



# Hornsea Project Four

## Statement of Common Ground between Hornsea Project Four and Natural England: Other Offshore Matters

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Revision 01

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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
CEA	Cumulative Effects Assessment
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
PINS	The Planning Inspectorate
SNCB	Statutory Nature Conservation Body
SoCG	Statement of Common Ground

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## 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 Natural England 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 other offshore matters which includes the topics of:

- Marine Geology, Oceanography and Physical Processes;
- Benthic and Intertidal Ecology;
- Fish and Shellfish Ecology;
- Marine Mammals;
- Seascape, Landscape and Visual Resources; and
- Other Plans and Documents.

1.1.1.3 This SoCG covers offshore matters only, which for the purposes of this document, are defined as matters below Mean High Water Springs (MHWS).

1.1.1.4 Due to the nature and complexities of offshore ornithology and the Derogations Case, separate SoCGs have been developed with Natural England to address these topics as set out in [Table 1](#) below.

**Table 1: Summary of all SoCGs sought with Natural England.**

SoCG's sought with Natural England	Document Reference
SoCG between Hornsea Project Four and Natural England: Offshore and Intertidal Ornithology	G1.18
SoCG between Hornsea Project Four and Natural England: Onshore Matters	F3.5
SoCG between Hornsea Project Four and Natural England: Derogation and Compensation	F3.4

1.1.1.5 The need for a SoCG between the Applicant and Natural England is set out within the Rule 6 letter issued by the Planning Inspectorate (PINS) on 24 January 2022.

1.1.1.6 Following detailed discussions undertaken through the Evidence Plan Process, the Applicant and Natural England have sought to progress a SoCG. It is the intention that this document will provide the PINS with a clear overview of the level of common ground between both parties. This document will facilitate further discussions between the Applicant and Natural England 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](#)

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**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 Natural England 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 ([Section 3.7](#)).

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 Natural England's remit

1.3.1.1 The elements of Hornsea Four which may affect the interests of Natural England are Work Numbers 1 to 10, covering both onshore and offshore works. These are detailed in Part 1 (Authorised Development) of Schedule 1 (Authorised Project) of the draft DCO ([Volume C1.1: Draft DCO](#)).

## 1.4 Overview of Hornsea Four

1.4.1.1 Hornsea Four is an offshore wind farm which will be located approximately 69 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 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 HVDC converter/HVAC substation, energy balancing infrastructure and connections to the National Grid) will be located.

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## 2 Consultation

### 2.1 Summary of consultation with Natural England

2.1.1.1 **Table 2** below summarises the consultation that the Applicant has undertaken with Natural England relevant to Other Offshore Matters during the pre-application phase.

**Table 2: Summary of pre-application consultation with Natural England.**

Date	Form of consultation	Statutory/Non Statutory	Summary
07/08/2018	Meeting	Non Statutory	<b>Evidence Plan Steering Group Meeting 1</b> 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	<b>Marine Processes &amp; Ecology Evidence Plan Technical Panel Meeting 1</b> 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	<b>Marine Mammals Evidence Plan Technical Panel Meeting 1</b> 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	<b>Marine Mammals Evidence Plan Technical Panel Meeting 2</b> 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	<b>Hornsea Four Scoping Report</b>
26/11/2018	Consultation	Statutory	<b>Scoping Opinion</b> Consultation response on the Scoping Report from Natural England.
12/12/2018	Meeting	Non Statutory	<b>Evidence Plan Steering Group Meeting 2</b> 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	<b>Marine Processes &amp; Ecology Evidence Plan Technical Panel Meeting 2</b> 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	<b>Marine Mammals Evidence Plan Technical Panel Meeting 3</b> 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.

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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	<b>Marine Processes &amp; Ecology Evidence Plan Technical Panel Meeting 3</b> 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.
30/04/2019	Meeting	Non Statutory	<b>Marine Mammals Evidence Plan Technical Panel Meeting 4</b> 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.
25/06/2019	Meeting	Non Statutory	<b>Evidence Plan Steering Group Meeting 3</b> Update on project information, local information events, onshore and offshore Technical Panels and non-Evidence Plan consultation.
26/06/2019	Meeting	Non Statutory	<b>Marine Mammals Evidence Plan Technical Panel meeting 5</b> 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.
13/08/2019	Consultation	Statutory	<b>Hornsea Four PEIR</b> Published for statutory Section 42 consultation.
23/09/2019	Consultation response	Statutory	<b>Natural England letter response to PEIR</b> Providing comments on the PEIR.
06/11/2019	Meeting	Non Statutory	<b>Evidence Plan Steering Group Meeting 4</b> 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.
06/11/2019	Meeting	Non Statutory	<b>Marine Mammals Technical Panel Meeting 6</b> 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.
13/11/2019	Meeting	Non Statutory	<b>Marine Processes &amp; Ecology Evidence Plan Technical Panel Meeting 4</b> Meeting to provide a Hornsea Four update and updates on ongoing baseline surveys. Section 42 comments received were



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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	<b>Marine Mammals Technical Panel Meeting 7</b> Project and programme updates; and updates to the Impacts Register.
16/03/2020	Meeting	Non Statutory	<b>Evidence Plan Steering Group Meeting 5</b> 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	<b>Marine Mammals Technical Panel Meeting 8</b> 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	<b>Marine Mammals Technical Panel Meeting 9</b> 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	<b>Evidence Plan Steering Group Meeting 6</b> 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	<b>Marine Ecology and Processes Technical Panel Meeting 5C – Fish and Shellfish Ecology</b> 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	<b>Marine Ecology and Processes Technical Panel Meeting 5A – Marine Processes</b>

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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	<b>Marine Ecology and Processes Technical Panel Meeting 5B – Benthic and Intertidal Ecology</b> 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.
29/07/2021	Meeting	Non Statutory	<b>Evidence Plan Steering Group Meeting 7</b> Project updates on change to DCO application submission programme, SoCGs and non-statutory compensation consultation. Overview of geophysical and geotechnical investigations.
17/08/2021	Meeting	Non Statutory	<b>Outline Marine Monitoring Plan Meeting</b> To discuss consultee comments on the Outline Marine Monitoring Plan document provided for consultation to Natural England and the MMO in consultation with Cefas.

## 3 Agreement Logs

### 3.1 Overview

- 3.1.1.1 The following sections of this SoCG set out the level of agreement between the parties 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 3](#) below is used within the 'position' column of the following sections of this document.

**Table 3: Position Status Key.**

Position Status	Position Colour Coding
<b>Agreed</b> The matter is considered to be agreed between the parties	Agreed
<b>Not Agreed – no material impact</b> The matter is not agreed between the parties, however the outcome of the approach taken by either the Applicant or Natural England is not considered to result in a material impact to the assessment conclusions.	Not Agreed – no material impact
<b>Not Agreed – material impact</b>	Not Agreed – material impact

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Position Status	Position Colour Coding
The matter is not agreed between the parties and the outcome of the approach taken by either the Applicant or Natural England is considered to result in a materially different impact to the assessment conclusions.	
<b>Ongoing point of discussion</b> 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 Natural England).	Ongoing point of discussion

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## 3.2 Marine Geology, Oceanography and Physical Processes

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

ID	Hornsea Fours Position	Natural England's Position	Position Summary
<b>Environmental Impact Assessment</b>			
NE-MPOFF-01	Existing and project-specific survey data is sufficient to inform the assessment.	<p>The Marine Geology, Oceanography and Physical Processes chapter and technical report provide an extensive range of information and evidence. However, we would wish to highlight a number of gaps in the baseline characterisation including:</p> <ul style="list-style-type: none"> <li>• Adequate description of the underlying geology, seabed sediments and dominant morphological features in the vicinity of, and within, the proposed project area.</li> <li>• Sufficient baseline characterisation and understanding of the Flamborough Front through and/in the vicinity to the HP4 array, coupled with an adequate assessment of the effects of the array on tidal flows, turbulent wakes, and mixing within the water column.</li> <li>• Detailed investigation of the geomorphology of Smithic Bank, its evolution, and the impact of the proposed development on its form and function.</li> </ul> <p>Therefore, we do not consider the baseline characterisation to be complete at this stage.</p>	Ongoing point of discussion
NE-MPOFF-02	The impact assessment methodologies used for the EIA provide an appropriate approach to assessing potential impacts of Hornsea Four.	<ul style="list-style-type: none"> <li>• Numerous instances where significance has been presented as a range (i.e. slight or moderate, moderate or large) and it is nearly always the lower value that has been taken forward.</li> <li>• Change in matrix between PEIR and ES and new terminology</li> <li>• Impact pathway-led rather than receptor-led.</li> <li>• Broad definition of magnitude.</li> <li>• Natural England does not agree that appropriate marine process receptors have been identified for assessment and considers that the "study areas" are too narrow in scope.</li> </ul>	Ongoing point of discussion
NE-MPOFF-03	The maximum design scenario (MDS) presented in the assessment is appropriate.	Natural England note that there are a number of instances whereby the MDS is based on conservative assumptions rather than being underpinned by survey data. Natural England is concerned that these overly cautious MDS estimates then translate into what is effectively seen by the applicant as an "allowable amount of impact", and there is little impetus for them to refine this post consent. This approach conflicts with the	Ongoing point of discussion

ID	Hornsea Fours Position	Natural England's Position	Position Summary
		<p>principles of the 'mitigation hierarchy' and the emphasis within it on avoiding and reducing impacts.</p> <p>Natural England has highlighted a number of marine geology oceanography and physical process receptors that are missing from the assessments. Therefore, we do not agree that the worst-case scenario has been assessed in all cases.</p>	
NE-MPOFF-04	The conclusions of the assessment of impacts for construction, operation and decommissioning are agreed.	<p>Given our concerns relating to the identification of receptors, data gaps and incomplete assessments, we are unable to agree with the conclusions of the ES at this time. Furthermore, we would highlight that impacts on marine geology oceanography and physical process may give rise to impacts on intertidal and benthic ecology as well as species impacts. We may therefore need to revisit our comments on other ES chapters as additional data and assessment becomes available.</p>	Ongoing point of discussion
NE-MPOFF-05	The conclusions of the assessment of cumulative impacts are agreed.	<p>We would advise that the Viking Link interconnector cable should be screened into the marine processes cumulative assessment and thus included in this table.</p> <p>It should be noted that Eastern Green Link and the Northern Endurance Partnership should now be considered in Tier 2. Dogger Bank South Offshore Windfarm is also at scoping stage and should therefore be considered as Tier 2.</p> <p>Certain impacts assessed for the project alone are not considered in the cumulative assessment as they are assessed as 'not significant' on a project alone basis. Natural England believe these should be carried forward to the CEA or the Applicant needs to provide further detail to justify the exclusion of these potential cumulative impacts. It should also be noted that the CEA is likely to need to be updated pending updates to the 'project alone' assessments</p>	Ongoing point of discussion
NE-MPOFF-06	Given the impacts of the project, the proposed Commitments outlined in <a href="#">Volume A4, Annex 5.2: Commitments Register</a> are appropriate.		Ongoing point of discussion
<b>Draft DCO and Deemed Marine Licences</b>			
NE-MPOFF-07	The wording of the following requirements and conditions pertaining to marine geology, oceanography and physical processes are appropriate and adequate:		Ongoing point of discussion

ID	Hornsea Fours Position	Natural England's Position	Position Summary
	<ul style="list-style-type: none"> <li>• Part 2 - Condition 13(1)(c) of DCO Schedules 11 and 12 with reference to a Construction Method Statement;</li> <li>• 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;</li> <li>• Part 2 - Condition 13(1)(h) of DCO Schedules 11 and 12 with reference to a Cable Specification and Installation Plan;</li> <li>• Part 1(6) of DCO Schedules 11 and 12 with reference to a decommissioning plan;</li> <li>• 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.</li> </ul>		
<b>Report to Inform Appropriate Assessment</b>			
<b>NE-MPOFF-08</b>	<p>LSE Screening - The RIAA has identified all relevant features of the designated sites (in relation to marine processes) that may be sensitive to changes as a result of the proposed activities.</p>	<p>Natural England notes that only Flamborough Head SAC has been screened in for further assessment of changes to physical processes during operation and increased levels of suspended sediment during construction, operation and decommissioning. Based on the information currently available, we consider that Flamborough Head SAC should also be screened in for further assessment of changes to physical processes during construction and decommissioning, as well as beyond the operational lifetime of the project, as well as for potential changes to the hydrodynamic regime (arising as a result of potential impacts to the Flamborough Front). Flamborough and Filey Coast SPA should also be screened in for the same impacts.</p>	<p>Ongoing point of discussion</p>

ID	Hornsea Fours Position	Natural England's Position	Position Summary
		We also consider that the Humber Estuary SAC/SPA/Ramsar should also be screened in for further assessment of changes to physical processes throughout all stages of the project, and that the Southern North Sea SAC should be screened in for changes to hydrodynamic regime (Flamborough Front) and sediment transport regime.	
NE-MPOFF-09	Outcomes of the RIAA - Conclusion of no AEoI at any sites is appropriate in relation to marine processes, either alone or in-combination as a result of the proposed activities.	As a result of Natural England's concerns relating to the LSE Screening and evidence gaps within the Environmental Statement, we are currently unable to exclude beyond reasonable scientific doubt the potential for impacts to Flamborough Head SAC, Flamborough and Filey Coast SPA, Humber Estuary SAC/SPA/Ramsar and Southern North Sea SAC. Additional measures to avoid/reduce/mitigate potential impacts may need to be explored.	Ongoing point of discussion
<b>Marine Conservation Zone Assessment</b>			
NE-MPOFF-10	Screening – The MCZ assessment has identified all relevant MCZs that may be sensitive to changes as a result of the proposed activities and the associated impacts.	<p>Natural England note that the applicant has screened in Holderness Inshore MCZ and Holderness Offshore MCZ into assessment due to the potential for impacts from increased suspended sediment.</p> <p>In light of our comments on the ES chapter, we advise that potentially impacts to physical process attributes are also assessed.</p> <p>For habitat features this includes:</p> <ul style="list-style-type: none"> <li>• Supporting processes – energy exposure</li> <li>• Supporting processes – sediment movement and hydrodynamic regime</li> </ul> <p>For the Spurn Head Geological feature of Holderness Inshore this includes:</p> <ul style="list-style-type: none"> <li>• Extent of supporting geomorphological processes and associated sediments</li> <li>• Sediment transport pathways and connectivity to wider environment</li> <li>• Extent and distribution.</li> </ul>	Ongoing point of discussion
NE-MPOFF-11	Assessment Conclusion – Conclusion of no potential for significant impacts to Holderness Inshore MCZ and Holderness Offshore MCZ is appropriate.	As a result of Natural England's concerns relating to the screening of potential impact pathways, and the evidence gaps within the ES, we are currently unable to exclude beyond reasonable scientific doubt, the potential for significant impacts to Holderness Inshore MCZ and Holderness Offshore MCZ. Additional measures to avoid/reduce/mitigate potential impacts may need to be explored.	Ongoing point of discussion
<b>Other Matters</b>			

## 3.3 Benthic and Intertidal Ecology

Table 5: Agreement Log – Benthic and Intertidal Ecology.

ID	Hornsea Fours Position	Natural England's Position	Position Summary
<b>Environmental Impact Assessment</b>			
<b>NE-BEOFF-01</b>	Existing and project-specific survey data is sufficient to inform the assessment.	Natural England are generally satisfied with the baseline data collected including the method and consider the sampling frequency within the order area to be adequate. However, it is unclear how the benthic environment as characterised within the benthic study area has been used to inform impacts outside the order limits where habitats may be different, therefore our confidence in this area of the assessment is lower. Clarification on this matter would be useful. Natural England wish to see additional raw data relating to the classification of Stony Reef to confirm it is in fact of 'low' reefiness. We also request a more precautionary approach is taken in any reef assessments conducted during pre-construction surveys.	Ongoing point of discussion
<b>NE-BEOFF-02</b>	The impact assessment methodologies used for the EIA provide an appropriate approach to assessing potential impacts of Hornsea Four.	<ul style="list-style-type: none"> <li>Numerous instances where significance has been presented as a range (i.e. slight or moderate, moderate or large) and it is nearly always the lower value that has been taken forward.</li> <li>Change in matrix between PEIR and ES and new terminology</li> <li>Impact pathway-led rather than receptor-led.</li> <li>Broad definition of magnitude.</li> </ul>	Ongoing point of discussion
<b>NE-BEOFF-03</b>	The maximum design scenario (MDS) presented in the assessment is appropriate.	Natural England note that there are a number of instances whereby the MDS is based on conservative assumptions rather than being underpinned by survey data. Natural England is concerned that these overly cautious estimates then translate into what is effectively seen by the Applicant as an "allowable amount of impact", and there is little impetus for them to refine this post consent. This approach conflicts with the principles of the 'mitigation hierarchy' and the emphasis within it on avoiding and reducing impacts. It seems appropriate to reduce the MDS and provide a more accurate estimate of sandwave clearance and cable protection and replenishment.	Ongoing point of discussion
<b>NE-BEOFF-04</b>	The conclusions of the assessment of impacts for construction, operation and decommissioning are agreed.	We are unable to agree with the assessment conclusions related to permanent and temporary habitat loss due to the issue raised above in relation to the methodology and definitions around different levels of magnitude.	Ongoing point of discussion



ID	Hornsea Fours Position	Natural England's Position	Position Summary
		<p>Further discussion on how best to define magnitude in these cases along with refinement of the MDS will help improve our confidence in these conclusions.</p> <p>There are also a number of issues within the Marine Geology, Oceanography and Physical Processes chapter which could have implications on benthic aspects, therefore Natural England's advice may evolve as further information is provided.</p>	
NE-BEOFF-05	The conclusions of the assessment of cumulative impacts are agreed.	<p>Viking Link should be screened into the CEA.</p> <p>It should be noted that Eastern Green Link and the Northern Endurance Partnership should now be considered in Tier 2. Dogger Bank South Offshore Windfarm is also at scoping stage and should therefore be considered as Tier 2.</p> <p>Certain impacts assessed for the project alone are not considered in the cumulative assessment, as they are assessed as 'not significant' on a project alone basis. Natural England believe these should be carried forward to the CEA or the Applicant needs to provide further detail to justify the exclusion of these potential cumulative impacts (Construction phase: - Direct and indirect seabed disturbances leading to the release of sediment contaminants &amp; Operation and maintenance phase - Increased risk of introduction or spread of MINNS due to presence of subsea infrastructure and vessel movements).</p> <p>It should also be noted that the CEA may need to be updated following adjustments to the 'project alone' assessments.</p>	Ongoing point of discussion
NE-BEOFF-06	Given the impacts of the project, the proposed Commitments outlined in <a href="#">Volume A4, Annex 5.2: Commitments Register</a> are appropriate.		Ongoing point of discussion
<b>Report to Inform Appropriate Assessment</b>			
NE-BEOFF-07	LSE Screening - The RIAA has identified all relevant features of the designated sites (in relation to benthic and intertidal ecology) that may be sensitive to changes as a result of the proposed activities.	<p>Natural England notes and welcomes that increases in suspended sediment concentrations at Flamborough Head SAC have been screened into the assessment for this site.</p> <p>There are a number of indirect impact pathways described in Appendix E of RR (Marine geology, oceanography and physical processes) of our response which require further consideration.</p>	Ongoing point of discussion
NE-BEOFF-08	Outcomes of the RIAA - Conclusion of no AEol at any sites is appropriate in	Natural England notes that there is no information provided in relation to the likely disposal locations for the disposal of sandwave material removed during site	Ongoing point of discussion

ID	Hornsea Fours Position	Natural England's Position	Position Summary
	relation to benthic and intertidal ecology, either alone or in-combination as a result of the proposed activities.	preparation works and would welcome clarification on this point to support the assumptions made within the assessment. Based on our comments in Appendix E of RR, we are unable to exclude the potential for impacts to a number of designated benthic sites.	
<b>MCZ Assessment</b>			
<b>NE-BEOFF-09</b>	Screening – In relation to benthic and intertidal ecology, the MCZ assessment has identified all relevant MCZs that may be sensitive to changes as a result of the proposed activities and the associated impacts.	Natural England note and welcome that the impact of increases in suspended sediment concentrations on Holderness Inshore MCZ and Holderness Offshore MCZ. However, there are a number of indirect impact pathways described in Appendix E of RR of our response which require further consideration.	Ongoing point of discussion
<b>NE-BEOFF-10</b>	Assessment Conclusion – In relation to benthic and intertidal ecology, the conclusion of no potential for significant impacts to Holderness Inshore MCZ and Holderness Offshore MCZ is appropriate.	Natural England notes that there is no information provided in relation to the likely disposal locations of sandwave material removed during site preparation works and would welcome clarification on this point to support the assumptions made within the assessment. Based on our comments in Appendix E of RR, we are unable to exclude the potential for impacts to a number of designated sites. Please see Appendix E for further details.	Ongoing point of discussion
<b>Draft DCO and Deemed Marine Licences</b>			
<b>NE-BEOFF-11</b>	The wording of the following requirements and conditions pertaining to benthic and intertidal ecology are appropriate and adequate: <ul style="list-style-type: none"> <li>• Part 2 - Condition 13(1(a) of DCO Schedules 11 and 12 with reference to a Design Plan;</li> <li>• Part 2 - Condition 13(1(c) of DCO Schedules 11 and 12 with reference to a Construction Method Statement;</li> <li>• Part 2 - Condition 13(1(d) of DCO Schedules 11 and 12 with reference to a Construction Project</li> </ul>		Ongoing point of discussion

ID	Hornsea Fours Position	Natural England's Position	Position Summary
	<p>Environmental Management and Monitoring Plan;</p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• Part 2 - Condition 13(1)(h) of DCO Schedules 11 and 12 with reference to a Cable Specification and Installation Plan; and</li> <li>• Part 1(6) of DCO Schedules 11 and 12 with reference to a decommissioning plan.</li> </ul>		
<b>Other Matters</b>			

draft

## 3.4 Fish and Shellfish Ecology

Table 6: Agreement Log – Fish and Shellfish Ecology.

ID	Hornsea Fours Position	Natural England's Position	Position Summary
<b>Environmental Impact Assessment</b>			
NE-FSEOFF-01	Existing and project-specific survey data is sufficient to inform the assessment.	Natural England is broadly satisfied with data collected and baseline characterisation, although note that some of the data are old (overall 10 years). Overall, we would defer to Cefas regarding the suitability of data. Natural England agree with the identification of herring and sandeel as key species of concern that require species-specific assessments, owing to their close affiliation with seabed sediments within the project boundary.	Ongoing point of discussion
NE-FSEOFF-02	The impact assessment methodologies used for the EIA provide an appropriate approach to assessing potential impacts of Hornsea Four.	<ul style="list-style-type: none"> <li>Numerous instances where significance has been presented as a range (i.e. slight or moderate, moderate or large) and it is nearly always the lower value that has been taken forward.</li> <li>Change in matrix between PEIR and ES and new terminology</li> <li>Impact pathway-led rather than receptor-led.</li> <li>Broad definition of magnitude.</li> </ul>	Ongoing point of discussion
NE-FSEOFF-03	The maximum design scenario (MDS) presented in the assessment is appropriate.	<p>Natural England note that there are a number of instances whereby the MDS is based on conservative assumptions rather than being underpinned by survey data. Natural England is concerned that these overly cautious estimates then translate into what is effectively seen by the applicant as an "allowable amount of impact", and there is little impetus for them to refine this post consent.</p> <p>It seems appropriate to reduce the MDS and provide a more accurate estimate of sandwave clearance and cable protection and replenishment. Natural England consider that the WCS have been assessed, with the exception of habitat loss resulting from drilling activity which has not been assessed.</p>	Ongoing point of discussion
NE-FSEOFF-04	The conclusions of the assessment of impacts for construction, operation and decommissioning are agreed.	We are not convinced with the conclusion that there are no significant effects on herring spawning grounds due to the highly variable spawning density data year on year.	Ongoing point of discussion

ID	Hornsea Fours Position	Natural England's Position	Position Summary
NE-FSEOFF-05	The conclusions of the assessment of cumulative impacts are agreed.	<p>Viking Link should be screened into the CEA.</p> <p>It should be noted that Eastern Green Link and the Northern Endurance Partnership should now be considered in Tier 2. Dogger Bank South Offshore Windfarm is also at scoping stage and should therefore be considered as Tier 2.</p> <p>Certain impacts assessed for the project alone are not considered in the cumulative assessment as they are assessed as 'not significant' on a project alone basis. Natural England believe these should be carried forward to the CEA or the Applicant needs to provide further detail to justify the exclusion of these potential cumulative impacts.</p> <p>It should also be noted that CEA may require updating, pending the outcome of some of the updated 'project alone' assessments.</p>	Ongoing point of discussion
NE-FSEOFF-06	Given the impacts of the project, the proposed Commitments outlined in <a href="#">Volume A4, Annex 5.2: Commitments Register</a> are appropriate.		Ongoing point of discussion
<b>Report to Inform Appropriate Assessment</b>			
NE-FSEOFF-07	LSE Screening - The RIAA has identified all relevant features of the designated sites (in relation to migratory fish) that may be sensitive to changes as a result of the proposed activities.		Ongoing point of discussion
NE-FSEOFF-08	Outcomes of the RIAA - Conclusion of no AEoI at any sites is appropriate in relation to migratory fish, either alone or in-combination as a result of the proposed activities.		Ongoing point of discussion

ID	Hornsea Fours Position	Natural England's Position	Position Summary
<b>Draft DCO and Deemed Marine Licences</b>			
NE-FSEOFF-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"> <li>• Part 2 - Condition 13(1(a) of DCO Schedules 11 and 12 with reference to a Design Plan;</li> <li>• Part 2 - Condition 13(1(c) of DCO Schedules 11 and 12 with reference to a Construction Method Statement;</li> <li>• Part 2 - Condition 13(1(d) of DCO Schedules 11 and 12 with reference to a Construction Project Environmental Management and Monitoring Plan;</li> <li>• 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;</li> <li>• Part 2 - Condition 13(1)(g) of DCO Schedules 11 and 12 with reference to a Marine Mammal Mitigation Protocol</li> <li>• Part 2 - Condition 13(1)(h) of DCO Schedules 11 and 12 with reference to a Cable Specification and Installation Plan; and</li> <li>• Part 1(6) of DCO Schedules 11 and 12 with reference to a decommissioning plan.</li> </ul>		Ongoing point of discussion
NE-FSEOFF-10	Part 2 - Condition 18(2)(b) of DCO Schedules 11 and 12 with reference to construction noise monitoring is appropriate.		Ongoing point of discussion
NE-FSEOFF-11	Condition 23 of DCO Schedule 12 with reference to a piling restriction between 1 <sup>st</sup> September and 16 <sup>th</sup> October is appropriate.	In the absence of further data to support assumptions relating to a peak spawning season, Natural England consider that a more precautionary approach to mitigation should be applied with piling halted between 1st August and 31st October.	Ongoing point of discussion

ID	Hornsea Fours Position	Natural England's Position	Position Summary
<b>Other Matters</b>			

draft

## 3.5 Marine Mammals

Table 7: Agreement Log – Marine Mammals.

ID	Hornsea Fours Position	Natural England's Position	Position Summary
<b>Environmental Impact Assessment</b>			
NE-MMOFF-01	Existing and project-specific survey data is sufficient to inform the assessment.	We consider the data collected, when used in conjunction with other available data, is sufficient. We welcome the inclusion of the latest publications.	Ongoing point of discussion
NE-MMOFF-02	The impact assessment methodologies used for the EIA provide an appropriate approach to assessing potential impacts of Hornsea Four.	<ul style="list-style-type: none"> <li>Numerous instances where significance has been presented as a range (i.e. slight or moderate, moderate or large) and it is nearly always the lower value that has been taken forward.</li> <li>Change in matrix between PEIR and ES and new terminology</li> <li>Impact pathway-led rather than receptor-led.</li> <li>Broad definition of magnitude.</li> <li>Clarity is needed on the Project's definition of concurrent piling. If it is not the intention of the Applicant to include simultaneous and concurrent piling in the WCS, it should be conditioned in the DCO.</li> </ul>	Ongoing point of discussion
NE-MMOFF-03	The maximum design scenario (MDS) presented in the assessment is appropriate.	Natural England agrees that the WCS has been outlined, with the exception of clarity being required on the potential for concurrent and simultaneous piling to both occur within a 24-hour period.	Ongoing point of discussion
NE-MMOFF-04	The conclusions of the assessment of impacts for construction, operation and decommissioning are agreed.	Pending the clarification on piling, we broadly agree with the assessment outcomes.	Ongoing point of discussion
NE-MMOFF-05	The conclusions of the assessment of cumulative impacts are agreed.	<p>The list of projects screened into the CEA seems appropriate, however this should be reviewed before the agreed cut-off date.</p> <p>The Applicant has not provided sufficient justification to scope out vessel collision risk and vessel disturbance for specific marine mammals. Further justification should be provided and/or the pathways screened in.</p>	Ongoing point of discussion
NE-MMOFF-06	Given the impacts of the project, the proposed Commitments outlined in <a href="#">Volume A4, Annex 5.2: Commitments Register</a> are appropriate.		Ongoing point of discussion

### Report to Inform Appropriate Assessment



ID	Hornsea Fours Position	Natural England's Position	Position Summary
NE-MMOFF-07	The results of the HRA Screening in relation to marine mammals are agreed.	We consider that all relevant sites and receptors have been identified. We welcome the addition of Moray Firth SAC. Insufficient information has been provided to demonstrate no LSE to harbour seal in The Wash and North Norfolk Coast SAC from vessel collision risk. Further information should be provided in relation to vessel movements and this species.	Ongoing point of discussion
NE-MMOFF-08	The conclusions of the assessment of adverse effect alone in relation to marine mammals are agreed.	As with the EIA, the assessment has been done on the basis that simultaneous and concurrent piling will not occur at the same time. If these activities could co-occur, the assessment will need to be updated with this as the worst-case scenario. We recommend the relevant DCO conditions are updated to include concurrent as well as simultaneous piling to ensure piling is limited to two piles installed per calendar day. Further information on vessel movements is required to demonstrate no likely significant effect (LSE) on the harbour seal feature of The Wash and North Norfolk Coast SAC as a result of vessel collision risk. Whilst the area of construction itself has low numbers of harbour seals, collision risk can also arise whilst vessels are in transit to/from ports, where densities may be higher. Different tiers have been used between the RiAA and CEA in the ES; the rationale for this and a comparison between them should be provided. Seismic surveys have not been included; whilst we understand the rationale for this, we can be confident that they will overlap with construction in the future, and therefore they should be included in the in-combination assessment.	Ongoing point of discussion
NE-MMOFF-09	The conclusions of the assessment of adverse effect in-combination in relation to marine mammals are agreed.	Owing to concerns regarding the current over-reliance on the SIP process to manage in-combination impacts to the SNS SAC, Natural England cannot rule out AEOI on the SNS SAC. We strongly recommend that a commitment to delivering additional mitigation is secured at this stage.	Ongoing point of discussion
<b>Draft DCO and Deemed Marine Licences</b>			
NE-MMOFF-10	The wording of the following requirements and conditions pertaining to marine mammals are appropriate and adequate: <ul style="list-style-type: none"> <li>Part 2 - Condition 13(1(c) of DCO Schedules 11 and 12 with reference to a Construction Method Statement;</li> </ul>		Ongoing point of discussion

ID	Hornsea Fours Position	Natural England's Position	Position Summary
	<ul style="list-style-type: none"> <li>Part 2 - Condition 13(1)(d) of DCO Schedules 11 and 12 with reference to a Construction Project Environmental Management and Monitoring Plan;</li> <li>Part 2 - Condition 13(1)(d)(v) of DCO Schedules 11 and 12 with reference to a Vessel Management Plan; and</li> <li>Part 1(6) of DCO Schedules 11 and 12 with reference to a decommissioning plan.</li> </ul>		
NE-MMOFF-11	Part 2 - Condition 13(j) of DCO Schedules 11 and 12 with reference to a site integrity plan is appropriate.	Owing to concerns regarding the current over-reliance on the SIP process to manage in-combination impacts to the SNS SAC, Natural England cannot rule out AEOL on the SNS SAC. We strongly recommend that a commitment to delivering additional mitigation is secured at this stage.	Ongoing point of discussion
NE-MMOFF-12	Part 2 - Condition 13(1)(g) of DCO Schedules 11 and 12 with reference to a Marine Mammal Mitigation Protocol is appropriate.	The Outline Marine Mammal Mitigation Protocol (OMMMP) includes an appropriate range of mitigation measures, however further discussion is needed with regards to Acoustic Deterrence Device (ADD) duration and the use of bubble curtains. We also suggest the Applicant consider the use of Passive Acoustic Monitoring (PAM).	Ongoing point of discussion
NE-MMOFF-13	Part 2 - Condition 18(2)(b) of DCO Schedules 11 and 12 with reference to construction noise monitoring is appropriate.		Ongoing point of discussion
<b>Other Matters</b>			

## 3.6 Seascape, Landscape and Visual Resources

Table 8: Agreement Log – Seascape, Landscape and Visual Resources.

ID	Hornsea Fours Position	Natural England's Position	Position Summary
<b>Environmental Impact Assessment</b>			
NE-SVROFF-01	The scoping out of seascape, landscape and visual resources impacts in relation to the array area is agreed, including the cumulative assessment.	Natural England considers that the development does not have the potential to impact on the special character of the Flamborough Head Heritage Coast (FHHC) and its seascape setting.	Ongoing point of discussion
NE-SVROFF-02	The scoping out of seascape, landscape and visual resources impacts in relation to the HVAC booster station(s) is agreed, including the cumulative assessment.	Natural England considers that the development does not have the potential to impact on the special character of the Flamborough Head Heritage Coast (FHHC) and its seascape setting.	Ongoing point of discussion
<b>Draft DCO and Deemed Marine Licences</b>			
NE-SVROFF-08	Part 2 - Condition 22 of DCO Schedule 12 with reference to a HVAC booster station lighting plan is appropriate.		Ongoing point of discussion
<b>Other Matters</b>			

## 3.7 Other Documents and Plans

Table 9: Agreement Log – Other Documents and Plans.

ID	Hornsea Fours Position	Natural England's Position	Position Summary
<b>Outline Marine Mammal Mitigation Protocol</b>			
NE-OTHEROFF-01	<b>F2.5 Outline Marine Mammal Mitigation Protocol</b> provides an appropriate framework for securing marine mammal mitigation measures in agreement with Statutory Nature Conservation Bodies (SNCBs) and the MMO prior to construction.		Ongoing point of discussion
<b>Outline Marine Monitoring Plan</b>			
NE-OTHEROFF-02	<b>F2.7 Outline Marine Monitoring Plan</b> provides an appropriate framework to agree monitoring with SNCBs and the MMO prior to construction.		Ongoing point of discussion
<b>Outline Southern North Sea Special Area of Conservation Site Integrity Plan</b>			
NE-OTHEROFF-03	<b>F2.11 Outline Southern North Sea Special Area of Conservation Site Integrity Plan</b> provides an appropriate framework to agree mitigation measures for effects on the Southern North Sea SAC with SNCBs and the MMO prior to construction.		Ongoing point of discussion
<b>HVAC Booster Station Lighting Plan</b>			
NE-OTHEROFF-04	<b>F2.17 HVAC Booster Station Lighting Plan</b> provides an appropriate framework to secure the lighting requirements for the HVAC booster station(s) to ensure that the night-time effects on the setting of the Flamborough Head Heritage Coast will not be significantly adverse.		Ongoing point of discussion