Outer Dowsing Offshore Wind

Consultation Report

Appendix 5.1.16 Principal Areas of Disagreement Summary Statements

Date: March 2024

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Company:	**Outer Dowsing Offshore Wind**	Asset:	**Whole Asset**
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1.0	March 2024	DCO Application	ODOW	ODOW	ODOW	ODOW

Table of Contents

Acronyms & Definitions

Abbreviations / Acronyms

Abbreviation / Acronym	Description
DCO	Development Consent Order
EPP	Evidence Plan Process
ES	Environmental Statement
ETG	Expert Topic Group
NSIP	Nationally Significant Infrastructure Project
ODOW	Outer Dowsing Offshore Wind
PINS	Planning Inspectorate
PADSS	Principal Areas of Disagreement Statements
SoS	Secretary of State

Definitions

Term	Definition
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for a Nationally Significant Infrastructure Project (NSIP).
Evidence Plan Process (EPP)	A voluntary process of stakeholder consultation with appropriate Expert Topic Groups (ETGs) that discusses and where possible agrees the detailed approach to the EIA and information to support Habitats Regulation Assessment (HRA) for those relevant topics included in the process, undertaken during the pre-application period.
GT R4 Ltd	The Applicant making the application for a DCO. The Applicant is GTR4 Limited (a joint venture between Corio Generation and, TotalEnergies and Gulf Energy Development), trading as Outer Dowsing Offshore Wind.
Outer Dowsing Offshore Wind (ODOW)	The Project.
Statutory consultee	Organisations that are required to be consulted by the Applicant, the Local Planning Authorities and/or The Planning Inspectorate during the pre-application and/or examination phases, and who also have a statutory responsibility in some form that may be relevant to the Project and the DCO application. This includes those bodies and interests prescribed under Section 42 of the Planning Act 2008. Not all prescribed bodies and interested parties will be statutory consultees.
The Planning Inspectorate	The agency responsible for operating the planning process for Nationally Significant Infrastructure Projects (NSIPs).
The Project	Outer Dowsing Offshore Wind, an offshore wind generating station together with associated onshore and offshore infrastructure.

Reference Documentation

Document Number	Title
5.1	**Consultation Report**

1 Introduction

1.1 Principal Areas of Disagreement Summary Statements (PADSS)

1. The Applicant has worked proactively to frontload stakeholder engagement and facilitate constructive discussions with the Planning Inspectorate, statutory and non-statutory stakeholders through throughout the pre-application process and before participation in the Early Adopters Programme (EAP) commenced.
2. Due to the considerable overlap between topics covered in the Expert Topic Groups (ETGs), engagements logs being developed through the ETGs, and eventual SoCGs, specific stakeholders were invited to participate in the trial of Principal Areas of Disagreement Summary Statements (PADSS). These stakeholders were selected to reduce overlap with the issues trackers being developed with a couple of stakeholders being invited to participate in both.
3. If the application is accepted for examination, subject to the discretion of the Examining Authority, the Applicant will continue to engage with stakeholders to update the PADSS throughout the pre-examination and examination stages of the process where issues remain.
4. PADDS were received from Natural England and the Marine Management Organisation and are included in this report.
5. The Applicant notes that the initial intention was for PADSS to be developed in an iterative manner, and this has not necessarily been the case given the significant degree of overlap between the PADSS process and the already established Evidence Plan Process that was well advanced when the Planning Inspectorate's EAP trial commenced.
6. The Applicant will provide a point-by-point response to Natural England and the Marine Management Organisation following submission of the DCO application.

2 Natural England PADSS

OUTER DOWSING OFFSHORE WIND

EN010130

Natural England

Pre-Application Principal Areas of Disagreement Summary Statement (PADSS)

Finalised: 29 February 2024

A new approach to establishing principal areas of disagreement between consultees and applicants is being trialled on the Outer Dowsing Offshore Wind project under the NSIP Reform Early Adopters Programme.

Pre-application is the optimal time to seek agreement between parties. The use of PADSS have proved helpful in Examination procedures and should also assist negotiations when developed during the Pre-application stage.

The development of 'Pre-application PADSS' is expected to be an iterative process with versions provided by consultees to the Planning Inspectorate and the Applicant to inform discussion at project update meetings with the Applicant. Finalised Pre-application PADSS are requested to be provided by consultees to the Applicant to accompany the submission of their application for development consent and provided to the Applicant prior to submission.

If the application is accepted for Examination, subject to the discretion of the appointed Examining Authority PADSS should continue to be updated during the Pre-examination and Examination stages of the process where issues remain.

This document comprises a preferred format for consultees to record areas of disagreement during the Pre-application stage.

In production of this PADSS dated 29 February 2024, Natural England considers their pre-application engagement as completed.

Ref	Area of disagreement	Summary of concern held by Natural England	What needs to change, or be included or amended to overcome the disagreement?	Likelihood of the concern being addressed prior to submission of the application and/or during the Examination
Evidence Plan Process				
NE1	Sufficiency of Evidence Plan Process and Application timing	As Natural England understands, our engagement with the Evidence Plan Process (EPP) is completed by submission of this PADSS as of 29 February 2024. Natural England is concerned that due to data gaps (see NE2 below), the EPP has not been used effectively to progress or resolve issues prior to application.	To be accepted, the Project must satisfy the National Planning Inspectorate that the application documents are fully complete and robust so that interested parties are able to identify and resolve issues during the Examination.	Unlikely The Project considers the Pre-application stage to be complete and unless the pre-application stage is extended, the project will move to the application stage. There is significant risk that first sight of outstanding information at application will hinder examination progress in resolving issues.
NE2	Baseline Data	Natural England is concerned that our first opportunity to review the assessments based on the required 24 months of data for marine mammal, and offshore and onshore ornithology is likely to be at application. Furthermore, the Applicant is still working to update their *Sabellaria* assessments. In several instances we have not had sight of the associated named plans and documents, including mitigation measures supported by robust and sufficient datasets. It is plausible that once the full assessment is reviewed, Natural England may identify adverse effects for which 'in-principle' compensation measures have not been submitted.	Sufficient time should be allowed to ensure any issues with the sufficiency of the baseline data, named plans and documents can be resolved.	Unlikely Assessing new and updated data at application and /or during the examination and reaching agreement on the baseline characterisation will result in valuable time not being spent resolving outstanding issues between interested parties.
Marine Physical Processes and Benthic Ecology				
NE3	Nearshore (depth of closure) area - cable protection	Natural England is unable to rule out impacts to The Wash and North Norfolk Coast SAC, The Wash SPA, The Wash Ramsar and The Wash SSSI as a result of potential disruption to long sediment transport.	We advise that cable protection should be avoided in shallow nearshore areas which would cause disruption to longshore sediment transport.	Unlikely The next opportunity for Natural England to review any further updates will be at submission of relevant representations.
NE4	Evidence and modelling data gaps –marine physical processes	Natural England is concerned that review of the complete (updated) modelling data and impact assessments will be at application stage.	Robust, site specific-modelling data and empirical evidence validated from adjacent windfarm and cable developments is required so that Natural England can provide appropriate advice on the significance of predicted impacts and proposed mitigation measures to address them.	Unlikely Any concerns that Natural England have with presented models and the magnitude of associated impacts will therefore need to be addressed during examination.
NE5	Evidence and data gaps: insufficiency of *Sabellaria*	Natural England has concerns with the sufficiency of the resolution of data in order to draw conclusions, with any confidence, as to the	Natural England understands the Project has commissioned a contractor to undertake a *Sabellaria spinulosa* evidence review including existing and site-specific sample data. Natural	Unlikely

Ref	Area of disagreement	Summary of concern held by Natural England	What needs to change, or be included or amended to overcome the disagreement?	Likelihood of the concern being addressed prior to submission of the application and/or during the Examination
	spinulosa baseline data	presence, extent and quality of Annex I biogenic reef (*Sabellaria spinulosa*).	England has agreed to review this under DAS at the earliest opportunity.	This issue is unlikely to be resolved prior to examination and there is no guarantee this issue will be resolved within the examination timeframe.
NE6	Inner Dowsing Race Bank North Ridge (IDRBNR) SAC site integrity	Natural England considers there will be an AEoI to Annex I '*Sandbanks which are slightly covered by sea water all the time'* from any cable protection installation.	The Project must demonstrate the mitigation hierarchy has been fully explored.	Unlikely The next opportunity for Natural England to review any further updates will be at submission of relevant representations.
NE7	IDRBNR SAC Annex I 'reefs' (*Sabellaria spinulosa*) mitigation: Micro-routing of the export cable corridor	The Project has yet to provide conclusive evidence that the proposed micrositing of the export cable corridor can be successfully implemented to avoid adverse effect to the Annex I reef feature (*Sabellaria spinulosa*) of the IDRBNR SAC.	We advise that a *Sabellaria* mitigation plan, cable burial risk assessment and cable specification installation plan should be provided with the application.	Unlikely This review is likely to be undertaken during examination and with no guarantee this issue will be resolved within the examination timeframe. And a derogations case may be required.
NE8	The Crown Estate Agreement for Lease	Natural England queries how the project will comply with the Export Cable Region Assessments that inform their seabed lease with The Crown Estate, given the identified AEoI.	We suggest that feedback is sought through the examination process from The Crown Estate who are obligated to ensure the outcomes of the Round 4 plan level HRA are upheld.	Unlikely
NE9	"Without Prejudice" Benthic Compensation	We are concerned that the benthic compensation package remains not agreed.	Natural England notes that there are uncertainties about the delivery mechanism for some benthic compensation measures which are outside of the projects control.	Unlikely Further review is likely to be undertaken during examination and with no guarantee this issue will be resolved within the examination timeframe.
Marine Mammals				
NE10	Southern North Sea SAC: effectiveness of the Site Integrity Plan (SIP) process	Natural England is concerned that the SIP process is being exclusively relied on to address in-combination noise levels from multiple projects on SAC harbour porpoise in the post-consent phase.	To provide greater confidence that in-combination noise levels can be kept below the thresholds, the Applicant should commit to noise mitigation measures 'up front' (such as Noise Abatement Systems) rather than rely on the SIP to address impacts on the SAC in the post-consent phase.	Unlikely
Ornithology				
NE11	Impacts on and proposed compensation for Flamborough and Filey Coast Special	Guillemot and Razorbill It is likely that NE will be unable to rule out an Adverse Effect on Integrity on FFC SPA Guillemot and Razorbill. We have engaged in and welcomed discussions on "without prejudice" compensation measures for these species but highlight that there is a great deal of further	Questions concerning the nature, scope, viability and efficacy of the proposed measures need to be addressed to demonstrate that the measures can be secured and are ecologically robust.	Unlikely This issue is unlikely to be resolved prior to examination and there is no guarantee this issue will be resolved within the examination timeframe.

Ref	Area of disagreement	Summary of concern held by Natural England	What needs to change, or be included or amended to overcome the disagreement?	Likelihood of the concern being addressed prior to submission of the application and/or during the Examination
	Protection Area (FFC SPA)	development/refinement required in order to arrive at a suite of ecologically robust measures that would compensate for the impacts of the proposed development. <u>Kittiwake</u> We cannot yet agree on conclusions made with regards to the level of impact upon Kittiwake. There is a consensus that an AEoI in combination with other projects cannot be ruled out. However, it is the magnitude of the impacts that remain uncertain until we have reviewed the supporting assessments.	Questions remain over the magnitude of the impacts to Kittiwake. We need to have reviewed and agreed to the supporting assessments. Please see the comment regarding methodology below.	
NE12	Impacts on Greater Wash Special Protection Area	We have significant ongoing concerns regarding the impacts to red throated diver resulting from disturbance and displacement as a result of the construction and operation of the development within the Greater Wash SPA. This includes the proposed location of the Offshore Reactive Compensation Platform within the SPA.	We have provided advice to the developer regarding their methodologies used for quantifying impacts to red throated diver within the Greater Wash SPA. The developer should incorporate this feedback into their assessments and present their findings.	<u>Unlikely</u> This issue is unlikely to be resolved prior to examination and there is no guarantee this issue will be resolved within the examination timeframe.
NE13	Assessment Methodologies	We disagree with the methods used to calculate and describe the impacts to seabird species. In particular we have significant concerns over: • Apportioning of individuals to SPAs; • Bioseasons and their definitions; • Proportion of birds assessed as adults; • Use of sabbaticals; • Baseline Mortality Calculations; • Calculations for scale of compensation required.	We have provided advice to the developer via the Section 42 consultation response, expert topic groups and a workshop held in January 2024 recommending approaches to take regarding these issues. It is likely that the impacts will be under-represented unless the developer follows our advice, albeit in some instances, the Applicant proposes to present values using our advice.	<u>Unlikely</u> This issue is unlikely to be resolved prior to examination and there is no guarantee this issue will be resolved within the examination timeframe.
Onshore Ecology				
NE14	Incomplete Baseline Data.	During the pre-application stage the majority of the survey data for terrestrial ecological receptors has not been available in an EIA format for Natural England to provide project specific advice.	The Project should provide the full suite of baseline data and impact assessments and allow sufficient time for review and addressing any outcomes of that review.	<u>Unlikely</u> The first opportunity for Natural England to review the assessments will be at submission of Application with any issues being progressed during examination.
NE15	The Wash SPA and Ramsar: overwintering	The red line boundary of the onshore cable corridor crosses land that is considered as functionally linked to designated features of The	We advise that two years of survey data detailing distribution and passage of overwintering Annex I bird species from The Wash SPA is required to form an adequate baseline to inform any impact	<u>Unlikely</u> Review is likely to be undertaken during examination and with no guarantee that issues

Ref	Area of disagreement	Summary of concern held by Natural England	What needs to change, or be included or amended to overcome the disagreement?	Likelihood of the concern being addressed prior to submission of the application and/or during the Examination
	Annex I bird features	Wash SPA including but not exclusively pink-footed geese (PFG).	assessment and mitigation measures to ascertain the risk of any AEoI occurring. We expect to see an Outline Annex I species mitigation management plan for designated features of the SPA.	arising will be resolved within the examination timeframe.
NE16	Horizontal Direction Drilling (HDD) at landfall.	The landfall location at Anderby Creek, just North of Wolla Bank SSSI, has already experienced unforeseen complications and impacts from horizontal directional drilling operations during the Triton Knoll windfarm installation.	Natural England advises that a lessons learnt exercise is conducted with RWE to avoid similar impacts occurring. A more detailed plan of landfall construction methodology should be defined, and the subsequent Project description assessed in the ES.	Unlikely The next opportunity for Natural England to review any further updates will be at submission of Application.
NE17	Sea Bank Clay Pits SSSI.	Sea Bank Clay Pits SSSI is designated for hydrological features which may be susceptible to changes in the water table.	We advise that the Project should provide further site-specific survey data on the hydrographic conditions which maintain the designated features within the site and use the results of this survey to provide a detailed method statement to show that adverse impacts to the SSSI can be sufficient avoided/reduced.	Unlikely Further review is likely to be undertaken during examination, but note further data may still be required to inform the consenting phase.
NE18	Letter of No Impediment (LONI)	The project has yet to seek Letters of No Impediment from the Natural England Wildlife Licencing Services (NEWLS) team for a draft protected species mitigation licence for Greater Crested Newt (GCN), Water Vole, Bats, Badger and Otter. Natural England's current processing time for these applications is 45 days, excluding any time for assessment or clarification from the Applicant.	The Project must secure a Letter of No Impediment before a decision can be made on their application.	Unlikely Review is likely to be undertaken during examination and with no guarantee that issues arising will be resolved within the examination timeframe.
DCO/DML				
NE19	DCO/dML condition updates	Since the first draft of the DCO/dML a number of nature conservation concerns have been identified that will require resolution and associated updates to the DCO/dML.	The updates to the DCO/dML should relate to incorporating conditions which secure the delivery of fundamental mitigation measures, environmental controls and compensation measures.	Unlikely The next opportunity for Natural England to review draft DCO/dML will be at submission of Application. We highlight that there may be further concerns in regard to the draft DCO/dML which require resolved through examination.

3 Marine Management Organisation PADSS

Marine Management Organisation

OUTER DOWSING OFFSHORE WIND

EN010130

Marine Management Organisation

Principal Areas of Disagreement Summary Statement (PADSS)

Finalised: 15 December 2023

A new approach to establishing principal areas of disagreement between consultees and applicants is being trialled on the Outer Dowsing Offshore Wind (ODOW) project under the NSIP Reform Early Adopters Programme.

Pre-application is the optimal time to seek agreement between parties. The use of PADSS have proved helpful in Examination procedures and should also assist negotiations when developed during the Pre-application stage.

The development of 'Pre-application PADSS' is expected to be an iterative process with versions provided by consultees to the Planning Inspectorate and the Applicant to inform discussion at project update meetings with the Applicant. Finalised Pre-application PADSS are requested to be provided by consultees to the Applicant to accompany the submission of their application for development consent. and provided to the Applicant prior to submission.

If the application is accepted for Examination, subject to the discretion of the appointed Examining Authority PADSS should continue to be updated during the Pre-examination and Examination stages of the process where issues remain.

This document comprises a preferred format for consultees to record areas of disagreement during the Pre-application stage.

Ref	Area of disagreement	Summary of concern held by Marine Management Organisation	What needs to change, or be included or amended to overcome the disagreement?	Likelihood of the concern being addressed prior to submission of the application/ during the Examination
1	Marine Processes Coastal processes and geomorphology above the MHWS on construction has been scoped out.	The MMO does not agree that this should be scoped out.	Section 7.7 sets out what is to be scoped in and Impact 3 of construction is modifications to littoral transport and coastal behaviour (erosion), including at landfall. Landfall has been defined as the location at the land-sea interface where the offshore export cable will come ashore. The MMO would expect that coastal processes and geomorphology above MHWS would be discussed within this Impact 3 as the Impact Assessment (Section 7.12 in Volume 1, Chapter 7: Marine Physical Processes. Rev V1.0. June 2023) mentions temporary beach access (which is not known to be below MHWS or not) which could impact beach geomorphology. Also, within that section (7.12.76) it is noted that cable protection could act in a similar way to submerged breakwaters which could impact beach morphology, and littoral sediment transport which in the nearshore is driven by the wave regime. These impacts do not stop at the MHWS but will impact coastal processes above this line. Therefore, Impact 3 should consider impacts above the MHWS. The MMO requests that ODOW clarify if 'landfall' in this instance does include above MHWS. If it does not, then this should be included.	MMO is hopeful that the Applicant will take this into account as part of the Application so the MMO can provide comments during the Examination.
2	Marine Processes Operations and Maintenance and Decommissioning	Impacts to be scoped into the Operations and Maintenance and Decommissioning.	Impacts above MHWS to be included in Impact 4 (Modifications to the wave and tidal regime and associated potential impacts to the sediment transport regime and morphological features) and Impact 8 (Modifications to littoral transport, coastal behaviour (erosion) including at landfall) and should be scoped into the Operations and Maintenance and Decommissioning. This is to include the beach evolution over the lifespan of the project and to consider impacts of sea level rise on the beach profile, which could change the MHWS line.	MMO is hopeful that the Applicant will take this into account part of the Application so the MMO can provide comments during the Examination.
3	Marine Processes Impacts from scour.	Potential impacts from sediment that would be mobilised due to erosion occurring during scour development is not fully assessed.	The impacts of using scour protection (relating to a greater footprint of hard substrate being introduced, which may lead to habitat change/loss) should be compared to the impacts of simply designing foundations which can accommodate scour development.	MMO is hopeful that the Applicant will update the information required as part of the Application for this to be resolved during Examination.

			Secondary scour can occur around the edges of scour protection and the potential for this to increase the footprint of the project effects should be assessed. It is noted that 'there is limited numerical basis for the prediction of this secondary scour'. The MMO recommends that further evidence is collected from field data/monitoring evidence from other wind farms if available	
4	Marine Sediment and Water Quality Disposal sites	A Site Characterisation Report must be submitted to enable the MMO to designate one or more disposal sites.	Any disposal of material below MHWS must be to a licenced disposal site, and the volumes of material disposed under such operations must be reported annually. The seabed preparation works detailed within the report, particularly as it refers to the use of Trailing Suction Hopper Dredgers (TSHD), would fall under this requirement, and therefore the MMO recommends this need is identified within the Environmental Statement (ES). Drill arisings must be included within the Chapters and be included in any disposal site worst case scenario figures.	MMO is hopeful that a Site Characterisation Report will be provided for review prior to Examination so the disposal sites can be assessed by the MMO and included in any deemed marine licence.
5	Benthic and Intertidal Ecology Impact of temporary habitat disturbance during the construction phase*: Sabellaria spinulosa* reef.	It is possible that potential *Sabellaria spinulosa* reef could go undetected in future geophysical surveys	The MMO advises that ODOW indicate how they will ensure that the pre-construction surveys will be able to identify any areas of potential *Sabellaria spinulosa* reef so that they can be avoided by micro-siting / routeing.	MMO is hopeful that the Applicant will update the information required as part of the Application so the MMO can provide comments during the Examination.
6	Benthic and Intertidal Ecology Impact of permanent habitat loss / alteration during the operation & maintenance phase*:* Total area*.*	The total area that may be affected is large (5.5 km^2).	The MMO recommends that this area is reduced by design if practicable. The possible loss of habitat within the IDRBNR SAC due to any required cable protection is also a particular concern. However, it is noted that a cable burial risk assessment (CBRA) will be undertaken to help avoid significant impacts to Annex I sandbanks, though clarity is needed on whether impacts on Annex I reef can be avoided at this stage.	MMO is hopeful that the Applicant will update the information required as part of the application so the MMO can provide comments during the Examination.
7	Benthic and Intertidal Ecology Impact of colonisation of the Wind Turbine Generators (WTGs) and scour / cable protection during the operation & maintenance phase.	Clarity required and possible review of conclusions reached.	The ES states that this would affect an area of 0.8 km^2 (see section 9.7.97 of Volume 1, Chapter 9: Benthic and Intertidal Ecology. Rev V1.0. June 2023). However, based on the information presented in Table 9.10 of the same document, it appears than an area of 8 km^2 would be affected. The MMO requests clarity on what the affected area will be and, if it's the larger area – as appears to be the case – then ODOW should indicate whether this affects their conclusion.	MMO is hopeful that the Applicant will update the information required for this to be resolved during Examination.
8	Benthic and Intertidal Ecology	Impact magnitude assigned 'negligible'.	It is acknowledged that there is uncertainty regarding whether this impact will occur, and which species will be involved if it	MMO is hopeful that the Applicant will update the

	Potential spread of invasive non-native species (INNS) due to the presence of infrastructure during the operation & maintenance phase.		does. Given this uncertainty, the MMO queries whether it would be suitably precautionary to increase the impact magnitude above 'negligible'? When considering the risk of this impact, it would be useful to consider the proximity of the infrastructure to other artificial or natural hard habitats in the area in the Cumulative Effects Assessment (CEA). This would indicate the potential for the installed infrastructure to act as stepping stones for the spread of Invasive Non-Native Species (INNS) in the region. Given the high level of uncertainty regarding the potential spread of INNS, the MMO considers it would be appropriate to monitor selected infrastructure for colonisation by INNS, followed by discussions with MMO regarding the possible application of adaptive management measures if INNS are recorded and action is deemed appropriate.	information required as part of the application so the MMO can provide comments during the Examination.
9	Fish and Shellfish Ecology Shellfish	The listed data sources do not cover the array or cable corridor, and several are over 10 years old, which could be considered outdated.	MMO would expect more recent data to inform the baseline environment for shellfish receptors and shellfisheries.	MMO is hopeful that the Applicant will provide the required data for this to be resolved during Examination.
10	Fish and Shellfish Ecology Fish	The assessment of impacts to fish from underwater noise and habitat disturbance for some species (primarily herring and sand eel) requires further consideration.	The assessment of impacts to fish from underwater noise and habitat disturbance for some species (primarily herring and sand eel) requires further consideration and some clarification is also needed to ensure the ES is robust and fit for the purpose of assessing the likelihood of significant impacts occurring to fish.	MMO highlights that noise is a major issue and is hopeful that the Applicant will update the information required for this to be resolved during Examination.
11	Fish and Shellfish Ecology Marine Mammals	Project to show consideration of additional noise abatement measures, such as bubble curtains or other alternative measures.	The MMO notes the increase in hammer energies being used to install monopiles at OWFs. Monopile hammer energies have typically been in the region of 4,000 – 5,000 kilojoules (kJ). It is noted that 6,000 – 7,000kJ is proposed. These higher hammer energies are likely to result in noise impacting a larger area. Whilst receptor-specific mitigation is recommended by the MMO when the evidence suggests that significant impacts to a particular species of fish are likely to occur, additional noise abatement measures may be required, such as bubble curtains or other alternative measures. Given the availability of effective alternatives to unmitigated piling – i.e., measures to reduce noise at source, also known as noise abatement – it will be difficult for unmitigated pile driving to be justified on the basis that there are no realistic alternatives. It is therefore clear that noise abatement	MMO highlights that noise is a major issue and policy is changing in relation to the use of noise abatement systems and is hopeful that the Applicant will update the information required and provide further consideration for this to be resolved during Examination.

			measures will likely be required for this development, in order to reduce the risk of potential impact on marine receptors. The MMO would highlight that given the wider context of the current ramp up of offshore wind development at unprecedented scale in the North Sea it is vital that these discussions begin as soon as possible. To ensure adequate preparations are made and potential delays avoided, it is therefore in the applicant's interest to plan for noise abatement measures at the earliest opportunity and to incorporate such measures into any future Marine Mammal Mitigation Plans (MMMP).	
12	Fish and Shellfish Ecology Sandeel	Further detail required from the trawl surveys.	It would be beneficial if numbers of each sandeel species caught in the trawl surveys (and grab samples if applicable), and the locations of where sandeel were caught, or observed, are provided. The MMO recommends an additional layer to the map of sandeel habitat is provided, indicating those locations where sandeel were caught/observed).	MMO notes that the Applicant will present sandeel occurrence data within the application and is therefore hopeful that this will be resolved during Examination.
13	Fish and Shellfish Ecology Sandeel	Sandeel habitat assessment to be supplemented with data from the North Sea Sandeel Survey (NSSS) and Vessel Monitoring System (VMS) data for bottom trawled gear.	It is recommended that the sandeel habitat assessment is supplemented with data from the North Sea Sandeel Survey (NSSS) carried out in Sandeel Area 1 in December each year. This targeted sandeel dredge survey has been carried out since December 2004 and includes a number of stations in and around Outer Dowsing. Vessel Monitoring System (VMS) data for bottom trawled gear is a further source of data that is recommended for the assessment to identify areas where high intensity fishing may be occurring in the project study area. Given the ecological importance of sandeels to support marine predators in the study area and given the potential abundance of sandeels within the project boundary and the suitability of the habitat, it is recommended that ODOW makes use of the additional data sources outlined in above to ensure that the potential impacts to Annex I species resulting from regional adverse impacts to sandeel populations can be assessed in more detail.	MMO notes the Applicant has stated they will present the suggested data sources and is therefore hopeful that this will be resolved during Examination.
14	Fish and Shellfish Ecology Under Water Noise (UWN) impacts to Herring.	Additional noise modelling for the received levels of single strike sound exposure levels (SELss) at the Banks herring spawning grounds	Given the presence of herring spawning grounds within the project study area, the specific spawning habitat requirements of herring, and their sensitivity to underwater noise, the MMO requests that ODOW models and presents (in mapped form) additional noise modelling for the received levels of SELss levels at the Banks herring spawning grounds based on the	MMO is hopeful that the Applicant will provide additional modelling for this to be resolved during Examination.

			135 decibel (dB) (SELss) startle response) in order to predict the range of effect for behavioural responses in herring. This is particularly important as UWN generated by piling at Outer Dowsing has the potential to create an acoustic 'barrier' to herring as they follow their migration southwards through the central North Sea.	
15	Fish and Shellfish Ecology Under Water Noise (UWN) impacts.	Modelling should be based on the maximum pile diameter (14m for monopiles and 5m for pin piles).	It is recommended that for the ES the maps in Chapter 10 Figures 10.24 – 10.34 should also state the pile diameter used in the modelling. Modelling should be based on the maximum pile diameter (14m for monopiles and 5m for pin piles).	MMO is hopeful the Applicant will provide additional maps and modelling for this to be resolved during Examination.
16	Fish and Shellfish Ecology Mitigation	Temporal piling restriction during the Banks herring spawning season	No additional fisheries-specific mitigation has been proposed because no impacts were assessed above 'minor adverse' (not significant in EIA terms). Even with the additional monitoring requested the MMO may recommend a temporal piling restriction during the Banks herring spawning season, because the results of the UWN modelling already show an overlap of noise with the southern portion of the Banks spawning ground, in an area which continues to be utilised by herring in some years. However, this restriction is subject to the review of the final modelling in the ES. Please note any restriction, may be comparable to the piling restrictions for Triton Knoll OWF, located to the east of Outer Dowsing and within the project study area.	MMO is hopeful the Applicant will provide additional information for this to be resolved during Examination
17	Fish and Shellfish Ecology Electro-magnetic fields (EMF)	Cable burial depth to be a minimum depth of 1.5m.	Concerning the effects of EMF on electro-sensitive fish receptors such as elasmobranchs, eels and lampreys, it is noted that the intended average cable burial depth for array, interconnector and export cables will be between 0 - 3m. In line with the National Policy Statement EN3 (Department of Energy & Climate Change, 2011) the MMO recommends that where possible, cables are buried to a minimum depth of 1.5m (subject to local geology or seabed obstructions) as this will further increase the distance between electro-sensitive fish receptors and EMF, as well as reduce the risk of snagging and damage to cables by other marine vessels e.g., anchors, bottom-towed gear. It is also noted that a CBRA has been undertaken in respect of the sections of export cables which cross through Annex 1 sandbanks.	MMO notes the Applicant has stated that this will be taken into consideration and therefore we are hopeful this will be resolved during Examination.
18	Fish and Shellfish Ecology Cumulative Impacts	The assessment of cumulative and inter-related impacts may need to include developments further afield.	It should be recognised that the range of effect for cumulative and inter-related effects may increase if the modelling shows an impact range exceeding 100km. With this in mind, there may be other offshore developments further afield that will	MMO is hopeful the Applicant will provide required information and this point resolved during Examination.

			require scoping into the assessment, should the UWN modelling show a range of effect of >100km.	
19	Marine Mammals UXO clearance	The impact of UXO Clearance and TTS to be considered, alongside Permanent Threshold Shift (PTS) and disturbance.	The MMO notes the relevant impacts that have been scoped in for assessment. The MMO would expect the impact of UXO Clearance and TTS to be considered, alongside Permanent Threshold Shift (PTS) and disturbance. The MMO notes that a separate Marine licence application will be submitted for UXO, however disposal of UXO is included in the impact assessment and other impacts should also be assessed. Noting that a detailed UXO survey will be completed prior to construction and that the type, size and number of possible detonations and duration of UXO clearance operations is not known at this stage, but disposal of UXO is included in the impact assessment.	MMO is hopeful the Applicant will provide required information and this point resolved during Examination.
20	Marine Mammals UXO clearance	Justification for use of 5km EDR for low order UXO clearance.	For low order UXO clearance, it is noted that a 5 km EDR has been assumed, although there is currently no advised EDR in the Statutory Nature Conservation Bodies (SNCB) guidance (Joint Nature Conservation Committee, 2020). The MMO notes it was requested that justification was provided to support the 5 km EDR, and Chapter 11, Section 11.6.34 states the following: "*In the absence of empirical data with which to set a threshold, the Sofia Offshore Windfarm Marine Licence Application for UXO detonation assumed a 5km EDR for low-order detonations. This assumed EDR was based on the fact that data has shown that low-order deflagration detonations produce underwater noise that is over 20dB lower than high-order detonation (Robinson et al., 2020). Note, the Sofia Offshore Windfarm Limited committed to undertaking noise monitoring of low-order detonations to confirm this proportionally lower noise level however, the data are not yet available. Until such time as empirical data are available to inform the EDR for low-order detonations, the 5km EDR suggested by Sofia Offshore Windfarm has been assumed*". The MMO recommends that further evidence is provided to justify the 5 km EDR.	MMO is hopeful the Applicant will provide required justification but notes that a 5km EDR has not been agreed with SNCB and therefore and the worst case scenario should be included until any further data is provided. The MMO is unsure if this will be resolved during examination.
21	Marine Mammals TTS-onset thresholds.	It is not appropriate to use TTS-onset thresholds as a proxy for disturbance from UXOs	The MMO advises that it is not appropriate to use TTS-onset thresholds as a proxy for disturbance from UXOs. TTS occurs at much higher sound exposures, and so will underestimate the risk of disturbance. In this instance, TTS-onset as a proxy for disturbance has been presented alongside the 26 km EDR approach in acknowledgement that there is no empirically	MMO notes that three approaches are presented by the Applicant and are hopeful that this point will be resolved during Examination.

			based threshold to assess disturbance from high-order UXO clearance currently available.	
22	Marine Mammals Maximum design scenario.	Inconsistences with the maximum design scenario.	Chapter 11, Table 11.7 states the maximum design scenario assessed is 93 WTG foundations with a maximum 8 hours per pile. The piling profile in the underwater noise assessment in Appendix 3.2: Underwater Noise Assessment, assumes 4 hours per monopile. Furthermore, it is stated that there will be a maximum of 12 hours piling per day, but a maximum of two monopiles could be installed in 24-hours. The MMO requests clarification regarding these inconsistencies.	MMO is hopeful that these inconsistencies will be fixed within the application and this point resolved during Examination.
23	Marine Mammals Underwater Noise Assessment	For fish receptors, a stationary model is the appropriate.	For the assessment of the cumulative sound exposure (SELcum), a fleeing animal receptor has been assumed for marine mammals, with 'fleeing' speeds of 3.25 metres per second (m/s) for low-frequency cetaceans and 1.5 m/s for all other receptors. For fish receptors, both a fleeing and stationary animal model has been assumed. The MMO is not aware of empirical evidence to support fleeing in fish, and therefore the predictions based on a stationary receptor is the most appropriate/relevant. Fleeing assumptions can have a significant effect on the assessment outcomes. For example, as per Table 4-5 in the report, maximum TTS ranges of 14 km are predicted for a stationary (fish) receptor, whereas for a fleeing (fish) receptor, this range is reduced to 4.8 km.	MMO is hopeful that this can be discussed and agreed with the Applicant during the Examination process.
24	Marine Mammals UWN modelling: Modelling Methodology	Clarity required behind the modelled pile sizes. Clarity required for whether other factors, such as the penetration depth and the water depth, have been considered in the modelling of the source levels. Comparisons presented to be based on single strike SELss.	Figure 3-1 in Appendix 3.2 presents a comparison between example measured impact piling data and modelled data using INSPIRE version 5.1. However, this comparison is lacking context. Firstly, the MMO notes that the pile sizes used in this comparison are much smaller (i.e., 1.8 m, 9.5 m, 6.1 m and 6.0 m) than the proposed 14 m diameter monopiles for Outer Dowsing. It is not clear how INSPIRE scales up the smaller piles. Additionally, the MMO requests clarification on whether other factors, such as the penetration depth and the water depth, have been considered in the modelling of the source levels. Secondly, the comparison should make clear the hammer energies used and whether they are relevant for this application. (It is very unlikely that these hammer energies are close to the proposed 6,600 kJ hammer energy for Outer Dowsing). Furthermore, the comparisons presented in Figure 3-1 are for the SPLpeak only, while for the vast majority of the	MMO is hopeful that the Applicant will provide the required clarity for this to be resolved during Examination.

			predictions in this appendix, which are derived from SELcum calculations, the relevant metric is the single strike SELss, and not SPLpeak. There is a lack of transparency in the modelling of these parameters which are crucial for determining the model predictions is not acceptable, and these details must be transparent within the ES.	
25	Marine Mammals UWN modelling: Modelling Results	Further information be provided to explain why some of the in-combination areas in Table 4-49 are smaller than expected.	The MMO notes that additional modelling has been carried out to investigate the potential impacts of two piling installations occurring simultaneously at separated foundation locations. Using the monopile and jacket pile foundation piling scenarios, modelling has been carried out for simultaneous piling at the Southwest (SW) and Northeast (NE) locations, representing a worst case spread of locations. The MMO requests that further information be provided to explain why some of the in-combination areas in Table 4-49 are smaller than expected. For example, based on the TTS threshold of 186 dB SELcum, the SW area is 420 km^2 and the NE area is 1300 km^2 but the total in-combination area is only 1700 km^2 (yet Figure 4-5 shows no overlap of areas).	MMO is hopeful that the Applicant will provide additional information as part of the application for this to be resolved during Examination.
26	Marine Mammals UWN modelling: Modelling Results	The formula used to assess the correlation between SPL and various parameters is not suitable and may lead to underestimation of the levels in the far field.	$L_{eq} = C + \alpha \log_{10}\left(\frac{distance}{100\ m}\right) + \beta \log_{10}\left(\frac{wind\ speed}{10\ ms^{-1}}\right) + \gamma \log_{10}\left(\frac{turbine\ size}{1\ MW}\right)$ This formula represents a statistical model that was used to assess the correlation between SPL and various parameters (distance, wind speed, turbine size) for the data in the Tougaard study. The MMO considers is that this is not suitable for estimation of the sound levels at 1m in a bespoke model, or as substitute for modelling the propagation loss to the far field. In particular, in terms of estimating propagation, the use of the formula would imply a loss of 23.7 log R, which is unrealistically large, and thus will lead to underestimation of the levels in the far field.	MMO is hopeful that this can be discussed and agreed with the Applicant during Examination.
27	Draft Development Consent Order Article 6(1)-(2)	MMO resists the inclusion of Article 6(1)-(2) as this provision operates to make the decision that of the undertaker, with the Secretary of State (SoS) providing consent to the transfer, rather than the MMO as the regulatory authority for marine licences considering the merits of any application for a transfer.	The MMO understands that Article 6 – Transfer of Benefit is drafted in a similar way to previous consents granted by the Secretary of State (SoS), however the MMO has major concerns over the wording. Article 6(1)-(2) gives the right to permanently transfer the benefits of the DCO including the deemed marine licences (DML) in Schedule 11,12& 13 to a third party with the consent of the SoS. Part 2: Article 6(1)-(2)	MMO believes this will not be resolved during Examination and notes it will be a major topic to be discussed during Examination.

		it is the position of the MMO that these provisions are removed and that any transfer should be subject to the existing regime under the 2009 Act, with the decision maker remaining the MMO.	*"6.—(1) Subject to this article, the provisions of this Order have effect solely for the benefit of the undertaker.* *(2) Subject to paragraph (3), the undertaker may with the written consent of the Secretary of State— (a) transfer to another person ("the transferee") any or all of the benefit of the provisions of this Order (including the deemed marine licences) and such related statutory rights as may be agreed between the undertaker and the transferee;"* The MMO considers that this is a clear departure from the 2009 Act, which would normally require the licence holder (here 'the undertaker') to make an application to the MMO for a licence to be transferred. Instead, this provision operates to make the decision that of the undertaker, with the Secretary of State (SoS) providing consent to the transfer, rather than the MMO as the regulatory authority for marine licences considering the merits of any application for a transfer. Parliament has already created a statutory regime for such a process and it is unclear what purpose the written consent of the SoS actually serves. If the intention is for the undertaker to be able to transfer the benefits under the terms of the DCO outside the established procedures under 2009 Act, the MMO queries why is it considered necessary or appropriate for the SoS to 'approve' the transfer of the DML. It is also unclear what criteria the SoS would be taking in determining whether to approve any transfer, and how this would differ from a consent granted by the MMO under the existing 2009 Act regime. Because of this confusion and potential duplication, it is the position of the MMO that these provisions are removed and that any transfer should be subject to the existing regime under the 2009 Act, with the decision maker remaining the MMO.	
28	<u>Draft Development Consent Order</u> Article 6(2)(b)	MMO resists the inclusion of Article 6(2)(b) as there is no clarity on how will operate. It will be an additional administrative procedure for marine licences.	This Article 6(2)(b) gives the right to temporarily transfer the benefits of the DCO (including DML) to a third party. Article 6(2)(b) *"6(2)(b) grant to another person ("the lessee") for a period agreed between the undertaker and the lessee any or all of the benefit of the provisions of this Order (including the deemed marine licences) and such related statutory rights as may be so agreed, except where paragraph (6) applies, in which case the consent of the Secretary of State is not required."*	MMO believes this will not be resolved during Examination and notes it will be a major topic to be discussed during Examination.

			The MMO resists the inclusion of this article. Here the written consent of the SoS is not required. The MMO does not recognise that this would create a more streamlined system. Rather it simply operates to create an additional administrative procedure for marine licences (and one not envisaged by Parliament) and with no clarity in how it will operate.	
29	Draft Development Consent Order Article 6(3)	MMO resists the inclusion of Article 6(3) as does not take into account the views of MMO. There is no obligation for MMO to be informed.	The MMO has concerns regarding Article 6(3) Article 6(3) "*6(3) The Secretary of State must consult the MMO before giving consent to the transfer or grant to another person of the benefit of any or all of the provisions of any of the deemed marine licences*." The MMO notes that there is no obligation for the SoS to take into account the views of MMO when providing its consent. Furthermore, there is no obligation for MMO to be informed of the decision of the SoS, notwithstanding its impact on the MMO as the licencing authority. From a regulatory perspective it is highly irregular that a decision to transfer a licence should not be the decision of the regulatory authority in that area (MMO) but instead should be subject to such a cursory process as is set out in Article 6(1)-(3). MMO thus resists this change as unworkable. As explained above, Articles 6 (1)-(3) sets out what is effectively a new non-legislative regime for the variation and transfers of marine licences. In support of these provisions, Article 6(12) explicitly disapplies sections 72(7) and (8) of the 2009 Act, which would otherwise govern these procedures.	MMO believes this will not be resolved during Examination and notes it will be a major topic to be discussed during Examination.
30	Draft Development Consent Order Article 6(12)	MMO resists the inclusion of Article 6(12) as it conflicts with the MMO's stated position that the DML granted under a DCO should be regulated by the provisions of 2009 Act.	Article 6(12) "*(12) Section 72(7) and (8) of the 2009 Act do not apply to a transfer or grant of the whole or part of the benefit of the provisions of any of the deemed marine licences to another person by the undertaker pursuant to an agreement under this article 6 (benefit of the Order) save that the MMO may amend any deemed marine licence granted under Schedule 11, Schedule 12 or Schedule 13 of the Order to correct the name of the undertaker to the name of a transferee or lessee under this article 6 (benefit of the Order)*." This conflicts with the MMO's stated position that the DML granted under a DCO should be regulated by the provisions of 2009 Act, and specifically by all provisions of section 72.	MMO believes this will not be resolved during Examination and notes it will be a major topic to be discussed during Examination.

			Section 72(7)(a) of 2009 Act permits a licence holder to make an application for a marine licence to be transferred, and where such an application is approved for MMO to then vary the licence accordingly (s. 72(7)(b)). This power that should be retained and used in relation to the DML granted under the DCO and MMO therefore resists the inclusion of this article 6(12) to disapply these provisions. The key concern held by MMO is that Article 6 operates to override and/or unsatisfactorily duplicate provision that already exist within MCAA 2009 for dealing with variations to marine licences. Such provisions are also inconsistent with the PINS Guidance on how DMLs should operate within a DCO. Advice Note Eleven, Annex B – Marine Management Organisation | National Infrastructure Planning (https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/an11-annex-b/) provides that where the undertaker choses to have a marine licence deemed by a DCO, MMO, "*will seek to ensure wherever possible that any deemed licence is generally consistent with those issued independently by the MMO*." Article 6 as drafted is not in compliance with this guidance.	