



Hornsea Project Four

Statement of Common Ground between Hornsea Project Four and the Marine Management Organisation

Deadline 3, Date: 21 April 2022

Document Reference: G1.17

Revision: 02

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G1.17
Ver. B

Revision History

Date	Revision	Reason for issue
08 March 2022	01	First draft for review and submission at Deadline 1.
21 April 2022	02	Second draft for submission at Deadline 3.

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Glossary

Term	Definition
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Projects (NSIP).
Hornsea Project Four Offshore Wind Farm	The term covers all elements of the project (i.e. both the offshore and onshore). Hornsea Four infrastructure will include offshore generating stations (wind turbines), electrical export cables to landfall, and connection to the electricity transmission network. Hereafter referred to as Hornsea Four.
Orsted Hornsea Project Four Ltd	The Applicant for the proposed Hornsea Project Four Offshore Wind Farm Development Consent Order (DCO).

Acronyms

Acronym	Definition
DMLs	Deemed Marine Licences
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ES	Environmental Statement
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current
LSE	Likely Significant Effect
MHWS	Mean High Water Springs
MLWS	Mean Low Water Springs
PEIR	Preliminary Environmental Information Report
SoCG	Statement of Common Ground

1 Introduction

1.1 Reason for this document

- 1.1.1.1 This Statement of Common Ground (SoCG) has been prepared between Orsted Hornsea Project Four Limited ('the Applicant') and the Marine Management Organisation (MMO) to set out the areas of agreement and disagreement between the two parties in relation to the Development Consent Order (DCO) application for the Hornsea Project Four offshore wind farm (hereafter referred to as 'Hornsea Four').
- 1.1.1.2 This SoCG covers all topics of relevance to the MMO in the marine environment seaward of Mean High Water Springs (MHWS).
- 1.1.1.3 The need for a SoCG between the Applicant and the MMO is set out within the Rule 6 letter issued by the Planning Inspectorate (PINS) on 24 January 2022.
- 1.1.1.4 Following detailed discussions undertaken through the Evidence Plan Process, the Applicant and the MMO have sought to progress a SoCG. It is the intention that this document will provide PINS with a clear overview of the level of common ground between both parties. This document will facilitate further discussions between the Applicant and the MMO and the SoCG will be updated as discussions progress during the Hornsea Four examination process.

1.2 Approach to SoCG

- 1.2.1.1 The Applicant took the decision at an early stage to adopt a proportionate approach to Environmental Impact Assessment (EIA) for Hornsea Four which is detailed and integrated throughout the DCO application. The Impacts Register (see [Volume A4, Annex 5.1: Impacts Register](#)) is a key tool that details all potential impacts identified for Hornsea Four and sets the scope of the EIA at various stages of the project (Scoping, PEIR and DCO). In line with the Applicant's approach to proportionality, only Likely Significant Effects (LSE) were included within the individual topic assessments within the relevant chapters of the Environmental Statement (ES). This SoCG seeks to set out the agreements reached with the MMO on the proportionate approach to EIA in addition to other matters such as (but not limited to) the adequacy of baseline data collection, the assessment methodology and conclusions reached.
- 1.2.1.2 The structure of this SoCG is as follows:
- [Section 1](#): Introduction;
 - [Section 2](#): Consultation;
 - [Section 3](#): Agreement Logs; and
 - [Section 4](#): Summary.

1.3 Application elements under The Marine Management Organisations remit

- 1.3.1.1 The elements of Hornsea Four which may affect the interests of the MMO are Work Numbers 1 to 5, covering the intertidal (seaward of MHWS) and offshore works. These are detailed in

Part 1 (Authorised Development) of Schedule 1 (Authorised Project) of the draft DCO ([C1.1: Draft DCO including Draft DML](#)).

1.3.1.2 This SoCG covers technical topics of the DCO application of relevance to the MMO comprising:

- Draft DCO and Deemed Marine Licences (non-EIA topic-specific);
- Marine Geology, Oceanography and Physical Processes;
- Benthic & Intertidal Ecology;
- Fish and Shellfish Ecology;
- Marine Mammals/Underwater Noise; and
- Outline Plan Documents.

1.3.1.3 It is agreed that, whilst the MMO retains an interest in the following areas with respect to the provisions set out in the DCO and DMLs, the MMO defers to other parties for the following topics and has made little or no comment in relation to the technical assessments associated with them. Agreement logs have not been presented for these topics:

- Shipping and Navigation;
- Commercial Fisheries;
- Seascape, Landscape and Visual;
- Aviation, Military and Communications;
- Marine Archaeology;
- Offshore and Intertidal Ornithology;
- Without Prejudice Derogation Case and
- Infrastructure and Other Users.

1.4 Overview of Hornsea Four

1.4.1.1 Hornsea Four is an offshore wind farm which will be located approximately 65 km offshore the East Riding of Yorkshire in the Southern North Sea and will be the fourth project to be developed in the former Hornsea Zone. Hornsea Four will include both offshore and onshore infrastructure and consists of:

- **Hornsea Four array area:** This is where the offshore wind generating station will be located which will include the turbines, array cables, offshore accommodation platforms and a range of offshore substations as well as offshore interconnector cables and export cables;
- **Hornsea Four offshore export cable corridor:** This is where the permanent offshore electrical infrastructure (offshore export cables, as well as the High Voltage Alternating Current (HVAC) booster station (if required), will be located;
- **Hornsea Four intertidal area:** This is the area between MHWS and Mean Low Water Springs (MLWS) through which all of the offshore export cables will be installed;
- **Hornsea Four onshore export cable corridor:** This is where the permanent onshore electrical cable infrastructure will be located; and
- **Hornsea Four onshore substation including energy balancing infrastructure:** This is where the permanent onshore electrical substation infrastructure (onshore High Voltage Direct Current (HVDC) converter/HVAC substation, energy balancing infrastructure and connections to the National Grid) will be located.

2 Consultation

2.1 Summary of consultation with the Marine Management Organisation

2.1.1.1 **Table 1** below summarises the consultation that the Applicant has undertaken with the MMO during the pre-application phase for each relevant component of the application (as identified in **paragraph 1.3.1.1**) seaward of MHWS.

Table 1: Summary of pre-application consultation with the MMO.

Date	Form of consultation	Statutory/Non Statutory	Summary
07/08/2018	Meeting	Non Statutory	Evidence Plan Steering Group Meeting 1 Introduction to the proposed project and project teams and summary, reflections, agreement and sign off on the Terms of Reference.
12/09/2018	Meeting	Non Statutory	Marine Processes & Ecology Evidence Plan Technical Panel Meeting 1 Meeting to introduce Hornsea Four, the consenting programme, evidence plan process and the proportionate approach to EIA. An overview of work undertaken to date was provided, including scoping and approach to baseline.
13/09/2018	Meeting	Non Statutory	Marine Mammals Evidence Plan Technical Panel Meeting 1 Introduction to the project. Introduction to the TP, the EP process and the proportionate approach to EIA; and Discussion on key position papers.
03/10/2018	Meeting	Non Statutory	Marine Mammals Evidence Plan Technical Panel Meeting 2 Introduction to the project. Introduction to the TP, the EP process and the proportionate approach to EIA; and Discussion on key position papers.
15/10/2018	Consultation	Statutory	Hornsea Four Scoping Report
26/11/2018	Consultation	Statutory	Scoping Opinion Consultation response on the Scoping Report from the MMO.
12/12/2018	Meeting	Non Statutory	Evidence Plan Steering Group Meeting 2 Update on the project development activities. Review of the Scoping Opinion responses and discussion on the next steps in relation to seeking agreement with key stakeholders on the data to be included in the PEIR and ES.
12/12/2018	Meeting	Non Statutory	Marine Processes & Ecology Evidence Plan Technical Panel Meeting 2 Meeting to provide Hornsea Four update, recap of the EIA scoping report and approach to EIA proportionality. Scoping opinions received were discussed, and necessary next steps, including survey and assessment work.
14/01/2019	Meeting	Non Statutory	Marine Mammals Evidence Plan Technical Panel Meeting 3 Project updates, review of responses received during the Scoping process. Discuss the next steps in relation to seeking agreement with stakeholders on the data and information to be included in the PEIR and ES.

Date	Form of consultation	Statutory/Non Statutory	Summary
06/03/2019	Consultation	Non Statutory	Responses to Benthic and Intertidal Technical Note.
30/04/2019	Meeting	Non Statutory	<p>Marine Processes & Ecology Evidence Plan Technical Panel Meeting 3</p> <p>Meeting to provide Hornsea Four update since receipt of Scoping Opinion. Review of responses to both the Scoping Report and the HRA Screening Report, and the approach to the RIAA. Discussion on the next steps to seeking agreement in relation to data to be included in the PEIR and ES. Discussion on Biodiversity Net Gain.</p>
30/04/2019	Meeting	Non Statutory	<p>Marine Mammals Evidence Plan Technical Panel Meeting 4</p> <p>Meeting to provide a Hornsea Four update and updates on ongoing baseline surveys. Section 42 comments received were discussed (including the provision of necessary further information or evidence, and /or the Applicant's proposed response). Consensus was sought on the proposed approach to ES (impacts to be covered in detail in the ES chapter) and what additional evidence or information is required. Comments on the Noise modelling methodology and RIAA.</p>
25/06/2019	Meeting	Non Statutory	<p>Evidence Plan Steering Group Meeting 3</p> <p>Update on project information, local information events, onshore and offshore Technical Panels and non-Evidence Plan consultation.</p>
26/06/2019	Meeting	Non Statutory	<p>Marine Mammals Evidence Plan Technical Panel Meeting 5</p> <p>Project updates and discussion around the scope of the PEIR and ES. Review of the impacts register and discussion on next steps to seeking agreement with stakeholders on the data and information to be included in the PEIR and ES.</p>
13/08/2019	Consultation	Statutory	<p>Hornsea Four PEIR</p> <p>Published for statutory Section 42 consultation.</p>
23/09/2019	Consultation response	Statutory	<p>MMO letter response to PEIR</p> <p>Providing comments on the PEIR.</p>
06/11/2019	Meeting	Non Statutory	<p>Evidence Plan Steering Group Meeting 4</p> <p>Update on project information and overview of the programme to DCO application. Update to Terms of Reference to reflect Historic England joining Steering Group. Updates to the Impacts Register and Commitments Register. Discussion on the Draft DCO and DMLs.</p>
06/11/2019	Meeting	Non Statutory	<p>Marine Mammals Technical Panel Meeting 6</p> <p>Data collection and description of the baseline environment and the inclusion of bottlenose dolphin in the baseline; impact assessment methodology in response to Section 42 comments regarding simultaneous piling, ramp-up hammer energy scenarios and Unexploded Ordnance (UXO); and the RIAA.</p>
13/11/2019	Meeting	Non Statutory	<p>Marine Processes & Ecology Evidence Plan Technical Panel Meeting 4</p> <p>Meeting to provide a Hornsea Four update and updates on ongoing baseline surveys. Section 42 comments received were</p>

Date	Form of consultation	Statutory/Non Statutory	Summary
			discussed (including the provision of necessary further information or evidence, and /or the Applicant's proposed response). Consensus was sought on the proposed approach to ES (impacts to be covered in detail in the ES chapter) and what additional evidence or information is required. New commitments in relation to the Dogger Bank Creyke Beck cable crossing and Smithic Bank.
17/12/2019	Meeting	Non Statutory	Marine Mammals Technical Panel Meeting 7 Project and programme updates; and updates to the Impacts Register.
16/03/2020	Meeting	Non Statutory	Evidence Plan Steering Group Meeting 5 Review of draft ES documents by the relevant Technical Panels. Overview of planned seabed investigations. Project updates and updates to the Impacts Register, Commitments Register, Draft DCO and DMLs.
06/06/2020	Meeting	Non Statutory	Marine Mammals Technical Panel Meeting 8 Discussion on the draft ES documents provided for review prior to the meeting; Presentation of updated HRA screening for marine mammals; Discussion on the approach to the UXO assessment; and Presentation of grey seal information that will form part of the RIAA.
10/05/2021	Meeting	Non Statutory	Marine Mammals Technical Panel Meeting 9 Project updates including the reduction in the developable area and the change to the project programme; Discussion on the bottlenose dolphin Management Unit and assessment; presentation of approach to the cumulative assessment in relation to seismic surveys, disturbance impacts, simultaneous piling and a new form of result presentation; and updates required to the modelling as a result of the change to Order Limits.
21/10/2020	Meeting	Non Statutory	Evidence Plan Steering Group Meeting 6 Review of draft ES documents by the relevant Technical Panels. Project updates on change to Hornsea Four Order Limits. DCO application submission programme, SoCGs and Project Seabird and Derogation. Overview of Design Vision Statement and planned seabed investigations.
11/05/2021	Meeting	Non Statutory	Marine Ecology and Processes Technical Panel Meeting 5C – Fish and Shellfish Ecology Project updates including the reduction in the developable area. Discussion on key issues raised in the consultee comments (spawning timings for Banks herring and the conclusions of assessments); and updates required to the draft ES documents as a result of the change to Order Limits.
13/05/2021	Meeting	Non Statutory	Marine Ecology and Processes Technical Panel Meeting 5A – Marine Processes

Date	Form of consultation	Statutory/Non Statutory	Summary
			Project updates including the reduction in the developable area and the change to the project programme. Review of consultee comments on the draft ES Chapter and Technical Report and the key issues identified; and updates required to the modelling as a result of the change to Order Limits.
13/05/2021	Meeting	Non Statutory	<p>Marine Ecology and Processes Technical Panel Meeting 5B – Benthic and Intertidal Ecology</p> <p>Project updates including the reduction in the developable area and the change to the project programme. General agreements from consultee comments on the draft ES Chapter and Technical Report. Discussion on key issues raised in the consultee comments; and updates required to the draft ES documents as a result of the change to Order Limits.</p>
29/07/2021	Meeting	Non Statutory	<p>Evidence Plan Steering Group Meeting 7</p> <p>Project updates on change to DCO application submission programme, SoCGs and non-statutory compensation consultation. Overview of geophysical and geotechnical investigations.</p>

3 Agreement Log

3.1 Overview

3.1.1.1 The following sections set out the level of agreement between the Applicant and the MMO, for each relevant component of the application (as identified in [paragraph 1.3.1.1](#)) seaward of MHWS.

3.1.1.2 In order to easily identify whether a matter is 'agreed', 'not agreed' or an 'ongoing point of discussion', the colour coding system set out in [Table 2](#) below is used within the 'position' column of the following sections of this document.

Table 2: Position Status Key.

Position Status	Position Colour Coding
Agreed The matter is considered to be agreed between the parties.	Agreed
Not Agreed – no material impact The matter is not agreed between the parties, however the outcome of the approach taken by either the Applicant or the MMO is not considered to result in a material impact to the assessment conclusions.	Not Agreed – no material impact
Not Agreed – material impact The matter is not agreed between the parties and the outcome of the approach taken by either the Applicant or the MMO is considered to result in a materially different impact to the assessment conclusions.	Not Agreed – material impact
Ongoing point of discussion The matter is neither 'agreed' nor 'not agreed' and is a matter where further discussion is required between the parties (e.g. where documents are yet to be shared with the MMO).	Ongoing point of discussion

3.2 Draft DCO and Deemed Marine Licences (non-EIA topic specific)

Table 3: Agreement Log: Draft DCO and Deemed Marine Licences.

ID	Hornsea Four Position	MMO Position	Position Summary
MMO-DCO-01	<p>The wording of the following Article is appropriate and adequate:</p> <ul style="list-style-type: none"> Benefit of the Order (DCO: Article 5, Part 2, Principal Powers). 	<p>Deadline 2 Submission Written Representation (REP2-077)</p> <p>2.4.1 The MMO has concerns regarding the transfer of the DMLs based on the current drafting and requests that all references to the MMO and DMLs should be removed from Article 5 of the DCO.</p> <p>2.4.2 This is because the intention under the Planning Act Section 149A is only to amend the method by which a marine licence is obtained, it does not, of itself, make a DML part and parcel of the Order. As currently drafted, the DMLs become part of the DCO by having Article 5 apply to the DMLs, allowing the transfer of the whole or part of the benefit of the provisions of the DMLs.</p> <p>2.4.3 The MMO does not consider that there is a need to have the Order make provision for transferring of the DMLs in Article 5 as there is already a mechanism for transferring the DMLs under the Marine and Coastal Access Act 2009 (MCAA). In the MMO’s view Article 5 should be reserved to the transfer of the Order and should not refer to the DMLs. The DMLs should be considered separately and dealt with under MCAA, as would happen for any other marine licence</p>	Ongoing point of discussion
MMO-DCO-02	<p>The wording of the following Condition is appropriate and adequate:</p> <ul style="list-style-type: none"> Part 2, Condition 14 of DCO Schedules 11 and 12 regarding the timescales associated with the submission of documentation. 	<p>Submission in Lieu of attendance at Issue Specific Hearing 1 (AS-031)</p> <p>3.3.1 The MMO has concerns over these timescales as it is not enough time to fully assess and review documents and therefore request that this is changed to six months.</p>	Ongoing point of discussion
MMO-DCO-03	<p>The wording of the following Articles is appropriate and adequate:</p> <ul style="list-style-type: none"> Amendments to approved details (DCO: Article 30, Part 3); and Part 1, Article 9 of DCO Schedules 11 and 12 regarding the materiality of amendments to or variations from the approved details. 	<p>Submission in Lieu of attendance at Issue Specific Hearing 1 (AS-031)</p> <p>3.1.12 The MMO has outlined its concerns regarding the use of “immaterial changes”, “materially new or materially greater environmental effects” within its Written Representation RR-020 sections 2.1.16-2.1.20.</p> <p>3.1.14 Whilst the MMO appreciates the clarity provided for the requirement of the Applicant to satisfy the MMO of any changes, the MMO’s concerns remain for the use of “immaterial changes” used within this Article.</p>	Ongoing point of discussion

ID	Hornsea Four Position	MMO Position	Position Summary
MMO-DCO-04	<p>The interpretations of all terms within the following sections of the DCO and DMLs are appropriate and adequate:</p> <ul style="list-style-type: none"> Article 2, Part 1 of C1.1: Draft DCO including Draft DML; Condition 1, Part 1 of Schedule 11 of C1.1: Draft DCO including Draft DML; and Condition 1, Part 1 of Schedule 12 of C1.1: Draft DCO including Draft DML. <p>Updates were made to the interpretations following MMO comments and the most up to date changes are shown in C1.1.1 Draft DCO and DML Schedule of Change submitted at Deadline 3.</p>	Ongoing point of discussion.	Ongoing point of discussion
MMO-DCO-05	<p>The wording of the following Article is appropriate and adequate:</p> <ul style="list-style-type: none"> Certification of plans and documents, etc. (DCO: Article 38, Part 7, Miscellaneous and General). <p>In addition, Schedule 15 includes a thorough list of both ES and non ES documents to be certified.</p>	<p>Relevant Representation (RR-020)</p> <p>2.3.3 It is the MMO's position that the ES should be updated at the end of Examination. This is because throughout the Examination process further information can be requested and provided by the Applicant that directly links to the conclusions of the ES, including addendums to chapters etc. The MMO understands that this can be a large undertaking but believes it is paramount so that these updates can be easily identified as part of the Environmental Statement and as a Certified document. The MMO welcomes Article 38 to reference Schedule 15 for the Certified documents and plans as this would help with clarity at the post consent stage. The MMO will review the updated Schedule 15 once this has been updated further.</p>	Agreed at Deadline 3
MMO-DCO-06	<p>The wording of the following Article is appropriate and adequate:</p> <ul style="list-style-type: none"> Arbitration (DCO: Article 39, Part 7, Miscellaneous and General). 	<p>Relevant Representation (RR-020)</p> <p>2.3.4 The MMO believes that this condition should be updated to include the following wording at the start: <i>"Subject to article 42 (saving provisions for Trinity House) any difference..."</i></p>	Agreed at Deadline 3

ID	Hornsea Four Position	MMO Position	Position Summary
MMO-DCO-07	The wording of the following Schedule is appropriate and adequate: <ul style="list-style-type: none"> • Authorised Project (DCO: Schedule 1) 	Ongoing point of discussion.	Ongoing point of discussion
MMO-DCO-08	The wording of the following Schedule is appropriate and adequate: <ul style="list-style-type: none"> • Deemed Marine Licence Under The 2009 Act— Generation Assets (DCO: Schedule 11) 	Ongoing point of discussion.	Ongoing point of discussion
MMO-DCO-09	The wording of the following Schedule is appropriate and adequate: <ul style="list-style-type: none"> • Deemed Marine Licence Under The 2009 Act— Transmission Assets (DCO: Schedule 12) 	Ongoing point of discussion.	Ongoing point of discussion

3.4 Marine Geology, Oceanography and Physical Processes

Table 4: Agreement Log: Marine Geology, Oceanography and Physical Processes.

ID	Hornsea Four Position	MMO Position	Position Summary
Environmental Impact Assessment			
MMO-MP-01	Existing and project-specific survey data is sufficient to inform the assessment.	<p>Relevant Representation (RR-020)</p> <p>3.2.3 The MMO believes that further information should be provided to provide enough evidence on the baseline.</p> <p>Whilst this gives a good overall evidence base, there are a number of areas where the evidence base is either patchy or non-existent. These include the cable route around Smithic bank and the coastline. The MMO would expect to see additional Swath Bathymetry and geotechnical surveys from just offshore of the cable crossing with Dogger Bank A+B area and the Holderness coastline.</p>	Ongoing point of discussion
MMO-MP-02	The impact assessment methodologies used for the EIA provide an appropriate approach to assessing potential impacts of Hornsea Four.	<p>Relevant Representation (RR-020)</p> <p>3.2.9 Adverse effects, in terms of coastal processes, are identified and then linked via a pathway to a sensitive receptor (the SPR (Source-Pathway-Receptor) methodology). Therefore, whilst there maybe adverse impacts locally around (say) a structure, if no receptor is nearby, no adverse impact is assumed and thus is discounted. In this project many of the impactors are offshore are thus discounted. However, the MMO still has major concerns about the cumulative impact of cables crossing Smithic Bank.</p>	Ongoing point of discussion
MMO-MP-03	The maximum design scenario (MDS) presented in the assessment is appropriate.	<p>Relevant Representation (RR-020)</p> <p>3.2.4 The Maximum Design Scenario ("MDS") has correctly used the use of GBS as its worst realistic scenario as this involves large structures (conical concrete structures) and significant amounts of seabed preparation. In the offshore GBS/Monopile/jacket zone the MMO agrees with the conclusion except for those associated with the potential changes to Flamborough Front.</p>	Agreed at Deadline 3
MMO-MP-04	The conclusions of the assessment of impacts for construction, operation and decommissioning are agreed.	<p>Relevant Representation (RR-020)</p> <p>3.2.8 Except for the Smithic Holderness export cable area with Dogger Bank A+B export cables there is not an adequate description of the potential cumulative and inter-related impacts and effects on the physical and biological environment.</p>	Ongoing point of discussion

MMO-MP-05	The conclusions of the assessment of cumulative impacts are agreed.	Relevant Representation (RR-020) 3.2.8 Except for the Smithic Holderness export cable area with Dogger Bank A+B export cables there is not an adequate description of the potential cumulative and inter-related impacts and effects on the physical and biological environment.	Ongoing point of discussion
MMO-MP-06	Given the impacts of the project, the proposed Commitments outlined in Volume A4, Annex 5.2: Commitments Register are appropriate.	Ongoing point of discussion.	Ongoing point of discussion
Draft DCO and Deemed Marine Licences			
MMO-MP-01	The wording of the following requirements and conditions pertaining to marine geology, oceanography and physical processes are appropriate and adequate: <ul style="list-style-type: none"> • Part 2 - Condition 13(1)(c) of DCO Schedules 11 and 12 with reference to a Construction Method Statement; • Part 2 - Condition 13(1)(e) of DCO Schedules 11 and 12, Part 2 - Condition 13(1)(e) with reference to the development of a Scour Protection Management Plan; • Part 2 - Condition 13(1)(h) of DCO Schedules 11 and 12 with reference to a Cable Specification and Installation Plan; • Part 1(6) of DCO Schedules 11 and 12 with reference to a decommissioning plan; • Paragraph 2(a) of Part 1 of DCO Schedules 11 and 12 with reference to the maximum volumes of material to be disposed seaward of Mean High Water Springs (MHWS) within the Hornsea Four Order Limits. 	Ongoing point of discussion.	Ongoing point of discussion

3.5 Benthic & Intertidal Ecology

Table 5: Agreement Log: Benthic & Intertidal Ecology.

ID	Hornsea Four Position	MMO Position	Position Summary
Environmental Impact Assessment			
MMO-BE-01	Existing and project-specific survey data is sufficient to inform the assessment.	<p>Relevant Representation (RR-020)</p> <p>3.4.2 The MMO believes that the intertidal survey and subsequent characterisation are appropriate.</p> <p>3.4.3 The Array and export cable corridor have been characterised using a combination of historical data, geophysical data, drop down video (“DDV”) (for fauna and sediments at all stations and Annex I stony reef under a separate survey design) and grab (for fauna and sediment composition)... Whilst this is a sensible approach, which has been alluded to in previous consultations, the MMO has major concerns regarding some of the classifications and model outputs following review of the raw data.</p> <p>3.4.13 Although the evidence gathered appears appropriate, the evidence presented is insufficient to allow a decision on the project to be made.</p> <p>3.4.24 The methodology used to obtain and gather the data is appropriate in most cases and standard practices have been used.</p>	Ongoing point of discussion
MMO-BE-02	The impact assessment methodologies used for the EIA provide an appropriate approach to assessing potential impacts of Hornsea Four.	Ongoing point of discussion.	Ongoing point of discussion
MMO-BE-03	The maximum design scenario (MDS) presented in the assessment is appropriate.	Ongoing point of discussion.	Ongoing point of discussion
MMO-BE-04	The conclusions of the assessment of impacts for construction, operation and decommissioning are agreed.	Ongoing point of discussion.	Ongoing point of discussion
MMO-BE-05	The conclusions of the assessment of cumulative impacts are agreed.	Ongoing point of discussion.	Ongoing point of discussion
MMO-BE-06	Given the impacts of the project, the proposed Commitments outlined in Volume A4, Annex 5.2: Commitments Register are appropriate.	Ongoing point of discussion.	Ongoing point of discussion

Draft DCO and Deemed Marine Licences

MMO-BE-07	<p>The wording of the following requirements and conditions pertaining to benthic and intertidal ecology are appropriate and adequate:</p> <ul style="list-style-type: none"> • Part 2 - Condition 13(1)(a) of DCO Schedules 11 and 12 with reference to a Design Plan; • Part 2 - Condition 13(1)(c) of DCO Schedules 11 and 12 with reference to a Construction Method Statement; • Part 2 - Condition 13(1)(d) of DCO Schedules 11 and 12 with reference to a Construction Project Environmental Management and Monitoring Plan; • Part 2 - Condition 13(1)(e) of DCO Schedules 11 and 12, Part 2 - Condition 13(1)(e) with reference to the development of a Scour Protection Management Plan; • Part 2 - Condition 13(1)(h) of DCO Schedules 11 and 12 with reference to a Cable Specification and Installation Plan; and • Part 1(6) of DCO Schedules 11 and 12 with reference to a decommissioning plan. 	Ongoing point of discussion.	Ongoing point of discussion
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3.6 Fish & Shellfish Ecology

Table 6: Agreement Log: Fish & Shellfish Ecology.

ID	Hornsea Four Position	MMO Position	Position Summary
Environmental Impact Assessment			
MMO-FSE-01	Existing and project-specific survey data is sufficient to inform the assessment.	Relevant Representation (RR-020) 3.6.5 The MMO believes an appropriate characterisation of the environment for fisheries and fish ecology has been presented.	Agreed at Deadline 3
MMO-FSE-02	The impact assessment methodologies used for the EIA provide an appropriate approach to assessing potential impacts of Hornsea Four.	Relevant Representation (RR-020) 3.5.4 The MMO believes that all the potential impacts have been accurately identified. 3.5.10 The MMO is satisfied that the potential cumulative and inter-related impacts and effects on shellfish ecology have been identified and an appropriate assessment has been carried out.	Agreed at Deadline 3
MMO-FSE-03	The maximum design scenario (MDS) presented in the assessment is appropriate.	Relevant Representation (RR-020) 3.6.2 A clear and detailed project description has been presented within Chapter 4. There are a number of elements of the infrastructure that have yet to be determined as the project design is still evolving, however, the options for the various infrastructure appear to have been appropriately considered in the EIA process, for example, maximum design scenarios, depending on the different infrastructure or different construction methods being selected for the project. 3.6.3 The maximum design scenarios for impacts to fish associated with GBS foundations and monopiles have been appropriately considered in the EIA.	Agreed at Deadline 3
MMO-FSE-04	The conclusions of the assessment of impacts for construction, operation and decommissioning are agreed.	Relevant Representation (RR-020) 3.6.14 The MMO does not agree with the conclusions reached for herring relating to the impacts of noise and vibration, the impacts of direct damage and disturbance from construction activities, and the impacts of temporary localised increases in SSC and smothering.	Ongoing point of discussion

ID	Hornsea Four Position	MMO Position	Position Summary
		<p>1.1.2 The MMO has ongoing concerns in relation to underwater noise and disturbance impacts to fish and marine mammals and so at this stage cannot agree with the seasonal restriction timescale in the current dDCO.</p>	
MMO-FSE-05	<p>The conclusions of the assessment of cumulative impacts are agreed.</p>	<p>Relevant Representation (RR-020) 3.6.11 The MMO is currently unable to agree with the conclusions reached on cumulative impacts of noise on fish. This is primarily due to the lack of appropriate modelling to assess the extent of behavioural effects of piling on fish, and because the mitigation currently proposed (a temporal piling restriction for the HVAC booster station) is not considered adequate mitigation to protect spawning herring and their eggs and larvae. Please see detailed comments in sections 3.7.21 to 3.7.24 regarding modelling of behavioural effects and sections 3.7.25 to 3.7.25 regarding the timing of the Banks herring spawning season.</p>	<p>Ongoing point of discussion</p>
MMO-FSE-06	<p>Given the impacts of the project, the proposed Commitments outlined in Volume A4, Annex 5.2: Commitments Register are appropriate.</p>	<p>Relevant Representation (RR-020) 3.5.11 Mitigation measures “beyond existing commitments” are not given for shellfish receptors. The MMO is content with this, given the scale of proposed works versus the area of shellfish grounds, however, the MMO would urge closer liaison with HFIG to determine exact locations of shell fishing activity.</p>	<p>Agreed at Deadline 3</p>

ID	Hornsea Four Position	MMO Position	Position Summary
Draft DCO and Deemed Marine Licences			
MMO-FSE-07	<p>The wording of the following requirements and conditions pertaining to fish and shellfish ecology are appropriate and adequate:</p> <ul style="list-style-type: none"> • Part 2 - Condition 13(1)(a) of DCO Schedules 11 and 12 with reference to a Design Plan; • Part 2 - Condition 13(1)(c) of DCO Schedules 11 and 12 with reference to a Construction Method Statement; • Part 2 - Condition 13(1)(d) of DCO Schedules 11 and 12 with reference to a Construction Project Environmental Management and Monitoring Plan; • Part 2 - Condition 13(1)(e) of DCO Schedules 11 and 12, Part 2 - Condition 13(1)(e) with reference to the development of a Scour Protection Management Plan; • Part 2 - Condition 13(1)(g) of DCO Schedules 11 and 12 with reference to a Marine Mammal Mitigation Protocol • Part 2 - Condition 13(1)(h) of DCO Schedules 11 and 12 with reference to a Cable Specification and Installation Plan; and • Part 1(6) of DCO Schedules 11 and 12 with reference to a decommissioning plan. 	Ongoing point of discussion.	Ongoing point of discussion
MMO-FSE-08	<p>The wording of the following requirements and conditions pertaining to fish and shellfish ecology are appropriate and adequate:</p> <ul style="list-style-type: none"> • Part 2 - Condition 18(2)(b) of DCO Schedules 11 and 12 with reference to construction noise monitoring is appropriate. 	Ongoing point of discussion.	Ongoing point of discussion
MMO-FSE-09	<p>The wording of the following requirements and conditions pertaining to fish and shellfish ecology are appropriate and adequate:</p> <ul style="list-style-type: none"> • Condition 23 of DCO Schedule 12 with reference to a piling restriction between 1st September and 16th October is appropriate. 	<p>Relevant Representation (RR-020)</p> <p>3.7.33 In principal, the MMO supports the proposed piling restriction as a form of mitigation to protect spawning herring and their eggs and larvae from the impacts of noise and vibration.</p> <p>3.7.34 However, the MMO does not agree with the proposed dates of the restriction (1st September and 16th October). The MMO requests the restriction should be between 1st August and 31st October.</p>	Ongoing point of discussion

3.7 Marine Mammals/Underwater Noise

Table 7: Agreement Log: Marine Mammals/Underwater Noise.

ID	Hornsea Four Position	MMO Position	Position Summary
Environmental Impact Assessment			
MMO-MM-01	Existing and project-specific survey data is sufficient to inform the assessment.	Relevant Representation (RR-020) 3.7.2 The MMO defers to Natural England on if the existing environment (baseline) has been characterised appropriately.	Ongoing point of discussion
MMO-MM-02	The impact assessment methodologies used for the EIA provide an appropriate approach to assessing potential impacts of Hornsea Four.	Relevant Representation (RR-020) 3.7.9 The Subsea Noise Report is informative and provides relevant details on the modelling methodology and parameters input into the model. Reference is made to appropriate noise exposure criteria for marine mammals and fish species. The worst-case scenario (i.e. maximum hammer energy) has been assessed for monopiles and pin piles alongside the most likely scenario. The modelling also considers both a stationary and fleeing receptor for fish (primarily fleeing for marine mammals).	Agreed at Deadline 3
MMO-MM-03	The maximum design scenario (MDS) presented in the assessment is appropriate.	Ongoing point of discussion.	Ongoing point of discussion
MMO-MM-04	The conclusions of the assessment of impacts for construction, operation and decommissioning are agreed.	Relevant Representation (RR-020) 1.1.2 The MMO has ongoing concerns in relation to underwater noise and disturbance impacts to fish and marine mammals and so at this stage cannot agree with the seasonal restriction timescale in the current dDCO.	Ongoing point of discussion
MMO-MM-05	The conclusions of the assessment of cumulative impacts are agreed.	Ongoing point of discussion.	Ongoing point of discussion
MMO-MM-06	Given the impacts of the project, the proposed Commitments outlined in Volume A4, Annex 5.2: Commitments Register are appropriate.	Ongoing point of discussion.	Ongoing point of discussion
Draft DCO and Deemed Marine Licences			
MMO-MM-07	The wording of the following requirements and conditions pertaining to marine mammals are appropriate and adequate:	Ongoing point of discussion.	Ongoing point of discussion

ID	Hornsea Four Position	MMO Position	Position Summary
	<ul style="list-style-type: none"> Part 2 - Condition 13(1)(c) of DCO Schedules 11 and 12 with reference to a Construction Method Statement; Part 2 - Condition 13(1)(d) of DCO Schedules 11 and 12 with reference to a Construction Project Environmental Management and Monitoring Plan; Part 2 - Condition 13(1)(d)(v) of DCO Schedules 11 and 12 with reference to a Vessel Management Plan; and Part 1(6) of DCO Schedules 11 and 12 with reference to a decommissioning plan. 		
MMO-MM-08	<p>The wording of the following requirements and conditions pertaining to marine mammals are appropriate and adequate:</p> <ul style="list-style-type: none"> Part 2 - Condition 13(j) of DCO Schedules 11 and 12 with reference to a site integrity plan is appropriate. 	Ongoing point of discussion.	Ongoing point of discussion
MMO-MM-08	<p>The wording of the following requirements and conditions pertaining to marine mammals are appropriate and adequate:</p> <ul style="list-style-type: none"> Part 2 - Condition 13(1)(g) of DCO Schedules 11 and 12 with reference to a Marine Mammal Mitigation Protocol is appropriate. 	Ongoing point of discussion.	Ongoing point of discussion
MMO-MM-09	<p>The wording of the following requirements and conditions pertaining to marine mammals are appropriate and adequate:</p> <ul style="list-style-type: none"> Part 2 - Condition 18(2)(b) of DCO Schedules 11 and 12 with reference to construction noise monitoring is appropriate. 	Ongoing point of discussion.	Ongoing point of discussion

3.8 Outline Plan Documents

Table 8: Agreement Log: Outline Plan Documents.

ID	Hornsea Four Position	MMO Position	Position Summary
MMO-OP-01	The Outline Marine Mammal Mitigation Protocol is appropriate and adequate.	<p>Relevant Representation (RR-020)</p> <p>4.3.1 The ES is appropriately supported by an Outline MMMP, the aim of which is to reduce to negligible the risk of PTS for marine mammal species in relation to pile driving for the installation of the Project’s foundation structures.</p> <p>4.3.4 The MMO disagrees with the approach [focusing on mitigating only the “instantaneous” SPLpeak PTS-onset impact ranges]. The MMMP should focus on mitigating both the predicted SPLpeak and SELcum impact ranges.</p> <p>4.3.6 The MMO would expect the commitment to providing at source reduction measures to be included within the Commitment Register but was unable to find this mentioned specifically. The MMO requests that this is updated to reflect this commitment and that this is captured within the DML.</p> <p>4.4.3 The MMO notes that despite the arguments put forward by the Project, it does appear that they are committed to reducing the risk of cumulative PTS and this will be appropriately considered within the MMMP. As above the MMO welcomes this.</p>	Ongoing point of discussion
MMO-OP-02	The Outline Southern North Sea Special Area of Conservation Site Integrity Plan is appropriate and adequate.	<p>Relevant Representation (RR-020)</p> <p>4.7.3 The MMO defers to Natural England at this stage on what should be included within the Outline SIP document.</p> <p>4.7.4 However, the MMO highlights that if consented the MMO would require further information within the SIP document to include in-combination management measures. This would include any potential additional requirements the MMO believes are necessary to enable the guidance to be followed and could include additional reporting requirement</p>	Ongoing point of discussion
MMO-OP-03	The Dredging and Disposal Site Characterisation is appropriate and adequate.	<p>Relevant Representation (RR-020)</p> <p>3.3.2 The environment surrounding the proposed dredge area has been thoroughly characterised in terms of both physical and chemical composition, based on a sampling regime conducted in 2019, which is appropriate.</p> <p>3.3.8 The ES concludes that potential impacts related to dredging and disposal operations are negligible. The MMO agrees with this conclusion, based on the information provided.</p>	Ongoing point of discussion

		3.3.11 However, comments are still outstanding regarding the inclusion of details relating to the sampling and analysis of marine sediment from within the proposed dredge area.	
MMO-OP-04	The Outline Marine Monitoring Plan is appropriate and adequate.	Ongoing point of discussion.	Ongoing point of discussion
MMO-OP-05	The Outline Fisheries Coexistence and Liaison Plan is appropriate and adequate.	Relevant Representation (RR-020) 4.6.1 The MMO notes the Outline Fisheries Liaison and Coexistence Plan will be developed further at the post consent stage, however, the MMO believes the Applicant can provide further detail at this stage.	Agreed at Deadline 3