree with and, if possible, include a cross reference to your submissions which explain why.	The Applicant has updated the DCO [REP7-012] to include conditions securing underwater noise mitigation for construction works, restrictions on export cable installation works during the herring spawning season and, on a without prejudice basis, restrictions on piling activity during the herring spawning season. We advise that we are satisfied that these updated conditions sufficiently secure the application of additional mitigation which would substantially reduce impacts to Atlantic herring (as demonstrated in [REP5-033]). We therefore agree with the EIA conclusions for Impact 1 (herring) and 4 (herring and sandeel). **Impacts from UXO clearance** The Applicant has stated [REP5-037] that they included a statement on impacts from UXO on fish in the ES Chapter [APP-091], which applies only to Impact 4 (construction). Whilst the Applicant has provided a nominal assessment of habitat loss for herring and sandeel in relation to UXO clearance in the updated the RIAA [REP7-017], we maintain our previous advice that this should be included in the ES Chapter and how it effects Impacts 1 and 6. Due to this not being undertaken during the Examination process, we advise that it is included in the Marine Licence application for UXO clearance. **Impact 7: EMF effects arising from cables.** Natural England remain concerned about EMF in array areas which include high and very high sandeel spawning habitat. The Applicant highlights that some receptors exhibit flexibility in their range of habitats, but Natural England highlights the high site fidelity known for sandeel. Whilst we agree they are less electrosensitive when compared with elasmobranchs, there is	**Impacts from Unexploded Ordnance (UXO) clearance** The Applicants acknowledge Natural England's comment **Impact 7: EMF effects arising from cables** Natural England stated in their Response to the Examining Authority's Written Questions [REP5-056] that: *'Natural England confirm that impacts from EMF are no longer a concern in regard to both herring and sandeel'.* Therefore, the Applicants maintain the position given within section 10.6.2.7. of **Chapter 10 Fish and Shellfish Ecology (Revision 2)** [REP7-042]. It must be noted that the MMO identify key impact pathways associated with export cables with respect to eggs and larvae remain the risk of direct damage, smothering and prevention of oxygenation. In their Deadline 8 submission. MMO consider that *'Although significant gaps in our understanding of the effects of EMF and sediment heating on both the egg and larval and adult life stages of herring and sandeel specifically remain, the MMO does not consider that herring or sandeel are notably receptive or sensitive to EMF emissions or sediment heating effects. The MMO would not consider the presence of EMFs to be a significant cause of concern for herring and sandeel spawning areas'* (see MMO response in REP8-048: 4.8.26 of **Table 2-2**). **Heat impacts** See response to AS-184:2 of **Table 2-8** with regards to heat impacts.

I.D.	Question	Natural England's Response	Applicants' Response
		insufficient evidence to confirm no impact on sandeel. However, we acknowledge that the lack of evidence base would prevent a more accurate assessment being undertaken. [E6, R&I] **Heat impacts** The effects of localised heating from the cables have been assessed in reference to water temperature increase, with no specific receptors identified as being impacted. We disagree with this being omitted from Table 10-34 as an impact and maintain our previous advice that an assessment of localised heating of sediment is provided to demonstrate that there would be no significant adverse impacts to both sandeel and herring. We note that the evidence cited by the Applicant at Deadline 6 [REP6-052] suggests that sediment could be heated from cables to a distance that would overlap with sandeel burrowing depths. See Appendix E8 of our Deadline 8 submission for further detail. [E8, R&I]	
Marine Mammal Ecology			
REP8-055: 6	**Applicants' environmental statement conclusions for marine mammals** **NE/ the MMO:** 2. Confirm which of the applicants' ES conclusions in Table 11-142 of ES Chapter 11 [APP-095] and updates outlined in Project Change Request 1 – Offshore and Intertidal Works [AS-141] you are in agreement with and which you disagree with. In addition to those mentioned above, if in disagreement, if possible, include a cross reference to your submissions which explain why.	The Applicant has included updates to the DCO condition related to mitigation for underwater noise during construction at Deadline 7 [REP7-012]. Whilst the Applicant has not committed to a specific level of noise reduction in dB, we are satisfied that this updated condition sufficiently secures the application of additional primary and/or secondary mitigation to reduce noise levels at source. We therefore agree with the conclusions for all species for Impacts 1 and 2 (Construction). **Piling in poor visibility or hours of darkness** In relation to Construction Impacts 4b, 4c, 6 and 9, Operation impact 3b, 3c, 5 and 8, Cumulative Impact 4 Natural England has advised the Applicant [REP6-071] to present the evidence that the proposed Passive Acoustic Monitoring (PAM) equipment will cover the whole mitigation area for all marine mammals, and that they have considered animals that vocalise infrequently such as baleen whales and seals. Whilst we acknowledge the commitment from the Applicant in the Outline Marine Mammal Mitigation Protocol [REP7-118] to ensure the monitoring area (MA) is fully mitigated with the use of PAM during hours of darkness and reduced visibility for all marine mammals, Natural England maintain our advice that the Applicant should present evidence. The current Illustrative Noise Document [REP7-126] presents values that would suggest PAM is not currently sufficient, even when applying a 10db noise reduction through NAS. Without this evidence Natural England cannot ascertain if the proposed PAM equipment would be sufficient.	The Applicants acknowledge Natural England's comment. **Piling in poor visibility or hours of darkness** A description of the Passive Acoustic Monitoring (PAM) equipment and method will be described in the final Marine Mammal Mitigation Protocol (MMMP), following Joint Nature Conservation Committee (JNCC) guidance on PAM (JNCC, 2023[4]). The Applicants commit to having PAM equipment that can detect all vocalising animals with the right hydrophone sensitivity to detect frequencies from 100Hz to 150kHz. The deployment will be planned to ensure the full Monitoring Area (MA) is monitored, and although there are various forms of equipment such as PAM buoys, unmanned surface vessel (USV) with towed PAM, gliders, and other forms of static PAM, these are not commonly used for mitigation purposes. The Applicants are considering these methods along with others; however, PAM equipment is always evolving, with new technologies emerging. Therefore, the selection of PAM equipment and the method will be finalised post consent with the latest information. Any new emerging technologies for marine mammal monitoring will also be considered. In addition, more evidence is becoming available on the vocal behaviour of certain marine mammals, such as grey seal. Celtic Sea Power have been using PAM to monitor grey seal and have documented various seal call types and have found that they are acoustically active (Smith, 2025[5]). The **Illustrative Underwater Noise Reduction Technical Note (Revision 3)** [REP7-126] presents a monitoring area of 150m based on the harbour porpoise

[4] JNCC (2023). JNCC guidance for the use of Passive Acoustic Monitoring in UK waters for minimising the risk of injury to marine mammals from offshore activities.
[5] Smith (2025). Passive acoustic monitoring of grey seal, presented at seal research group trust webinar.

I.D.	Question	Natural England's Response	Applicants' Response
		Cumulative Effects for Permanent Threshold Shift (PTS) (Cumulative Impact 1) Whilst we welcome updates to the DCO condition related to underwater noise mitigation for piling submitted at Deadline 7 [REP7-017], mitigation cannot guarantee that no animals will be at risk of PTS. We therefore maintain that PTS should be included in the CEA screening. In the updated ES Chapter 11 submitted at Deadline 7 [REP7-046], the Applicant states that 'PTS has been included in the iPCoD modelling as a precautionary approach but not assessed separately'. This is insufficient to resolve our concerns as it means the cumulative assessment has only taken account of the iPCoD modelling, not the other assessment methods used in the Chapter such as dose response curves. **Decommissioning Impact 1b: TTS from underwater noise** We cannot agree with the conclusions for this impact as the TTS pre-mitigation effects for grey seal is minor to major adverse. There is currently no mitigation for this in the table and would need to be mitigated as set out for Construction TTS impacts.	peak Sound Pressure Level (SPL) Permanent Threshold Shift (PTS) range with noise reduction which would be effectively mitigated. The Applicants acknowledge the monitoring area would be based on the JNCC (2010[6] & 2023[4]) guidance if required. **Cumulative Effects for Permanent Threshold Shift (PTS) (Cumulative Impact 1)** As the assessment of PTS is included in the interim Population Consequences of Disturbance (iPCoD), the Applicants maintain that it is efficient in assessing cumulative PTS. Assessing PTS separately at this stage would be very unrealistic as each Environmental Statement presents the worst case scenario and often bears little resemblance to what is constructed due to finalisation of design parameters and required mitigation post-consent (Sinclair, 2025[7]). The iPCoD modelling incorporates the PTS value as well as the worst case disturbance measures (using Effective Deterrent Ranges (EDRs) or dose response assessments) for the Projects. If, as a result of PTS, a population shows a continued decline of >1% per year (versus a modelled unimpacted reference population) over a set period of time (e.g., the first 6 years, based on the former Favourable Conservation Status reporting period), then there is a high likelihood that a significant effect cannot be ruled out (NRW, 2023[8]). Natural Resource Wales (NRW) have acknowledged that this threshold could be used as one possible method to determine the significance of behavioural disturbance on a population, based on the iPCoD outputs. However, this guidance is intended for consideration of PTS and remains under development. In absence of other guidance, the 1% threshold for iPCoD outputs remains a valid way to review results of population modelling to inform overall assessment conclusions and therefore this approach has been applied to the assessments. Furthermore, the Applicants are committed to using noise reduction methods through project design (primary measures) and/or noise mitigation systems or noise abatement systems (secondary measures) to reduce any risk of PTS following the latest noise policy (Defra 2025[9]), as other projects should be. PTS is considered to be localised to each project with regard to the modelled impact ranges. Effects would be mitigated with the measures secured in the Outline MMMP, which will be further developed post-consent and pre-construction and with consideration of the latest guidance (JNCC *et al.*, 2025[10]). Additionally, all other projects that were screened-in for an overlap in piling, committed to mitigate PTS with measures detailed in their respective MMMPs.

[6] JNCC. (2010). 'Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals from piling noise'. August 2010.
[7] Sinclair, RR (2025). Challenges and Solutions for Offshore Wind Farm Cumulative Effects Assessments for Marine Mammals. PrePARED Report, No. 007. April 2025.
[8] NRW. (2023). NRW's Position on Assessing the effects of Hearing Injury from Underwater Noise on Marine Mammals. Position statement. May 2023.
[9] Department for Environment Food and Rural Affairs (Defra). (2025) Defra Policy Paper on Reducing Marine Noise. Available online at: https://www.gov.uk/government/publications/reducing-marine-noise/reducing-marine-noise
[10] JNCC, Natural England and Cefas (2025). JNCC, Natural England and Cefas position on the use of quieter piling methods and noise abatement systems when installing offshore wind turbine foundations. JNCC, Aberdeen.

I.D.	Question	Natural England's Response	Applicants' Response
			The potential magnitude of cumulative impact for PTS to marine mammals as a result of cumulative underwater noise impacts is considered to be negligible given the small PTS impact ranges, the distance to other OWFs and activities, and the mitigation that each project has committed to. **Decommissioning Impact 1b: Temporary Threshold Shift (TTS) from underwater noise** Table 11-145 in **Chapter 11 Marine Mammals (Revision 2)** [REP7-045]) states the proposed mitigation as a MMMP as required for decommissioning impact 1a; and to be determined prior to decommissioning, so any mitigation for impact 1a, will also mitigate any risk from impact 1b.
REP8-055: 7	**Applicants' environmental statement conclusions for offshore ornithology** Confirm whether you agree with the applicants' ES conclusions in Table 12-118 of ES Chapter 12 [REP4-032]. If not, please specify which impact conclusions you disagree with and, if possible, include a cross reference to your submissions which explain why.	As confirmed in Natural England's Deadline 6 cover letter [REP6-071], we are satisfied that no further updates to the offshore ornithology assessment are required. The Applicant has concluded there are no significant EIA impacts on any seabird species from either the projects alone, or acting cumulatively with other existing, consented or proposed OWF developments. As detailed in [REP5-058] and Appendix G8 of our Deadline 8 submission, for some time Natural England has been unable to rule out significant adverse EIA impacts at the North Sea scale from OWF cumulative effects (Impacts 9-12) for the following species relevant to the impacts of Dogger Bank South: • Guillemot (displacement) • Razorbill (displacement) • Gannet (displacement and collision) • Kittiwake (collision) • Great black-backed gull (collision)	The Applicants disagree with Natural England's conclusions on significant adverse effects for razorbill and gannet, see the Applicants' detailed response in REP8-053: A2.2 in **Table 2-9** of this document.

2.10 National Grid Electricity Transmission

Table 2-13 The Applicants' response to National Grid Electricity Transmission Deadline 8 Document [REP8-050]

I.D.	National Grid Electricity Transmissions' Response	Applicants' Response
REP8-050: 1	**Introduction** This submission is made at Deadline 7 on behalf of National Grid Electricity Transmission plc (**NGET**) in connection with the application by RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited (**Promoter**) for the Dogger Bank South Offshore Wind Farms Development Consent Order (**Order**) to enable the construction of the Dogger Bank South Offshore Wind Farm (**Dogger Bank South Project**). It provides an update on the matters referred to in NGET's submissions to the Examination, being: a) Written representation dated 29 January 2025 [REP1-080]; b) Written Representation dated 24 April 2025 in response to Rule 17 Letter dated 15 April 2025 [REP4-111]; c) Written representation dated 23 May 2025 [REP5-064]; d) Written representation dated 13 June 2025 (including response to Rule 17 Letter dated 9 June 2025) [REP6-067) (NGET's D6 Submission); e) Written representation dated 25 June 2025 [REP7-150], (together the **NGET Submissions**).	No response is required.
REP8-050: 2	**Summary of NGET's position** NGET's position firmly remains as set out in detail in the NGET Submissions and, in particular, NGET's D6 Submission - namely that NGET has existing and future infrastructure that needs to be protected via the protective provisions that NGET is proposing be included in the final form of the Order (being those at Appendix 1 of NGET's D6 Submission) (**NGET PPs**). The Applicant has included a set of protective provisions for the benefit of NGET in the draft form of Order submitted at Deadline 7 **[REP7-011]** (**D7 PPs**). The comments made in NGET's D6 Submission continue to apply in relation to the D7 PPs and NGET considers that the D7 PPs do not provide sufficient protection for NGET. The Applicant has failed to provide adequate explanation or evidence as to why the NGET PPs should not be included in the draft Order, particularly given the precedent for this form of protective provisions being included in similar circumstances e.g. the Awel y Môr Offshore Wind Farm Development Consent Order 2023. A restriction on use of compulsory acquisition powers should be included in the DCO to allow it to exercise control over such powers and ensure that the serious detriment described above does not occur. This was made on the basis that the restriction is well-precedented (appearing in NGET's protective provisions in almost all DCOs, as well as protective provisions in favour of other statutory undertakings) and the protective provisions already provide that NGET's consent must not be unreasonably withheld or delayed. This position	These further submissions should be read together with those made by the Applicants at Deadline 7. The Applicants are aware that of National Grid Electricity Transmission plc (NGET) intends to make representations that its Protective Provisions submitted at Deadline 6 should be accepted in the Development Consent Order (DCO) confirmation in reliance on the recent Mona DCO decision. As matters presently stand, with no separate agreement between the Applicants and NGET in relation to managing these assets the Examining Authority needs to understand that the position in the Mona decision is materially different. The Secretary of State's decision in the Mona DCO was made in reliance on the withdrawal of objection by NGET dated 28th April 2025 that describes agreement having been reached upon retention of NGET's preferred Protective Provision (PP) wording. The terms of that agreement have not been disclosed by NGET but are obviously material to the NGET PPs being considered acceptable by the Applicants in that case and in turn by the Secretary of State in confirming the DCO. For the Mona case to be persuasive on the DBS application, a similar notification of agreement and withdrawal of objection would be needed to be supplied by NGET, that has not happened. Whilst negotiations to that end are taking place, they have not reached a conclusion. If those negotiations are successful, a similar outcome should result, and the PPs agreed as part of those negotiations can be part of the confirmed DCO. If the negotiations are not successful, then the position remains as it is now that the Examining Authority and Secretary of State would need to consider the acceptability of the differing PPs sought by the Parties judged alone and in the absence of any privately agreed terms that modify their effect. It is the unacceptable effect of NGET's PPs operating on their own which the Applicants wishes to make clear, namely that: The purpose of protective provisions should be to provide protection to the statutory undertakers existing assets, at the point of construction, not to allow it a power of safeguarding future areas for works not as yet accurately defined.

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	was agreed with by the Secretary of State in relation to the Sheringham Shoal and Dudgeon Extensions Offshore Wind Farm Order 2024 and the Rampion 2 Offshore Wind Farm Order 2025. NGET would also note that similar provisions restricting the use of the Applicant's compulsory acquisition powers have been included in protective provisions for the benefit of other statutory undertakers. Paragraph 6 (Acquisition of land) has been retained in the protective provision for the benefit of National Gas Transmission plc. The Applicant has not justified why such provisions would be appropriate for one statutory undertaker but not the other, particularly given the level of interaction between NGET's and the Applicant's infrastructure. The Promoter and NGET continue to engage in respect of the protective provisions for the benefit of NGET and will continue to do so following the close of the Examination. Since an agreed position has not been reached with the Promoter, NGET must continue to maintain the position set out in NGET's Submissions and requests that the NGET PPs should be included in the Order accordingly.	NGET's request to do so goes above and beyond what protective provisions are intended to cover and the protections provided to statutory undertakers in the Planning Act 2008 and the fact that it is clearly outside the operation of the primary legislation itself carries a clear warning that what NGET is seeking is excessive and unreasonable. The correct appropriate approach in such cases is to recognise whatever level of certainty exists at the time decisions are being made on powers being sought. That is the approach underlying legislation such as sections 127 and 138 Planning Act 2008 and should be the approach adopted here, as reflected in the Applicants' preferred form of protective provisions for NGET, as included in the **Draft DCO (Revision 12)** [document reference 3.1]. The same issues as outlined above in relation to design and construction of works apply to the protections sought by NGET in respect of acquisition of land or rights. The Applicants agree that any such land or rights held by NGET at the time of confirmation of the Applicants' DCO should rightly be subject to the protections of sections 127 and 138 Planning Act 2008 but that protection should not extend to land and rights not yet acquired. Doing so would deprive the Applicants of the certainty in respect of their ability to deliver their consented Projects that compulsory acquisition powers within a DCO are designed to give. Whilst it would no doubt assist NGET to have such extensive protections, they are unnecessarily wide and would risk timely delivery of the Applicants' Projects without any wider public benefit. The Applicants consider that interactions between the Projects and any future NGET projects should be addressed in a private agreement that allows specific engineering solutions to be discussed and recorded as principles that both Parties will abide by when then interpreting the DCO PPs. That is the approach the Applicants have been and will be taking in negotiations of a private agreement from here. It is believed that mutually acceptable terms should be able to be agreed, however the Applicants very strongly urges that in the event that cannot be achieved, the PPs applied should be guided by and consistent with the existing law in the Planning Act 2008, which would mean relying on the Applicants' PPs in Revision 1 of its Draft DCO.

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