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Subject: Hornsea Project Three (UK) Ltd response to Deadline 4 (Part 2)
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[D4_HOW03_CASchedule_Annex A_rev2.pdf](#)
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[HOW03_SoCG_Highways England 15 January 2019.pdf](#)
[HOW03_SoCG_MMO_January 2019.pdf](#)
[HOW03_SoCG_NCC_January 2019.pdf](#)
[HOW03_SoCG_SNC_January 2019_Final.pdf](#)
[HOW03_SoCG_Vanguard_Boreas_D4_signed.pdf](#)

Dear Kay, K-J

Please find attached the 2nd instalment of documents.

Best regards,
Dr Dominika Chalder PIEMA
Environment and Consent Manager



Environmental Management UK | Wind Power
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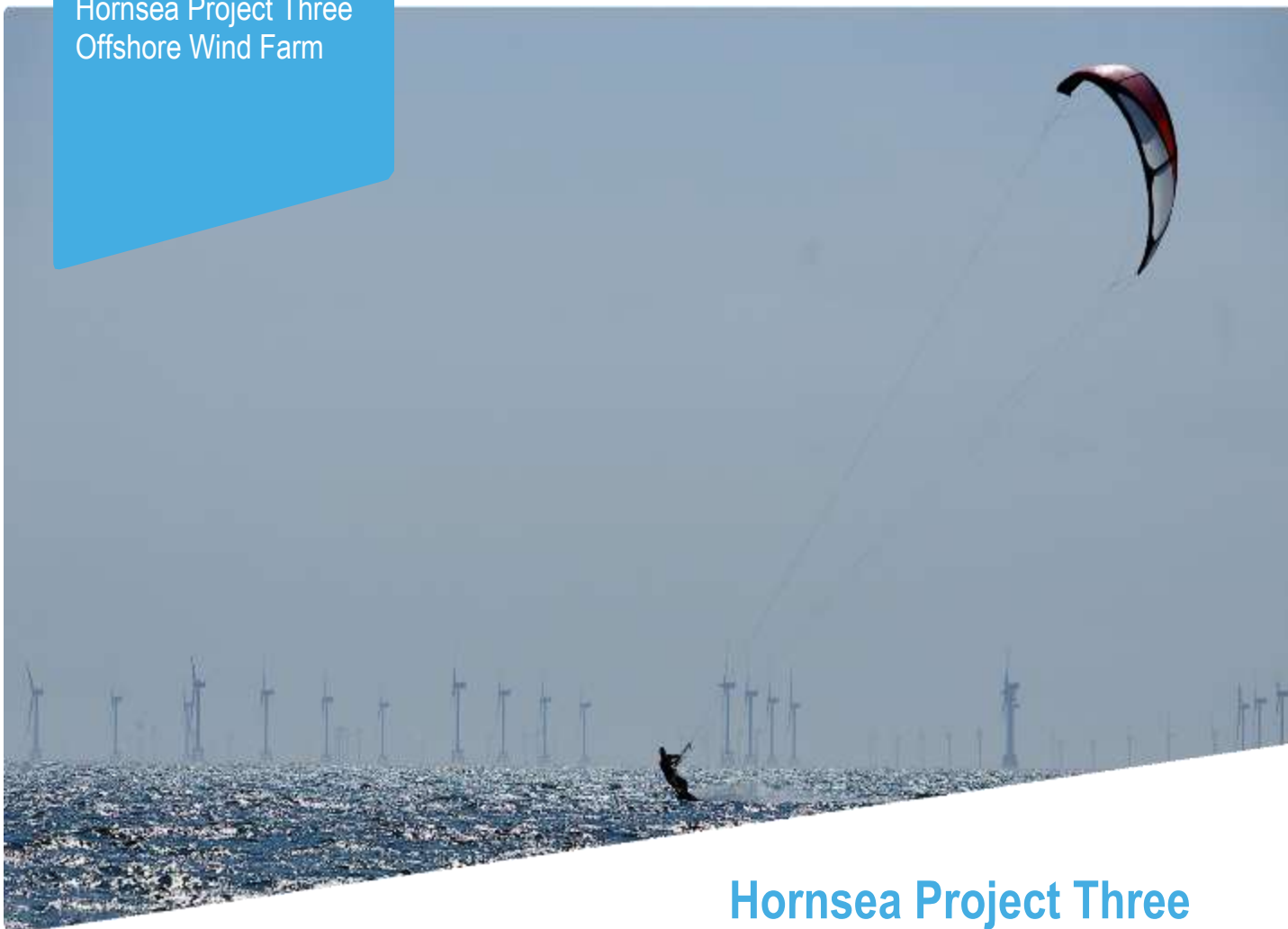
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Hornsea Project Three
Offshore Wind Farm



Hornsea Project Three Offshore Wind Farm

Statement of Common Ground between Hornsea Project Three (UK) Ltd. and the Marine Management Organisation (DL4)

Date: 15th January 2019

Statement of Common Ground between Ørsted Hornsea Project Three (UK) Ltd. and the Marine Management Organisation

Ørsted

5 Howick Place,

London, SW1P 1WG

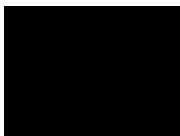
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Front cover picture: Kite surfer near a UK offshore wind farm © Ørsted Hornsea Project Three (UK) Ltd., 2019.

Revision History

Version	Date	Author	Context
1	July 2018	Ørsted	Pre-examination: Initial draft for discussion with the MMO
2	7 September 2018	MMO (LO/RW)	Amended draft with MMO and Cefas comments incorporated.
3	16 October 2018	MMO (LO/RW)	Second amended draft with MMO and Cefas comments incorporated.
4	22 October 2018	Ørsted	Hornsea Three updates following discussions with MMO
5	10 January 2019	Ørsted	Hornsea Three updates following discussions with MMO
	15 January 2019	MMO (LO/RW)	Amended draft with MMO and Cefas comments incorporated.

Signatories

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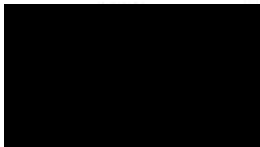
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For	Ørsted Hornsea Project Three (UK) Ltd

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Acronyms

Acronym	Description
CEA	Cumulative Effects Assessment
Cefas	Centre for Environment, Fisheries and Aquaculture Science
cSAC	Candidate Special Area of Conservation
DCO	Development Consent Order
DML	Deemed Marine Licence
EIA	Environmental Impact Assessment
EPS	European Protected Species
EWG	Expert Working Group
Ex.A	Examining Authority
HRA	Habitats Regulations Assessment
HVAC	High Voltage Alternating Current
HVDC	High Voltage Directional Current
JNCC	Joint Nature Conservation Committee
LSE	Likely Significant Effect
MCZ	Marine Conservation Zone
MHWS	Mean High Water Springs
MMO	Marine Management Organisation
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
RIAA	Report to Inform Appropriate Assessment
rMCZ	Recommended Marine Conservation Zone
SAC	Special Area of Conservation
SCI	Site of Community Importance
SoCG	Statement of Common Ground
TWT	The Wildlife Trusts
UXO	Unexploded Ordnance

1. Introduction

Overview

- 1.1 This Statement of Common Ground (SoCG) has been prepared by Ørsted Hornsea Project Three (UK) Ltd. ('the Applicant') and the Marine Management Organisation (MMO) (together 'the parties') as a means of clearly stating the areas of agreement, and any areas of disagreement, between the two parties in relation to the proposed Development Consent Order (DCO) application for the Hornsea Project Three offshore wind farm (hereafter referred to as 'Hornsea Three'). This SoCG does not deal with or extend to any development other than Hornsea Three.

Approach to SoCG

- 1.2 This SoCG has been developed during the pre-examination phase of Hornsea Three. In accordance with discussions between the parties, this SoCG is focused on those issues raised by the MMO within its response to Scoping, Section 42 consultation and as raised through the Evidence Plan process that has underpinned the pre-application consultation between the parties. This SoCG also includes those issues raised by the MMO during the post-application phase (i.e. relevant representations and pre-examination meetings).
- 1.3 The structure of this SoCG is as follows:
- Section 1: Introduction;
 - Section 2: Consultation;
 - Section 3: Agreements Log; and
 - Section 4: Summary.
- 1.4 It is the intention that this document will help facilitate post-application discussions between the parties and also give the Examining Authority (Ex.A) an early sight of the level of common ground between both parties from the outset of the examination process.

Hornsea Three

- 1.5 Hornsea Three is a proposed offshore wind farm located in the southern North Sea and will include all associated offshore (including up to 300 turbines) and onshore infrastructure.
- 1.6 The key components of Hornsea Three include:
- Turbines and associated foundations;
 - Turbine foundations;
 - Array cables;
 - Offshore substation(s), and platform(s) and associated foundations;
 - Offshore accommodation platform/s and associated foundations;
 - Offshore export cable/s;
 - Offshore and/or onshore High Voltage Alternating Current (HVAC) booster station(s) (HVAC transmission option only);
 - Onshore export cables; and
 - Onshore High Voltage Direct Current (HVDC) converter/HVAC substation.

- 1.7 The Hornsea Three array area (i.e. the area in which the turbines are located) is approximately 696 km², and is located approximately 121 km northeast off the Norfolk coast and 160 km east of the Yorkshire coast.
- 1.8 The Hornsea Three offshore cable corridor extends from the Norfolk coast, offshore in a north-easterly direction to the western and southern boundary of the Hornsea Three array area. The Hornsea Three offshore cable corridor is approximately 163 km in length.
- 1.9 From the Norfolk coast, underground cables will connect the offshore wind farm to an onshore HVDC converter/HVAC substation, which will in turn, connect to an existing National Grid substation. Hornsea Three will connect to the Norwich Main National Grid substation, located to the south of Norwich. The Hornsea Three onshore cable corridor is 55 km in length at its fullest extent.

2. Consultation

Application elements under MMO's remit

- 2.1 Work Nos. 1 to 5 (offshore works) detailed in Part 1 of Schedule 1 of the draft DCO (Document A3.1) describe the elements of Hornsea Three which may affect the interests of the MMO.

Consultation summary

- 2.2 This section briefly summarises the consultation that the Applicant has undertaken with the MMO. Those technical topics of the DCO application of relevance to the MMO (and therefore considered within this SoCG) comprise:
- Marine Processes;
 - Benthic Ecology;
 - Fish and Shellfish Ecology;
 - Marine Mammals;
 - Underwater Noise;
 - Commercial Fisheries;
 - Dredging and Disposal; and
 - Project Description and Deemed Marine Licences (DMLs).
- 2.3 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 has made little or no comment in relation to the technical assessments associated with the following topics and as such, agreement logs have not been presented for these topics:

- Shipping and Navigation;
- Ornithology;
- Marine Archaeology;
- Aviation, Military and Communications; and
- Infrastructure and Other Users.

Pre-Application

- 2.4 The Applicant engaged with the MMO on Hornsea Three during the pre-application process, both through informal non-statutory engagement and formal consultation carried out pursuant to section 42 of the Planning Act 2008.
- 2.5 Table 2.1 summarises the consultation undertaken between the parties during the pre-application phase, including consultation through scoping, consultation on the Preliminary Environmental Information Report (PEIR) and further section 42 consultation in late 2017.
- 2.6 In addition to section 42 consultation, the Applicant held several meetings with the MMO through the Evidence Plan process (further detail of this consultation is presented in the Hornsea Project Three Consultation Report, Annex 1 - Evidence Plan; APP-035). Table 2.2 summarises the consultation undertaken between the parties during the post-application phase.

Table 2.1: Pre-application consultation with the MMO.

Date	Attending	Detail
10 March 2016	Royal Society of the Protection of Birds (RSPB), Natural England and MMO	Ornithology Expert Working Group (EWG)
10 March 2016	Natural England, MMO and the Planning Inspectorate (PINS)	Marine Mammal EWG
22 March 2016	PINS, Natural England and MMO	Evidence Plan Steering Group
13 April 2016	Natural England, The Wildlife Trusts (TWT) and MMO	Marine Mammal EWG
06 June 2016	Natural England, MMO and Centre for Environment, Fisheries and Aquaculture Science (Cefas)	Marine Processes, Benthic Ecology and Fish Ecology EWG
12 July 2016	Natural England, MMO and Cefas	Marine Processes, Benthic Ecology and Fish Ecology EWG
18 July 2016	PINS, Natural England, MMO and Cefas	Evidence Plan Steering Group

Date	Attending	Detail
27 July 2016	RSPB, Natural England and MMO (Ornithology EWG)	Ornithology EWG
26 October 2016	N/A	Scoping report published for consultation by the Applicant.
23 November 2016	Natural England, MMO and TWT	Marine Mammal EWG
25 November 2016	N/A	MMO letter response to scoping report.
27 January 2017	PINS, Natural England, MMO and Cefas	Evidence Plan Steering Group
28 March 2017	Natural England, MMO and TWT	Marine Mammal EWG
11 April 2017	Cefas, MMO	Teleconference to discuss the evidence based approach to Marine Processes.
22 May 2017	PINS, Natural England, MMO and Cefas (Evidence Plan Steering Group)	Evidence Plan Steering Group
22 May 2017	PINS, Natural England, MMO and TWT	Marine Conservation Zone (MCZ) Working Group
10 July 2017	Natural England, TWT, MMO	Marine Mammal EWG
26 July 2017	N/A	PEIR published by the Applicant for consultation (section 42).
20 September 2017	N/A	MMO letter response providing comments on the PEIR.
16 November 2017	N/A	Further statutory consultation published by the Applicant.
20 November 2017	Natural England, MMO and TWT	Marine Mammal EWG
04 December 2017	PINS, Natural England, MMO, Cefas and TWT	Marine Processes, Benthic Ecology and Fish Ecology EWG
04 December 2017	PINS, Natural England, MMO and TWT	MCZ Working Group
14 December 2017	N/A	MMO letter response comments on further statutory consultation.
31 January 2018	PINS, Natural England, MMO and Cefas	Evidence Plan Steering Group

Date	Attending	Detail
15 February 2018	Natural England, MMO, Cefas and TWT	Marine Mammal EWG
23 February 2018	Natural England, MMO, Joint Nature Conservation Committee (JNCC), Cefas and TWT	Marine Processes, Benthic Ecology and Fish Ecology EWG

Table 2.2: Post application consultation with the MMO.

Date	Detail
2 August 2018	Meeting to discuss MMO Relevant Representation and approach to SoCG drafting
7 September 2018	Meeting to discuss updates to the SoCG.
2 October 2018	Meeting to discuss high level approach to resolving outstanding marine processes and benthic ecology issues.
17 October 2018	Meeting to discuss updates to the SoCG
18 December 2018	General catch up on outstanding areas of discussion following December hearings
10 January 2019	Meeting to discuss updates to the SoCG

3. Agreement Log

- 3.1 The following section of this SoCG identifies the level of agreement between the parties for each relevant component of the application material (as identified in Section 2) as it relates to seaward of Mean High Water Springs (MHWS). In order to easily identify whether a matter is “agreed”, “under discussion” or indeed “not agreed” a colour coding system of green, yellow and orange, respectively, is used in the “final position” column to represent the respective status of discussions. To date, the agreed final positions as outlined in the following sections have been achieved through the evidence plan process during the pre-application phase.

Marine processes

- 3.2 Hornsea Three has the potential to impact upon marine processes and these interactions are duly considered within Volume 2, Chapter 1: Marine Processes of the Environmental Statement (APP-061). Table 3.1 identifies the status of discussions relating to this topic area between the parties.

Table 3.1: Marine processes.

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Volume 2, Chapter 1: Marine Processes of the Environmental Statement			
Policy and Planning	The assessment has identified all appropriate plans and policies relevant to Hornsea Three has given due regard to them within the assessments.	Agreed.	Agreed
Baseline environment	Sufficient primary and secondary data has been collated to appropriately characterise the baseline environment for the purposes of informing the EIA.	The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: - Survey data: Point 4.2, 4.9 and 4.13 - The MMO raised major concerns in relation to the limited availability of survey data in relation to the revised cable route that crosses the WNNC SAC. Following this the Applicant has provided a clarification note presenting new survey results that confirmed the predictions made in the ES. The MMO has reviewed this note and can confirm that sufficient information for the characterisation of the baseline environment has been provided. - Impact pathways assessment: point 3.1 - In the RR comments received on 12/09/18 the Applicant confirmed they will be submitting an indicative layout and installation plans within the relevant pre-commencement documentation. The document will include background depth, number of turbines and platforms and the intra-cable layout. Furthermore the Applicant highlighted that the disturbance of both fine, sand and gravel sediments leading to potential increases in suspended sediment concentration and subsequent sediment deposition, is considered in detail for a range of activities within Sections 4.3.2, 4.3.3 and 4.3.5 of Volume 5, Annex 1.1: Marine Processes Technical Annex (Document A6.5.1.1). These changes to pathways are then summarised in Section 1.11.2 of Volume 2, Chapter 1: Marine Processes of the	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		Environmental Statement (Document A6.2.1). The MMO is content with this evidence. - Wave and sediment transport: point 3.3 - The Applicant also confirmed that the role of waves in sediment transport has been accounted for (see section 1.7.1 of Volume 2, Chapter 1: Marine Processes of the Environmental Statement), including spatial variation in the relative frequency and magnitude of wave action (e.g. depending on proximity to the coast and water depth). The MMO is content with this evidence. - Local sediment transport pathways: point 3.4 – The Applicant confirmed that the local sediment transport pathways have been accounted for (paragraph 1.7.1.10 onwards in Volume 2, Chapter 1: Marine Processes of the Environmental Statement (Document A6.2.1)). The MMO is content with this evidence. - Regional tidal currents: point 3.5 - Furthermore the Applicant provided clarification that the baseline understanding of Markham's Hole and Outer Silver Pit does not suggest that any localised effects on currents due to bathymetry are important for the local nature or distribution of seabed sediments, or the sediment transport regime in these areas. The MMO is content with the information provided in the Applicant's RR response received on 12/09/18.	
	All data gaps have been highlighted and all appropriate measures for filling any data gaps have been proposed.	The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: Data gaps: Point 3.6 - The MMO raised major concerns in relation to the limited availability of survey data in relation to the revised cable route that crosses the WNNC SAC. Following this the Applicant has provided a clarification note presenting new survey results that confirmed the predictions made in the ES. The MMO has reviewed this note and can	In progress

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		confirm that sufficient information for the characterisation of the baseline environment has been provided. - Agreed Cable and scour protection: point 3.2 and 3.7 - Scour and cable protection have been proposed to ensure the integrity of the structures. Some of the detail is lacking however, for instance, a potential scour pit of 19.5m has been identified (Table 1.11) for a monopile (15m diameter) but the location and substrate have not been provided. Similarly, clarification on whether this is a common feature or just associated with softer sediments, should be provided. The MMO seeks confidence that the scour assumptions and processes are robust and appropriate to the design selected for construction. At present the assessment provided is generic (not site specific) and incomplete since potential scour depths for each structure (GBS, Tripod or Monopile) have not been identified. Following our review of the Applicant's Deadline 2 response, the MMO proposes the reintroduction of a swath bathymetry monitoring of scour pits at the site with high mud fractions to offset the regulatory uncertainty. The Applicant has provided a clarification note on cable protection and scour protection on 9/10/18. Following the review of both documents, the MMO has identified a number of points that require to be clarified which were submitted at deadline 1. In the Applicant's comments on Written Representations submitted at deadline 2, further clarification on these points was provided. In response, the MMO highlighted in our deadline 3 (point 1.2.1) response the MMO does not agree that survey results from other developments are not publicly available. - In Progress.	

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Assessment methodology	The evidence based approach to the assessment of effects is deemed appropriate for the purposes of predicting changes to the receiving environment.	Agreed.	Agreed
	Adequate metocean data has been collected for the purposes of informing the EIA.	Agreed.	Agreed
	The potential impacts from Hornsea Three and consequent effects on receptors identified within the chapter represent a comprehensive list of potential effects on marine processes.	The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: - Cable and scour protection: point 3.2 and 3.7 - There were remaining concerns regarding impacts from cable protection on sediment transport and coastal processes in relation to the North Norfolk coast where the proposed cable route runs parallel to the coast. The Applicant has provided a clarification note on cable protection on 9/10/18 which is currently under review by the MMO. Following the review of both documents, the MMO has identified a number of points that require to be clarified. The clarification points are outlined in the Written Representation which will be submitted by Deadline 1. A response to these points was provided by the applicant at Deadline 2, which is satisfactory to the MMO. – Agreed. - Regional issues on sediment transport and wave impacts: Point 3.1, 3.3, 3.4 and 3.5 - In the RR comments received on 12/09/18 the Applicant highlighted that the evidence base on the local sediment transport associated with changes in water depth and sediment type around Markham's Hole included the baseline environmental conditions (current speed, wave action, water depth and sediment type) and the observed actual sediment transport indicators (bedform dimensions and shape, and seabed sediment type). The MMO is content with this justification.	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		Furthermore, the Applicant provided additional information on bathymetric currents associated with the changing bathymetry in Markham's Hole and Outer Silver Pit and provided clarity on the assessment of mud in Markham's Hole as part of their RR response. The MMO is content with the evidence provided. – Agreed.	
	All the conservation sites relevant to the marine processes topic with the potential to be affected by Hornsea Three have been considered within Section 1.7.2 and Section 1.11 of Volume 2, Chapter 1: Marine Processes of the Environmental Statement.	The MMO defers to Natural England on this position.	N/A
	The definitions used for magnitude and sensitivity, as outlined in Section 1.9 of Volume 2, Chapter 1: Marine Processes of the Environmental Statement are appropriate criteria.	Agreed	Agreed
	The maximum design scenarios identified for each effect in Table 1.11 of Volume 2, Chapter 1: Marine Processes of the Environmental Statement are appropriate based on the information presented in Volume 1, Chapter 3: Project Description of the Environmental Statement (APP-058). In response to the clarification on spud cans, the Applicant has responded on this point (see response to MMO RR comment 3.10) and can confirm that 170 m² is the area of seabed directly affected by spud can placement. This is realistically representative of the larger installation vessels presently being used to install offshore wind farms in UK.	The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: - Gravity base diameter: Point 3.8 - In the RR comments received on 12/09/18 clarification has been provided - the greatest sediment disturbance from a single gravity base foundation location is associated with the largest diameter gravity base foundation (53 m base diameter, 61 m bed preparation diameter), which results in the greatest volume of spoil from a single foundation. – Agreed. - Cable burial depth: Point 3.9 - A target export cable burial of 2m has been proposed. The MMO requested further information on whether contingency had been included either for the need to over dredge or active sandwave clearance requiring repeated dredging. The Applicant provided a clarification note on Sandwave Clearance on 9/10/18 which is	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	In response to the clarification of the excavated material within the Cromer Shoal Chalk Beds MCZ, clarification of the method for calculating this is presented in the Sandwave Clearance Clarification Note provided to the MMO in October 2018.	currently under review by the MMO. Following the review of both documents, the MMO has identified a number of points where clarification is requested. The clarification points are outlined in the Written Representation which will be submitted by Deadline 1. A response to these points was provided by the applicant at Deadline 2, which is satisfactory to the MMO. - Agreed • Spud can marks: Point 3.10 In the RR comments received on 12/09/18 further clarification on this has been provided. The MMO requires further clarification on whether for a 2m diameter spud can, the scour pit will be a further 5.35m (approximately) in diameter? (i.e. 2+5.45m equating to 170m2). A response to these points was provided by the applicant at Deadline 2, which is satisfactory to the MMO. – Agreed • HDD exit pit construction: : In the RR comments received on 12/09/18 the Applicant confirmed that HDD exit pits will be constructed from a flat bottomed barge, jack up barge or similar vessel. No floating pit will be required. - Agreed • Excavation material: point 3.12 - Furthermore, the MMO suggested that more context should be provided around the 1,329m3 of excavated materials from various MCZs. Following the review of the clarification notes provided for sandwave levelling and cable protection, the MMO has identified a number of points where clarification is requested. The clarification points are outlined in the Written Representation which will be submitted by Deadline 1. A response to these points was provided by the applicant at Deadline 2, which is satisfactory to the MMO. - Agreed • Jacket Foundations: Point 3.11 - In the RR comments received on 12/09/18 the Applicant confirmed a depth of 1m below seabed is assumed which is commonly used in the industry and also stated in the	

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		Decommissioning Programmes to BEIS. The MMO is content with this information. -Agreed	
	The list of projects screened into the cumulative effects assessment (CEA) are appropriate.	Agreed.	Agreed
Assessment conclusions	The assessment of potential changes to marine processes, as outlined in Section 1.11 of Volume 2, Chapter 1: Marine Processes of the Environmental Statement, is appropriate and no impacts from the construction, operation and/or decommissioning of Hornsea Three will be significant in EIA terms given the implementation of the embedded measures adopted as part of Hornsea Three (see Section 1.10 of Volume 2, Chapter 1: Marine Processes of the Environmental Statement).	The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: - The MMO raised major concerns in relation to the limited availability of survey data in relation to the revised cable route that crosses the WNNC SAC. The Applicant subsequently provided a clarification note presenting new survey results confirming the predictions made in the ES. The MMO has reviewed this note and can confirm that sufficient information for the characterisation of the baseline environment has been provided. - Cable and scour protection: point 3.2 and 3.7 - There are remaining concerns regarding impacts from cable protection on sediment transport and coastal processes in relation to the North Norfolk coast where the proposed cable route runs parallel to the coast. The Applicant provided a clarification note on cable protection on 9/10/18 which is currently under review by the MMO. Following the review of both documents, the MMO has identified a number of points that require to be clarified. The clarification points are outlined in the Written Representation which will be submitted by Deadline 1. A response to these points was provided by the applicant at Deadline 2, which is satisfactory to the MMO. -Agreed	Agreed
	No significant cumulative effects on marine process pathways are predicted.	Agreed.	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	No further mitigation to those embedded measures identified in Section 1.10 of Volume 2, Chapter 1: Marine Processes of the Environmental Statement is necessitated as a result of the assessment conclusions.	Agreed.	Agreed
Volume 5, Annex 2.3: MCZ Assessment (APP-104)			
Screening	The only two MCZ/recommended MCZ (rMCZ) sites of relevance with regard to potential changes in marine processes comprise Markham's Triangle rMCZ and Cromer Shoal Chalk Beds MCZ.	The MMO defers to Natural England on this position. The MMO suggested that more context should be provided around the 1,329m ³ of excavated materials from various MCZs. Clarification was requested as to how this information would be provided.	N/A
Assessment Methodology	The approach taken to assessing potential risks of hindering achievement of the conservation objectives for the Cromer Shoal Chalk Beds MCZ and Markham's Triangle rMCZ as a result of potential changes to marine processes is appropriate.	The MMO defers to Natural England on this position.	N/A
Assessment Conclusion	There is no significant risk of Hornsea Three hindering the conservation objectives for the Cromer Shoal Chalk Beds MCZ and Markham's Triangle rMCZ either alone or cumulatively as a result of changes to marine processes.	The MMO defers to Natural England on this position.	N/A
RIAA			
Screening	Those sites identified as having potential Likely Significant Effects (LSE) from Hornsea Three alone or in-combination are appropriate.	The MMO defers to Natural England on this position.	N/A

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	The RIAA has identified all relevant features of the designated sites that may be sensitive to changes to marine processes.	The MMO defers to Natural England on this position.	N/A
	It is appropriate to screen out of the assessment the intertidal habitat features of the Wash and North Norfolk Coast Special Area of Conservation (SAC) and sufficient evidence is provided to demonstrate there will be no effect on sediment transport which could affect the features. The feature 'large shallow inlets and bays' could also be screened out.	The MMO defers to Natural England on this position.	N/A
Assessment Methodology	The methodology to assess features of designated sites that may be sensitive to changes to marine processes is appropriate.	The MMO defers to Natural England on this position.	N/A
Assessment Conclusions	No adverse effect on integrity of Natura 2000 sites are predicted either alone or in-combination as a result of changes to marine processes.	The MMO defers to Natural England on this position.	N/A
Draft DCO			
Commitments / Restrictions	No specific commitments are required within the DCO to mitigate effects on marine processes.	Agreed.	Agreed
Monitoring	No monitoring relating to potential effects on marine processes is proposed as no significant impacts were identified in Volume 2, Chapter 1: Marine Processes of the Environmental Statement.	Potential impacts have been identified on sediment transport in the nearshore zone where the export cable is brought ashore at, in this instance, Weybourne. As the degree of cable protection in the sub-tidal has not yet been identified, the MMO recommended that the condition as set out below should be included in Schedule 12 Part 2 (20) (a)(dDCO submitted at Deadline 1). The Applicant highlighted in a teleconference on the 10 th	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		January 2019 that the inshore area would be covered as part of the general monitoring requirement as set out in the updated dDMLs and IPMP. – Agreed <i>“...Subject to receipt of specific proposals, it is expected that the post construction surveys will comprise, in outline—</i> <i>(b) one high resolution swath bathymetric survey to be undertaken no sooner than six months following completion of construction works and disposal activities to include a 100% coverage of the part(s) of the offshore Order limits with a water depth no greater than 12 metres (referenced to Chart Datum) within which construction works and disposal activities were carried out under this licence to assess any changes in bedform morphology and such further monitoring as may be required to ensure that the cables have been buried or protected and sediment is able to move over any installed cable protection. The need for further surveys will be agreed in writing with the MMO following submission of the first year of survey data;</i> <i>(c) one high resolution bathymetric survey of a representative sample area, as may be agreed in writing with the MMO, of the part(s) of the offshore Order limits with a water depth no greater than 12 metres (referenced to Chart Datum) within which construction works and disposal activities were carried out under this licence following the first major storm event the timing of which shall be agreed with the MMO in consultation with Natural England and the Environment Agency;</i>	

Benthic ecology

- 3.3 Hornsea Three has the potential to impact upon benthic ecology and these interactions are duly considered within Volume 2, Chapter 2: Benthic Ecology of the Environmental Statement (APP-062). Table 3.2 identifies the status of discussions relating to this topic area between the parties.

Table 3.2: Benthic ecology.

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Volume 2, Chapter 2: Benthic Ecology of the Environmental Statement			
Policy and Planning	The assessment has identified all appropriate plans and policies relevant to benthic ecology and has given due regard to them within the assessment.	Agreed.	Agreed
Baseline environment	Sufficient primary and secondary data has been collated to appropriately characterise the baseline environment for the purposes of informing the EIA.	The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: Survey data: Point 4.2, 4.9 and 4.13 - The MMO raised major concerns in relation to the limited availability of survey data in relation to the revised cable route that crosses the WNNC SAC. The Applicant subsequently provided a clarification note presenting new survey results confirming the predictions made in the ES. The MMO has reviewed this note and can confirm that sufficient information for the characterisation of the baseline environment has been provided.	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	All data gaps have been highlighted and all appropriate measures for filling any data gaps have been implemented.	The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: Survey data: Point 4.2, 4.9 and 4.13 - The MMO raised major concerns in relation to the limited availability of survey data in relation to the revised cable route that crosses the WNNC SAC. Following this the Applicant provided a clarification note presenting new survey results that confirmed the predictions made in the ES. The MMO has reviewed this note and can confirm that sufficient information for the characterisation of the baseline environment has been provided.	Agreed
Assessment methodology	The potential impacts from Hornsea Three and consequent effects on receptors identified within the chapter represent a comprehensive list of potential effects on benthic ecology.	The MMO note that certain maintenance activities have not been assessed for impacts on the benthos; Turbines will be painted every 10 years, and this will require surface preparation to break down existing surface coatings and any associated corrosion. The potential impact of this material entering the marine environment has not been considered. The impact of removal of biological waste (including marine growth and guano (up to 5 cleaning events per turbine per year) has also not been considered. In the RR comments received on 12/09/18 the Applicant provided further information on the assessment of the potential effect associated with accidental release of pollutants on benthic receptors during the O&M phase. This is presented in paragraphs 2.11.2.174 et seq. of Volume 2, Chapter 2: Benthic Ecology of the Environmental Statement (APP-062). Further information is provided in the detailed comments. The MMO is content with the evidence provided.	Agreed.

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	It is appropriate to scope out resuspension of contaminants from the assessment as agreed in the EWG.	Agreed.	Agreed
	It is appropriate to scope out impacts on benthic intertidal ecological receptors due to the absence of intertidal valued ecological receptors at the Hornsea Three intertidal area.	Agreed.	Agreed
	All the conservation sites relevant to the benthic ecology topic with the potential to be affected by Hornsea Three have been considered within Section 2.7.3 and Section 2.11 of Volume 2, Chapter 2: Benthic Ecology of the Environmental Statement.	The MMO defers to Natural England on this position.	N/A

	The approach to incorporating levels of risk around impacts to potential future <i>Sabellaria spinulosa</i> reef, as outlined in Paragraph 2.11.1.43 <i>et seq.</i> of Volume 2, Chapter 2: Benthic Ecology of the Environmental Statement, are appropriate.	- Classification as reef: Point 4.8 – The MMO recommends that sites classified as ‘not a reef’ within the SAC should be considered as potential Annex I reef habitat and mitigation should be proposed. In the RR comments received on 12/09/18 the Applicant committed to undertake a pre-construction survey to determine the location, extent and composition of any Annex I reefs within SACs and/or biogenic or geogenic reefs outside SACs within the Order limits (as per Schedule 12, Part 2, Paragraph 16 (2)(ii) of the draft DCO). Mitigation measures will then be discussed with the statutory consultees, should there be a requirement. The MMO is content with this approach. - Core reef approach: Point 4.12 - The MMO was not convinced that the core reef approach by Roberts <i>et al.</i> 2016 was entirely appropriate within NNSB & SR due to the limited survey effort to date. This limitation was noted in 2.11.1.53 of Chapter 2. However, the approach detailed in paragraph 2.11.1.54 <i>et seq.</i> and Table 2.21 of Volume 2 Chapter 2 regarding the risk assessment of 0 to 6 export cables being installed through each area of potential future Annex I reef appears to be appropriate. In the RR comments received on 12/09/18 the Applicant provided further clarification on the core reef approach which has been acknowledged by the MMO. The MMO notes that the Applicant has committed to undertake a pre-construction survey to determine the location, extent and composition of any Annex I reefs within SACs and/or biogenic or geogenic reefs outside SACs within the Order limits. The MMO is content with this approach.	Agreed
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Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	The definitions used for magnitude and sensitivity, as outlined in Section 2.9 of Volume 2, Chapter 2: Benthic Ecology of the Environmental Statement are appropriate criteria.	Agreed.	Agreed
	The maximum design scenarios identified for each effect in Table 2.14 of Volume 2, Chapter 2: Benthic Ecology of the Environmental Statement are appropriate based on the information presented in Volume 1, Chapter 3: Project Description of the Environmental Statement.	Agreed.	Agreed
	The list of projects screened into the CEA are appropriate.	Agreed.	Agreed
Assessment conclusions	The assessment of potential effects to benthic ecological receptors, as outlined in Section 2.11 of Volume 2, Chapter 2: Benthic Ecology of the Environmental Statement, is appropriate and no impacts from the construction, operation and/or decommissioning of Hornsea Three will be significant in EIA terms given the implementation of the embedded measures adopted as part of Hornsea Three (see Section 2.10 of Volume 2, Chapter 2: Benthic Ecology of the Environmental Statement).	Predicted impacts have been assessed as either negligible or minor and are therefore not significant in EIA terms. The MMO defers to Natural England on the position on whether the assessment of potential effect is appropriate. In any case, this should not mean that monitoring is not required as these predictions will need to be confirmed via specific monitoring. The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: • Temporary habitat loss: Point 4.5 – In the RR comments received on the 12/09/18 the Applicant provided further clarification on this assessment. The MMO acknowledges this information. • Assessment of sensitivity: Point 4.6 - The MMO had questions in relation to the assessment of the overall sensitivity of habitats A-E. Section 2.11.1.37 assessed the overall sensitivity of habitats A-E combined to give	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		an overall significance of the effect, which was assessed as minor adverse. However, the habitats would respond differently to the different impacts of sediment disturbance, sandwave removal and smothering and the MMO considers that these should therefore be given separate significance ratings. In the RR comments received on 12/09/18 the Applicant provided further information on the assessment, however questions remain as to whether the assessment has considered the sensitivity of different habitats to the different types of temporal disturbance separately. In the Applicants Deadline 2 comments to Written Representations, it was confirmed that the effects of temporary disturbance/loss to Habitats A-E were based on an appraisal of how each of the habitats would individually respond to the impacts of sediment disturbance, sandwave removal and smothering, the MMO can confirm that our concerns have been addressed by this clarification. • Reefiness: Point 4.4 - With regard to the 'reefiness' at ECR04 the Applicant provided further information in the RR comments received on 12/09/18. The <i>Sabellaria spinulosa</i> recorded at ECR04 was very patchy and it was not possible to delineate the extent of <i>S. spinulosa</i> at this station. It is important to note however, as also outlined in paragraph 2.7.1.16 of Volume 2, Chapter 2: Benthic Ecology of the Environmental Statement, this sample station was located outside the Hornsea Three offshore cable corridor and would therefore not be directly impacted by cable installation activities. The MMO is content with this explanation on the basis that	

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		the Applicant's response indicates that pre-construction surveys will be undertaken and mitigation measures for reef within and outside the SAC will be discussed. On this note, the MMO would like to highlight that <i>S.spinullosa</i> reef can form between sandwaves, where coarse sediments prevail, and therefore sandwave clearance of such areas could impact any reef present. Sandwave clearance: Point 4.7 - Sandwave clearance within the North Norfolk Sandbanks and Saturn Reef SAC may affect the integrity of the sandbank system within the site. In the RR comments received on 12/09/18 the Applicant provided further clarification on this. Furthermore, the Applicant submitted a sandwave clearance clarification note to provide further information on the assessment of impacts to sandwaves. The MMO is content with the information provided.	
	No cumulative effects that are significant in EIA terms are predicted.	Based on the current assessments of effect within the ES the MMO agrees that none of the cumulative effects were considered above minor adverse and are therefore not significant in EIA terms. However, as stated above, the MMO defers to Natural England on the position on whether the assessment of potential effect is appropriate for potentially impacted European sites. Furthermore, the MMO recommend that predictions should be verified via monitoring.	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	No further mitigation to those embedded measures identified in Section 2.10 of Volume 2, Chapter 2: Benthic Ecology of the Environmental Statement is necessitated as a result of the assessment conclusions.	In the RR comments received on 12/09/18 the Applicant confirmed that, to avoid residual risks to Annex I features of The Wash and North Norfolk Coast SAC, mitigation measures would be adopted as part of Hornsea Three as detailed below (Table 2.18 of Volume 2, Chapter 2: Benthic Ecology of the ES). The Applicant has agreed to undertake a pre-construction survey to determine the location, extend and composition of any Annex 1 reef within the SAC and/or biogenic or geogenic reef within the project area outside of the SACs. Should such reefs be identified as part of these surveys, appropriate measures will be discussed with the statutory consultees. The MMO is content with this approach.	Agreed
Volume 5, Annex 2.3: MCZ Assessment			
Screening	The sites and features screened into Volume 5, Annex 2.3: MCZ Assessment of the Environmental Statement are appropriate, with only two MCZ/rMCZ sites identified as having the potential to be affected by Hornsea Three: Markham's Triangle rMCZ and Cromer Shoal Chalk Beds MCZ.	The MMO defers to Natural England on this position.	N/A
	The impacts screened into Volume 5, Annex 2.3: MCZ Assessment of the Environmental Statement are appropriate, with accidental release of pollutants, release of sediment bound contaminants and removal of turbine foundations (leading to loss of colonising communities) screened out of the MCZ assessment.	The MMO defers to Natural England on this position.	N/A

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Assessment Methodology	The approach taken to assessing the risk of Hornsea Three hindering the achievement of the conservation objectives for the relevant MCZ and rMCZ, including use of attributes and targets as outlined in the draft supplementary conservation advice package for Cromer Shoal Chalk Beds MCZ, is appropriate.	The MMO defers to Natural England on this position.	N/A
	The use of relevant biotope information to assess sensitivity as part of the Stage 1 assessment is appropriate.	The MMO defers to Natural England on this position.	N/A
	The maximum design scenarios identified for each effect in Section 5 of Volume 5, Annex 2.3: MCZ Assessment of the Environmental Statement are appropriate based on the information presented in Volume 1, Chapter 3: Project Description of the Environmental Statement.	The MMO defers to Natural England on this position.	N/A
Assessment Conclusion	There is no significant risk of Hornsea Three hindering the conservation objectives for the Cromer Shoal Chalk Beds MCZ either alone or cumulatively as a result of changes to benthic ecology.	The MMO defers to Natural England on this position.	N/A
	There is no significant risk of Hornsea Three hindering the achievement of the assumed conservation objectives (i.e. recover to favourable condition) for the Markham's Triangle rMCZ either alone or cumulatively as a result of changes to benthic ecology.	The MMO defers to Natural England on this position.	N/A
RIAA			
Screening	Those sites identified as having potential LSE from Hornsea Three alone or in-combination are appropriate.	The MMO defers to Natural England on this position.	N/A

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	The RIAA has identified all relevant features of the designated sites that may be sensitive to potential effects on benthic ecology. It is appropriate to screen out of the assessment the intertidal habitat features and the 'large shallow inlets and bays' feature of the Wash and North Norfolk Coast SAC.	The MMO defers to Natural England on this position.	N/A
Assessment Methodology	The methodology to assess features of designated sites that may be sensitive to potential effects on benthic ecology is appropriate.	The MMO defers to Natural England on this position.	N/A
Assessment Conclusions	No adverse effect on the integrity of Natura 2000 sites are predicted either alone or in-combination as a result of effects on benthic ecological receptors.	The MMO defers to Natural England on this position.	N/A
Draft DCO			
Commitments / Restrictions	Hornsea Three's commitment to avoid the use of concrete mattresses within designated sites (as set out in Schedule 11, Part 2, Paragraph 3(2) and Schedule 12, Part 2, Paragraph 3(2) of the draft DCO) is appropriate to ensure the avoidance of adverse effects on integrity of Natura 2000 sites and significant risks of hindering conservation objectives of MCZs.	The MMO defers to Natural England on this position.	N/A
	Hornsea Three's commitment to employ sensitive cable and scour protection measures is set out in a Cable Specification and Installation Plan (Schedule 11, Part 2, Paragraph 11(1)(h) (generation assets) and Schedule 12, Part 2, Paragraph 12(1)(h) (transmission assets) of the DCO (see Table 3.8 for details of pre-approval consultation requirements and timescales).	Agreed.	Agreed

Monitoring	The monitoring approach described in Table 3.2 of the In-Principle Monitoring Plan (APP-182) is appropriate and includes both pre and post construction monitoring of targeted features within the designated sites (i.e. SACs and MCZs).	The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: • Reef features: Point 1.8, 1.47 and 1.67 – The MMO suggested that the Applicant provide details of pre- and post-construction monitoring surveys to inform micro-siting around any features of ecological importance prior to the commencement of any licenced works and provide evidence post-construction as to the impact on any such features as a result of the development. In the RR comments received on the 12/09/18 the Applicant committed to extend the existing condition within the transmission assets dML (16(2) (ii) details of a survey to determine the location, extent and composition of any Annex I reefs within SACs and/or biogenic or geogenic reefs outside SACs within the Order limits) to the generation assets and ensure that where necessary post construction monitoring is carried out under both dMLs. Furthermore, the Applicant has made a commitment in the updated In Principle Monitoring Plan (to be submitted by deadline 1) to undertake pre – and post construction surveys to assess direct impacts on reef features. The MMO is content with this. – Agreed. • Monitoring requirements: point 4.3 – In the RR comments received on 12/09/18 the Applicant committed to undertake monitoring to inform micro-siting and impacts on Annex I reef within the SAC. Discussions on monitoring requirements for Benthic Ecology as set out in the In Principle Monitoring Plan have been ongoing. The Applicant submitted a response on our comments to the MMO on the 9th January 2019.	In Progress
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Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		The applicant confirmed that the IPMP will ensure pre-construction monitoring encompasses areas of Annex I habitat that may be at risk of secondary effects. The Applicant has updated the post construction commitment within the IPMP to encompass monitoring for secondary effects on known reef features. The response provided by the Applicant to the MMOs comments is satisfactory. The MMO will review the updated IPMP and provide final comments by Deadline 5. – In Progress	

Fish and shellfish ecology

- 3.4 Hornsea Three has the potential to impact upon fish and shellfish ecology and these interactions are duly considered within Volume 2, Chapter 3: Fish and Shellfish Ecology of the Environmental Statement (APP-063). Table 3.3 identifies the status of discussions relating to this topic area between the parties.

Table 3.3: Fish and shellfish ecology.

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Volume 2, Chapter 3: Fish and Shellfish Ecology			
Policy and Planning	The assessment has identified all appropriate plans and policies relevant to fish and shellfish ecology and has given due regard to them within the assessment.	Agreed.	Agreed
Baseline environment	Sufficient primary and secondary data has been collated to appropriately characterise the baseline environment for the purposes of informing the EIA.	Fish: Agreed. Shellfish: The MMO suggest that fisheries data from both landings and VMS (Vessel Monitoring Systems) should be referred to. Additionally, effort by the under 12m fleet is often underestimated as they aren't required to carry VMS and may be missed by overflight surveys. Further clarification was provided to the MMO and this is considered to be acceptable.	Agreed
	The existing characterisation of sandeel habitats within the Hornsea Three array area and Hornsea Three offshore cable corridor is sufficient for the purposes of undertaking the EIA.	Agreed.	Agreed
	All data gaps have been highlighted and all appropriate measures for filling any data gaps have been proposed.	Agreed.	Agreed
Assessment methodology	The evidence based approach to the assessment of effects is deemed appropriate for the purposes of predicting potential effects on the receiving environment.	Agreed.	Agreed
	The potential impacts from Hornsea Three and consequent effects on receptors identified within the chapter represent a comprehensive list of potential effects on fish and shellfish ecology.	Agreed.	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	All the conservation sites relevant to the fish and shellfish ecology topic with the potential to be affected by Hornsea Three have been considered within Section 3.7.5 and Section 3.11 of Volume 2, Chapter 3: Fish and Shellfish Ecology of the Environmental Statement.	The MMO defers to Natural England on this position.	N/A
	The definitions used for magnitude and sensitivity, as outlined in Section 3.9 of Volume 2, Chapter 3: Fish and Shellfish Ecology of the Environmental Statement are appropriate criteria.	Agreed.	Agreed
	The maximum design scenarios identified for each effect in Table 3.11 of Volume 2, Chapter 3: Fish and Shellfish Ecology of the Environmental Statement are appropriate based on the information presented in Volume 1, Chapter 3: Project Description of the Environmental Statement.	Agreed.	Agreed
	The list of projects screened into the CEA are appropriate.	Agreed.	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Assessment conclusions	The assessment of potential effects to fish and shellfish receptors, as outlined in Section 3.11 of Volume 2, Chapter 3: Fish and Shellfish Ecology of the Environmental Statement, is appropriate and no impacts from the construction, operation and/or decommissioning of Hornsea Three will be significant in EIA terms given the implementation of the measures adopted as part of Hornsea Three (see Section 3.10 of Volume 2, Chapter 3: Fish and Shellfish Ecology of the Environmental Statement). To address MMO feedback, the Applicant has agreed to produce a map for cumulative piling and will provide this to the MMO as soon as possible following Deadline 1.	The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: - Concurrent piling: Point 5.1 – the MMO raised concerns that it is unclear in the underwater noise assessment whether concurrent piling has been taken into consideration. A clarification note was provided by the Applicant on the 9th January 19, which is currently under review. - In Progress - Sandeels: Point 5.3 The ES should acknowledge that sandeels are likely to suffer disturbance as a result of the vibrations during the autumn and winter months. In the RR comments received on 12/09/18 the Applicant provided further information on the raised issues. The MMO is content with the information. - Agreed	In progress
	No cumulative effects that are significant in EIA terms are predicted.	Agreed.	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	No further mitigation to those embedded measures identified in Section 3.10 of Volume 2, Chapter 3: Fish and Shellfish Ecology of the Environmental Statement is necessitated as a result of the assessment conclusions.	The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: - Concurrent pilling: Point 5.1 - the MMO has outstanding concerns in relation to the noise propagation and the potential impacts to Flamborough Head herring spawning ground should concurrent piling be undertaken. A clarification note was provided by the Applicant on the 9th January 19, which is currently under review. – In Progress - Bubble curtains: Point 5.2 - , The MMO suggested that the use of bubble curtains to reduce noise propagation when piling could reduce the impact of underwater noise and vibration on fish. Following discussions with the Applicant, the MMO is content with the justification provided in the Applicant's RR comments received on 12/09/18. The MMO would like to highlight that the comment made in relation to bubble curtains was intended for the Applicant to consider ways in which their overall 'impact footprint' could be minimised. –Agreed.	In progress
RIAA			
Screening	All relevant sites for fish and shellfish receptors are identified within the HRA Screening Report (APP-052).	The MMO defers to Natural England on this position.	N/A
	No sites are identified as having potential LSE from Hornsea Three alone or in-combination and therefore, no further assessment within the RIAA is required.	The MMO defers to Natural England on this position.	N/A

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Draft DCO			
Commitments / Restrictions	Given the embedded measures and Environmental Statement conclusions no further specific commitments and or restrictions are required in the DCO for fish and shellfish ecology.	Due to the requirement for additional information outlined above, the MMO cannot confirm this. The MMO recommend that consideration for construction activities to avoid the sensitive sandeel spawning season should be made where feasible. This is a recommendation only, and no specific condition on the DMLs is proposed.	Agreed
Monitoring	Given the conclusions of the Environmental Statement, no site specific monitoring is required for fish and shellfish ecology.	Fish: The MMO agree that no fisheries specific surveys are required. However, given the size of the Hornsea 3 array area and as the substrate is considered to be largely 'preferred' sandeel habitat, the MMO requests that PSA data is collected during post-construction benthic monitoring and used to monitor and assess sandeel habitat suitability, potentially as part of a benthic monitoring plan. Any sandeel caught in grab samples during benthic monitoring should be recorded by species and length. In the Applicant's Deadline 2 comments to Written Representations, a new approach was proposed. This approach is currently under review with the MMO.	In progress

Marine mammals

- 3.5 Hornsea Three has the potential to impact upon marine mammal receptors and these interactions are duly considered within Volume 2, Chapter 4: Marine Mammals of the Environmental Statement (APP-064). Table 3.4 identifies the status of discussions relating to this topic area between the parties.

Table 3.4: Marine mammals.

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Volume 2, Chapter 4: Marine Mammals of the Environmental Statement			
Policy and Planning	The assessment has identified all appropriate plans and policies relevant to marine mammals and has given due regard to them within the assessment.	Agreed.	Agreed
Baseline environment	Sufficient primary and secondary data has been collated to appropriately characterise the baseline environment for the purposes of informing the EIA.	Agreed.	Agreed
	The reference populations, densities and marine mammal study areas for all species considered within this chapter are appropriate.	The MMO defers to Natural England on this position.	N/A
	All data gaps have been highlighted and all appropriate measures for filling any data gaps have been proposed.	Agreed.	Agreed
Assessment methodology	The potential impacts from Hornsea Three and consequent effects on receptors identified within the chapter represent a comprehensive list of potential effects on marine mammals.	Agreed.	Agreed
	All the conservation sites relevant to the marine mammals topic with the potential to be affected by Hornsea Three have been considered within Section 4.9.3 and Section 4.11 of Volume 2, Chapter 4: Marine Mammals of the Environmental Statement.	The MMO defers to Natural England on this position.	N/A
	The definitions used for magnitude and sensitivity, as outlined in Section 4.9 of Volume 2, Chapter 2: Marine Mammals of the Environmental Statement are appropriate criteria.	Agreed	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	The maximum design scenarios identified for each effect in Table 4.15 of Volume 2, Chapter 4: Marine Mammals of the Environmental Statement are appropriate based on the information presented in Volume 1, Chapter 3: Project Description of the Environmental Statement.	Agreed.	Agreed
	Based on the evidence presented within paragraphs 4.11.1.16 <i>et seq.</i> and 4.11.1.67 of Volume 2, Chapter 4: Marine Mammals of the Environmental Statement, it is considered that the TTS threshold is not appropriate for use as the behavioural threshold of 'fleeing' for multiple pulse noise.	Agreed. Based on the most recent and relevant noise exposure criteria for marine mammals (NMFS 2016), thresholds are presented for the onset of PTS and TTS for impulsive and non-impulsive sound sources. The characteristics of TTS are distinct from behavioural disturbance, in which an animal changes its behaviour in response to a stimulus. There is no cognitive impairment implicit in behavioural responses.	Agreed
	It is appropriate for disturbance impacts to have been assessed through a dose response curve.	Agreed. The MMO recommend that the use of simplistic thresholds for assessing behaviour are avoided. For Hornsea Three, a harbour porpoise curve (Graham <i>et al.</i> 2017) derived from data obtained from the initial piling at Beatrice, was applied to all cetacean species and a harbour seal curve, derived from data collected in the Russell <i>et al.</i> (2016) study was applied to both species of seal. The MMO considers this to be appropriate.	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	The underwater noise modelling and use of INSPIRE is appropriate for informing the assessment of effects from piling on marine mammals and that the modelling has been based on the most appropriate threshold criteria and metrics.	Overall, the MMO has no major concerns with the underwater noise modelling. However, there are a few clarifications suggested; • Para 6.3.1.5 of Subsea Noise Technical Report: Can a brief explanation be provided as to why the linear fit is considered to give a worst-case estimate, as shown in Figure 6.1? The Applicant provided further clarification in the RR comments received on 12/09/18 and via email on 20/09/18. The MMO requests further information as to why the linear fit is considered to give a worst-case estimate. This should include examples of alternatives to the linear fit to conclude that a linear fit is the worst, reasonable case. The Applicant provided further clarification at deadline 2 which is currently under review. – In Progress • The SELss (single strike Sound Exposure Level) source levels should be provided in the assessment. The requested information was provided via email on 20/09/18. The MMO is satisfied with this information – Agreed • Point 6.13 - The impact ranges for PTS and TTS in the tables, though very similar, do not always exactly match those given in the Subsea Noise Technical Report, as shown in the comparison table. In the RR comments received on 12/09/18 the Applicant has provided further information on this. The MMO is satisfied with this information, however we would welcome clarification in the report as to why the numbers were different. – Agreed.	In progress

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	It is agreed Hornsea Three is not including within its application a request for permission for unexploded ordnance (UXO) detonation but that the assessment has considered this activity to an appropriate level of detail.	It is considered appropriate that a detailed assessment of UXO would be made as part of a future licence application once it is known whether UXO detonations are required, where, and what size UXOs require detonation.	Agreed
	The list of projects included within the CEA is appropriate.	Agreed.	Agreed
	A qualitative approach to including seismic survey activity within the cumulative assessment is appropriate.	Agreed.	Agreed
	Shipping and fishing have not been included within the cumulative assessment, but it that it has been made clear within the chapter that the assessment is not implying that these sources of noise do not affect marine mammals.	Agreed.	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Assessment conclusions	The assessment of potential effects to marine mammal receptors, as outlined in Section 4.11 of Volume 2, Chapter 4: Marine Mammals of the Environmental Statement, is appropriate and no impacts from the construction, operation and/or decommissioning of Hornsea Three will be significant in EIA terms given the implementation of the measures adopted as part of Hornsea Three (see Section 4.10 of Volume 2, Chapter 4: Marine Mammals of the Environmental Statement).	The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: At source mitigation: Points 5.2, 6.3 6.4 and 6.5 - The most direct and comprehensive way to mitigate the risk of acoustic impacts on marine species would be to reduce the amount of noise pollution emitted at source. Noise reduction technologies are available, such as big bubble curtains and acoustic barriers that are integrated into the piling rig (e.g. IHC Noise Mitigation System). Such mitigation should be considered as a primary means of reducing the potential acoustic impact of pile driving operations, and UXO clearance. The MMO agrees that discussions around mitigation measures will take place as part of the agreement of a Marine Mammal Mitigation Protocol, however the MMO would like to highlight that it is only logical for the Applicant to consider all potential and possible options at the earliest opportunity.	Agreed
	It is agreed that moderate cumulative effects are predicted as a result of the uncertainty in what projects may have temporal overlap of their piling schedules. The effect predicted is highly precautionary and (based on the build out scheduling observed to date) unlikely to be of as large a magnitude as predicted. Notwithstanding this, the effect will only be temporary and once piling has completed there is no reason as to why a return to baseline conditions should not be possible.	The MMO note that mitigation measures would be expected to inform discussion within a future Marine Mammal Mitigation Protocol, in consultation with statutory advisors, which would be expected as a condition of any deemed Marine Licence.	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	No further mitigation to those embedded measures identified in Section 10 of Volume 2, Chapter 4: Marine Mammals of the Environmental Statement is necessitated as a result of the assessment conclusions.	The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: At source mitigation: Points 5.2, 6.3 and 6.4 and 6.5 - The most direct and comprehensive way to mitigate the risk of acoustic impacts on marine species would be to reduce the amount of noise pollution emitted at source. Noise reduction technologies are available, such as big bubble curtains and acoustic barriers that are integrated into the piling rig (e.g. IHC Noise Mitigation System). Such mitigation should be considered as a primary means of reducing the potential acoustic impact of pile driving operations, and UXO clearance. The MMO agrees that discussions around mitigation measures will take place as part of the agreement of a Marine Mammal Mitigation Protocol, however the MMO would like to highlight that it is only logical for the Applicant to consider all potential and possible options at the earliest opportunity.	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
RIAA			
Screening	The sites which have the potential for LSE from Hornsea Three alone or in-combination are: • Southern North Sea candidate SAC (cSAC; for harbour porpoise only); • The Wash and North Norfolk Coast SAC (for harbour seal); • Doggerbank Site of Community Importance (SCI; for harbour seal and grey seal); • Klavernack SCI (for harbour porpoise, harbour seal and grey seal); • Humber Estuary SAC/Ramsar (for grey seal); and • Noordzeekustzone SAC (for grey seal).	The MMO defers to Natural England on this position.	N/A
	The only impacts where LSE has been identified or could not be ruled out for the sites and features identified above are: • Underwater noise (foundation installation and UXO clearance); • Increased accidental vessel traffic and collision risk; and • Accidental pollution events.	The MMO defers to Natural England on this position.	N/A
Assessment Methodology	It is agreed the methodology for assessing effects on marine mammal features within the RIAA is appropriate.	The MMO defers to Natural England on this position.	N/A
	It is agreed that it is appropriate to use the SNCB advocated Effective Deterrence Range of 26 km within the disturbance assessment.	The MMO defers to Natural England on this position.	N/A

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Assessment Conclusions	It is agreed that no adverse effect on integrity of Natura 2000 sites are predicted from Hornsea Three alone as a result of effects on marine mammal receptors.	The MMO defers to Natural England on this position.	N/A
	The magnitude of the in-combination underwater noise impact on harbour porpoise, in relation to behavioural effects, is uncertain as it depends on the timing of works at other projects. There is most certainty about those projects included in Tier 1 and there is no indication that these would lead to an adverse effect on integrity for the cSAC as their combined effect is below the agreed threshold. There is less certainty in relation to other projects. Although inclusion of all projects in tiers 2 and 3 (in addition to tier 1) could theoretically result in an exceedance of the agreed threshold, it is considered that a scenario where all these projects are taken forward and are constructed concurrently is highly unlikely. On this basis there is no indication of an adverse effect on the integrity of the Southern North Sea cSAC.	The MMO defers to Natural England on this position.	N/A

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Draft DCO			
Commitments / Restrictions	Given the uncertainty with regard to the number of projects that may have overlapping piling schedules and the subsequent consequence of (behavioural) effects on the harbour porpoise feature of the Southern North Sea candidate Special Area of Conservation (cSAC), a commitment is made to provide an update on this potential effect prior to the commencement of construction, and if the potential for adverse effect remains then appropriate mitigation to reduce the effect to acceptable levels will be approved and implemented prior to the commencement of works. It is agreed that this is an acceptable approach to managing this assessment outcome and that it has precedent on a number of recently consented offshore wind farm projects.	Mitigation measures such as soft start procedures, Passive Acoustic Monitoring (PAM), the use of Marine Mammal Observers (MMOb) and the use of Acoustic Deterrent Devices (ADD) should be considered as best practise and should be applied independent of whether there is the potential for adverse effect. Furthermore, in the event that new evidence becomes available, future effective mitigation measures may be identified and considered on a case by case basis. Once reassessment of the impacts of underwater noise prior to the commencement of construction has been undertaken, it would be appropriate to reassess the mitigation options and their effectiveness. Should an adverse effect be identified, it would be appropriate to implement appropriate mitigation measures at this stage. The MMO note that mitigation measures would be expected to inform discussion on a future Marine Mammal Mitigation Protocol, in consultation with statutory advisors, which would be expected as a condition of any deemed Marine Licence.	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Monitoring	It is agreed that the following monitoring commitments that relate to marine mammals (as described in Table 3.3 of the In-Principle Monitoring Plan) are appropriate: • Construction phase; underwater noise monitoring of the first four piled foundations to validate the noise model; and • Construction phase; provision of piling duration records to enhance the knowledge base on actual durations of piling.	Agreed for both points. Regarding the first point (underwater noise monitoring of the first four piled foundations to validate the noise model), based on recent events for other wind farm developments (which is why this recommendation was not raised during the ES consultation), the technical noise assessment should provide a plot showing the predicted received sound levels with ranges for the single strike sound exposure level (SEL). This would facilitate and streamline the process of comparing predictions with any future construction noise monitoring data collected for compliance purposes. The requested report should be submitted to the MMO within 6 weeks of the completion of the underwater noise monitoring.	Agreed

Underwater noise

- 3.6 Hornsea Three has the potential to produce underwater noise which is duly considered within Volume 4, Annex 3.1: Subsea Noise Technical Report of the Environmental Statement (APP-085). Table 3.5 identifies the status of discussions relating to this topic area between the parties.
- 3.7 Underwater noise was also discussed indirectly through the marine mammal and fish ecology Evidence Plan meetings (see sections Table 3.4 and Table 3.3 for further details).

Table 3.5: Underwater noise.

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Volume 4, Annex 3.1: Subsea Noise Technical Report of the Environmental Statement			
Underwater noise modelling	The underwater noise modelling completed for Hornsea Three is appropriate and sufficient.	Overall, the MMO has no major concerns with the underwater noise modelling. However, there are a few clarifications suggested; • Para 6.3.1.5 of Subsea Noise Technical Report: Can a brief explanation be provided as to why the linear fit is considered to give a worst-case estimate, as shown in Figure 6.1? The Applicant provided further clarification in the RR comments received on 12/09/18 and via email on 20/09/18. The MMO still requests further explanation as to why the linear fit is considered to give a worst-case estimate. This should include examples of alternatives to the linear fit which confirm that a linear fit is the worst, reasonable case. The Applicant provided further clarification at deadline 2 which is currently under review. – In Progress • The SELs (single strike Sound Exposure Level) source levels should be provided in the assessment. The requested information was provided via email on 20/09/18. The MMO is satisfied with this information - Agreed • Para 6.3.1.6 of Subsea Noise Technical Report: The report should explain what is meant by 'extrapolation' here. Furthermore, the Popper <i>et al.</i> (2014) criteria for continuous sources are based on the SPL rms metric (not SELcum as suggested in	In progress

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		the report). The Applicant provided further clarification in the RR comments received on 12/09/18 and via email on 20/09/18. The MMO would like to point out that the predicted source level for the 170 m rotor diameter is 158.5 dB re 1 µPa (RMS) at 1 m (as per Table 6.2). This is actually above the TTS threshold (of 158 dB rms for 12 h) for fish with swim bladder involved in hearing, although the potential risk of a species remaining close to the source for 12 hours to experience TTS is low. The MMO is aware that the predicted values were extrapolated as SELcum values – this was clear in the report. What was not clear was what is meant by 'extrapolation', as per the original query. The Applicant provided further clarification at deadline 2 which is currently under review. – In Progress. • It is noted that a fleeing animal model has been used for both marine mammals and fish (noise technical report, paras 3.2.2.5 and 3.2.2.8). However, the MMO is not aware of scientific evidence which would support fleeing in fish. On the 9th January 19, the Applicant provided a clarification note which included updated underwater noise modelling on concurrent piling based on a stationary receptor. This clarification note is currently under review with the MMO. – In progress • Point 6.13 - The impact ranges for PTS and TTS in the tables, though very similar, do not always exactly match those given in the Subsea Noise Technical Report, as shown in the comparison table.	

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		In the RR comments received on 12/09/18 the Applicant provided further information on this. The MMO is satisfied with this information, however we would welcome a clarification in the report as to why the numbers were different. – Agreed.	
	The use of INSPIRE is appropriate for informing the assessment of effects from piling on marine mammals and fish.	Agreed.	Agreed
Draft DCO			
Monitoring	It is agreed that the following monitoring commitments (as described in Table 3.3 of the In-Principle Monitoring Plan) are appropriate: • Construction phase; underwater noise monitoring of the first four piled foundations to validate the noise model; and • Construction phase; provision of piling duration records to enhance the knowledge base on actual durations of piling.	Agreed for both points. Regarding the first point (underwater noise monitoring of the first four piled foundations to validate the noise model), based on recent events for other wind farm developments (which is why this recommendation was not raised during the ES consultation), the technical noise assessment should provide a plot showing the predicted received sound levels with range, for the single strike sound exposure level (SEL). This will facilitate and streamline the process of comparing predictions with any future construction noise monitoring data collected for compliance purposes. The requested report should be submitted to the MMO within 6 weeks of the completion of the underwater noise monitoring.	Agreed

Commercial fisheries

- 3.8 Hornsea Three has the potential to impact upon commercial fisheries and these interactions are duly considered within Volume 2, Chapter 6: Commercial Fisheries of the Environmental Statement (APP-111). Table 3.6 identifies the status of discussions relating to this topic area between the parties.

Table 3.6: Commercial fisheries.

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Volume 2, Chapter 6: Commercial Fisheries of the Environmental Statement			
Policy and Planning	The assessment has identified all appropriate plans and policies relevant to commercial fisheries and has given due regard to them within the assessment.	Agreed.	Agreed
Baseline environment	Sufficient primary and secondary data has been collated to appropriately characterise the baseline environment for the purposes of informing the EIA.	Agreed.	Agreed
	It is agreed that all data presented has been informed by consultation with the relevant fisheries stakeholders and that all data limitations have been adequately acknowledged.	The MMO was not involved in these discussions.	N/A
	All data gaps have been highlighted and all appropriate measures for filling any data gaps have been proposed.	Agreed.	Agreed
Assessment methodology	The potential impacts from Hornsea Three and consequent effects on receptors identified within the chapter represent a comprehensive list of potential effects on commercial fisheries ecology.	Agreed.	Agreed
	The definitions used for magnitude and sensitivity, as outlined in Section 6.9 of Volume 2, Chapter 6: Commercial Fisheries of the Environmental Statement are appropriate criteria.	Agreed.	Agreed
	The maximum design scenarios identified for each effect in Table 6.9 of Volume 2, Chapter 6: Commercial Fisheries of the Environmental Statement are appropriate based on the information presented in Volume 1, Chapter 3: Project Description of the Environmental Statement.	Agreed.	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	The list of projects screened into the CEA are appropriate.	Agreed.	Agreed
Assessment conclusions	The assessment of potential effects on commercial fisheries receptors, as outlined in Section 6.11 of Volume 2, Chapter 6: Commercial Fisheries of the Environmental Statement, is appropriate and no impacts from the construction, operation and/or decommissioning of Hornsea Three will be significant in EIA terms given the implementation of the measures adopted as part of Hornsea Three (see Section 6.10 of Volume 2, Chapter 6: Commercial Fisheries of the Environmental Statement). The only exception to this is the impact of construction and decommissioning activities leading to a reduction in access to, or exclusion from, established fishing grounds for the UK potting fleet.	The impacts of the removal of static fishing gear have not been assessed in the ES. In an email received on 20/09/18 the Applicant confirmed the assessment of the removal of static fishing gear is covered in the ES under Paragraphs 6.11.1.30 to 6.11.1.53 of Volume 2, Chapter 6: Commercial Fisheries of the Environmental Statement (APP-111). The MMO is satisfied with this evidence.	Agreed
	Hornsea Three has adequately sought to minimise the impact from construction and decommissioning activities resulting in a reduction in access to, or exclusion from, established fishing grounds for the UK potting fleet, via the implementation of justifiable disturbance payment in accordance with the Fisheries Liaison with Offshore Wind and Wet Renewables group (FLOWW) guidance documents (FLOWW, 2014; 2015).	Agreed.	Agreed
	It is agreed that the assessment of cumulative effects in Section 6.13 of Volume 2, Chapter 6: Commercial Fisheries of the Environmental Statement is accurate.	Agreed.	Agreed
	With the exception of the cumulative impacts of i) a reduction in access to, or exclusion from, established fishing grounds on demersal trawlers, and ii) displacement leading to gear conflict and increased fishing pressure on alternative grounds for demersal trawling fleets, no cumulative effects will be significant in EIA terms.	Agreed.	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Draft DCO			
Commitments / Restrictions	It is agreed that the requirement for a Fisheries Liaison Officer to be appointed (Schedule 11, Part 2, Condition 11 (generation assets) and Schedule 12, Part 2, Condition 12 (transmission assets) of the draft DCO) in an appropriate measure to encourage coexistence between the fishing industry and Hornsea Project Three.	The MMO confirms that the appointment of a Fisheries Industry Officer (FIO) is appropriate process to allow communication between parties and discuss impacts and mitigation measures.	Agreed
Commitments / Restrictions	It is agreed that the requirement for a Fisheries Coexistence and Liaison Plan to be drafted before construction commences (Schedule 11, Part 2, Condition 11 (generation assets) and Schedule 12, Part 2, Condition 12 (transmission assets) of the draft DCO), is an appropriate measure to encourage effective communications with fisheries stakeholders. The final version of the FCLP will be produced in accordance with the Outline FCLP.	Together with the FIO, the MMO agrees that the Fisheries Coexistence and Liaison Plan is an appropriate process to manage discussions in relation to commercial fisheries.	Agreed
Monitoring	Geophysical surveys, as outlined in Table 3.1 of the In-Principle Monitoring Plan (IPMP) (APP-182), are appropriate to confirm: • Cable burial success; • Adequate protection of buried assets, foundations and crossings; and • Presence of any dropped objects. Given the conclusions of the Environmental Statement, no further site specific monitoring is required for commercial fisheries.	Agreed.	Agreed

Dredging and disposal

- 3.9 Hornsea Three has the requirement for dredging and disposal activities and for the characterisation of new disposal sites which is duly considered within Volume 4, Annex 3.2: Dredging and Disposal Site Characterisation of the Environmental Statement (APP-086). Table 3.7 identifies the status of discussions relating to this topic area between the parties.

Table 3.7: Dredging and disposal

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Volume 4, Annex 3.2: Dredging and Disposal Site Characterisation of the Environmental Statement			
Waste hierarchy	The Waste Hierarchy has been considered and disposal of material derived from the Hornsea Three construction within the boundaries of the proposed new disposal sites (i.e. Hornsea Three Array Disposal Site and the Hornsea Three Offshore Cable Corridor Disposal Site) is considered to be the optimal solution on technical, operational and environmental grounds.	Agreed.	Agreed
	Disposal of material at Hornsea Three is the most appropriate option for preserving the integrity of the local sediment transport system (including sandwave or sandbank systems within either the Hornsea Three array area or offshore cable corridor).	Agreed.	Agreed
Spoil type	The levels of contaminants are within parameters acceptable for disposal at sea.	Agreed.	Agreed
	The material to be deposited within the sites will largely be sand, slightly gravelly sand, gravelly sand and sandy gravel.	Agreed.	Agreed
Assessment conclusions	The information presented in Volume 4, Annex 3.2: Dredging and Disposal Site Characterisation is sufficient at this stage to permit the disposal of material of natural origin, drilled material and/or dredged material produced during foundation installation and/or cable laying preparation works at the Hornsea Three Array Disposal Site and the Hornsea Three Offshore Cable Corridor Disposal Site.	Agreed. The Dredge and Disposal Site characterisation report is sufficient and will permit the disposal of material of natural origin, drilled material and/or dredge material once it has formally been designated.	Agreed

Draft DCO			
Commitments / Restrictions	Disposal of spoil at the Hornsea Three Array Disposal Site and the Hornsea Three Offshore Cable Corridor Disposal Site is permitted by the DMLs.	Agreed, under the caveat of compliance with the following two conditions: - Any man-made material must be separated from the dredged material and disposed of to land. <i>Reason: To exclude the disposal at sea of man-made material such as shopping trolleys, masonry, paint cans etc.</i> - The MMO must be informed of the location and quantities of material disposed of each month under this Licence by 31 January each year for the months August to January inclusive, and by 31 July each year for the months February to July inclusive. <i>Reason: To ensure that accurate data is collected for the reporting of disposal at sea to meet UK OSPAR requirements.</i>	Agreed
Monitoring	No site specific monitoring is required for the disposal sites.	Agreed, no monitoring in relation to disposal activities will be required.	Agreed

Project description and DMLs

- 3.10 This section relates to Volume 1, Chapter 3: Project Description of the Environmental Statement and the specific relevant provisions of the draft DMLs. Where the agreements set out in the following sections refer to conditions of the DMLs, it is agreed that those statements apply specifically to Schedules 11 and 12, unless otherwise stated. Table 3.8 identifies the status of discussions relating to this topic area between the parties.

Table 3.8: Project description and DMLs.

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
Policy context	It is agreed that the National Policy Statement (NPS) for Renewable Energy (NPS EN-3), when read in combination with other relevant NPS, is the overriding policy document in relation to Hornsea Three.	Agreed.	Agreed
	It is agreed that section 4.1.6 of NPS EN-1 applies, which states that PINS shall have regard to the Marine Policy Statement (MPS) and applicable marine plans in making any recommendation relating to the UK marine area.	Agreed.	Agreed
Development area	It is agreed that the Order Limits, as set out in the Offshore Works Plans (APP-012) and defined by the co-ordinates listed therein and referred to in the draft DCO and draft DMLs, provide a complete and accurate description of Hornsea Three.	Agreed.	Agreed.
Licensed activities	Paragraphs 2 and 3 of Part 1 of the draft DMLs (at Schedules 11 and 12 of the draft DCO) lists all of the relevant licensed activities as described in Volume 1, Chapter 3: Project Description of the Environmental Statement.	- In the RR comments received on 12/09/18 the Applicant has confirmed they will amend the definition of site preparation works to include boulder clearance and sandwave levelling. This is to include the extent of the boulder clearance and the maximum volume and area of sandwave levelling. The MMO agree that the definition should be amended accordingly. - In the RR comments received on 12/09/18 the Applicant has confirmed the inclusion of temporary landing places and moorings as licensable activities under MACAA 2009 and these are to be included in the draft DMLs.	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		In the RR comments received on 12/09/18 the Applicant has confirmed that site preparation works would be included within the definition of commencement. The MMO agree that the definition should be amended accordingly.	
	Paragraph 4 of Part 1 of the draft DMLs (at Schedules 11 and 12 of the draft DCO) lists all of the relevant substances or articles authorised for deposit as described in Volume 1, Chapter 3: Project Description of the Environmental Statement.	Agreed.	Agreed
	Paragraph 4 of Part 2 of the draft DML at Schedule 11 of the draft DCO provide and paragraph 5 of Part 2 of the draft DML at Schedule 12 of the draft DCO provides the appropriate control on maintenance activity and the circumstances under which further approval is required from the MMO.	In the RR comments received on 12/09/18 the Applicant confirmed that the DML will be amended to include J-Tubes in Schedule 11. The MMO is content with this confirmation.	Agreed
Conditions limiting the works	Conditions 1 to 3 of Part 2 of the draft DML at Schedule 11 of the draft DCO provide and Conditions 1 to 4 of Part 2 of the draft DML at Schedule 12 of the draft DCO provide an appropriate restriction on the type, scale and method of installation of the proposed works as described in Volume 1, Chapter 3: Project Description of the Environmental Statement.	- Phases of authorised development should ensure that, prior to any construction, a final scheme is outlined and provided to the MMO. The MMO recommends that the Generation Asset DML (Schedule 11) should be amended to reflect this requirement. - Further discussion in relation to condition 1-3 is required. The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. Comments related to the following topics: - Cable crossings: point 1.19 – the maximum number of cable crossings should be included in the DML. RR comments received on 12/09/18 the Applicant provided a response to the point raised, however the MMO consider that, as 44 cable crossings have been	In progress

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		assessed in the ES, the maximum number should be clearly stated within the DML. The Applicant has confirmed via email on the 10th January 2019 that the maximum number of cable crossings will be stated in the DMLs. The request to also include the maximum limits of deposit of cable protection for each crossing is currently still under discussion. – In Progress ○ HDD: In the RR comments received on 12/09/18 clarification was provided – 8 HDD is max design scenario which includes 2 HDD ducts as contingency. In the RR comments received on 12/09/18 clarification was provided on the total number of offshore electrical installations and accommodation platforms. The maximum design scenario is the HVAC scenario with a maximum of 21 substations and platforms. The MMO is content with this clarification. Agreed ○ Site preparation works 1.27 +1.51 - In the RR comments received on 12/09/18 the Applicant agreed to include site preparations in the interpretation wording of 'commence'. Furthermore, the condition in Part 1 (6) is to be removed from the DMLs (Schedule 11 and 12). The updated DMLs will be provided at Deadline 1. The MMO is content with this. – Agreed	
	With the exception of specifying details relating to maximum hammer energy, Conditions 1 to 3 of Part 2 of the draft DML at Schedule 11 of the draft DCO provide and Conditions 1 to 4 of Part 2 of the draft DML at Schedule 12 of the draft ensure that the final form of the development will not exceed the parameters set out in Volume 1, Chapter 3: Project Description of the Environmental Statement and applied in	Further discussion in relation to condition 1-3 is required. The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: • Disposal volumes; point 1.21. The Applicant has provided further information on this in their comments to Written Representations submitted at deadline 2. Following its review, the MMO highlighted remaining uncertainty regarding the assessment of an additional 200,000m³ of disposal volume within the site characterisation report in our deadline 3 response. Additionally, the MMO has recommended that figures for disposal	In progress

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	completing the 'Rochdale Envelope' maximum design scenario assessments throughout the Environmental Statement.	volumes should be made explicit in the DCO and DMLs and should include maximum volumes of sand, boulders, drill arisings etc. – In Progress - Scour protection: point 1.24. The clarification note provided by the Applicant to the Planning Inspectorate's S56 advice Relationship between Design Parameters Draft Development Consent Order and Environmental Statement (July 2018) has been reviewed by the MMO who can confirm that we are content with the information. – Agreed. - Cable protection; point 1.25. In the RR comments received on 12/09/18 clarification was provided that the maximum volume of cable protection proposed in the DCO excluded cable protection for cable crossings. The Applicant proposed to update the wording in the DCO Part 3 (5) (2) to make this clearer. This also applies to schedules 11 and 12 as well as for the cable protection footprint. The MMO has further highlighted in our deadline 3 response that volumes and areas of cable protection should be made more explicit in the DMLs.. – In Progress - Hammer energy: Point 1.31 - In the RR comments received on 12/09/18 the Applicant agreed to include the following condition wording detailing the maximum hammer energy: <i>In the event that driven or part-driven pile foundations are proposed to be used, the hammer energy used to drive or part-drive the pile foundations must not exceed 5,000kJ.</i> The MMO is content with this. The updated DCO will be provided by the Applicant at Deadline 1 (7th November 2018). - Agreed	
Conditions relating to marine construction and installation activities	Condition 5 of Part 2 of the draft DML at Schedule 11 of the draft DCO and Condition 6 of the draft DML at Schedule 12 of the draft DCO are appropriate to ensure notification to the MMO of	In the RR comments received on 12/09/18 the Applicant agreed to amend the DML to include notification to the MMO coastal office as set out below. Notification should take place within 5 days of the completion of the licenced activity. Please see recommended condition wording below for schedule 11 and 12.	Agreed.

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	authorised persons engaged in the construction works to allow enforcement of the conditions of the DMLs.	<i>The undertaker must inform the MMO Coastal Office in writing at least five days prior to the commencement of the licensed activities or any part of them and within 5 days of the completion of the licenced activity.</i> The updated DCO will be provided by the Applicant at Deadline 1 (7 th November 18).	
	Conditions 9(1) to 9(6) and 9(8) and 9(9) of Part 2 of the draft DML at Schedule 11 of the draft DCO and Conditions 10(1) to 10(6) and 10(8) and 10(9) of Part 2 of the draft DML at Schedule 12 of the draft DCO are acceptable in ensuring that only chemicals and substances appropriate for use in the marine environment are used and adequate procedures are followed in carrying out the works to prevent release into the marine environment.	Agreed.	Agreed.
	Conditions 9(7) and 9(10) of Part 2 of the draft DML at Schedule 11 of the draft DCO and Conditions 10(7) and 10(10) of Part 2 of the draft DML at Schedule 12 of the draft DCO ensure that sufficient controls are in place to ensure that any debris discovered following completion of the works are dealt with appropriately and that suitable procedures are in place to keep track of materials used during construction and materials disposed of at the licensed disposal sites.	Agreed.	Agreed.

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	Condition 10 of Part 2 of the draft DML at Schedule 11 and Condition 11 of Part 2 of the draft DML at Schedule 12 of the draft DCO provides a sufficient control mechanism for the MMO to be notified of the full details of any unauthorised deposit, under circumstances of force majeure.	Agreed.	Agreed.
Conditions relating to pre-construction approvals and documentation	Condition 11 of Part 2 of the draft DML at Schedule 11 and Condition 12 of Part 2 of the draft DML at Schedule 12 of the draft DCO are appropriate to ensure the approval of the final form of the development prior to the start of construction including the number, type, location and dimensions of all wind turbines and ancillary structures, and the installation or construction methods.	Conditions 11 and 12 will be appropriate to approve the final form of the development. – Agreed. Further discussion in relation to conditions 11 and 12 is still recommended. The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments were made in relation to the following topics: • General timescales: point 1.34 and 1.56 - Disagree • Timescales for pre-construction surveys: point 1.34, 1.39 and 1.60 Disagree • Additional pre-construction conditions: 1.42 and 1.62 - Agreed • Design Plan submission: point 1.35. In the RR comments received on 12/09/18 the Applicant agreed to amend the wording of condition 11 to reflect that the design plan should be submitted to and approved by the MMO. The MMO is content with this. Agreed. • Construction Programme: Point 1.36 - A Construction Monitoring Plan should be submitted with the construction Programme. The MMO would be content for this document to be submitted with the construction programme. – In Progress • Cable Specification and Installation plan: 1.38. In the RR comments received on 12/09/18 the Applicant has confirmed that a Cable Specification	Disagree

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		and Installation Plan will provide cable protection information as requested under point 1.38. The MMO is content with this. Agreed. Discussions with the Applicant regarding general timescales and timescales for pre-construction survey submission are ongoing and the MMO will provide further comments in their Written Representation submitted at Deadline 1 (7th November 18). Overall however, the MMO recognise that the Applicant and the MMO are unlikely to reach agreement with regard to both matters and such discussion will be reserved for Planning Inspectorate hearings to determine.	
	Condition 11 of Part 2 of the draft DML at Schedule 11 and Condition 12 of Part 2 of the draft DML at Schedule 12 of the draft DCO are appropriate to ensure the final form of the development lies within the limits set by Conditions 1, 2 and 3 of the draft DMLs.	Condition 11 and 12 will be appropriate to ensure the final form of the development that lies within the limits set by conditions 1, 2 and 3 once the discussions have been completed. - Agreed	Agreed
	Condition 11 of Part 2 of the draft DML at Schedule 11 and Condition 12 of Part 2 of the draft DML at Schedule 12 of the draft DCO will ensure the approval of the construction programme, construction method statement, project environmental management and monitoring plan, scour protection management plan, proposed pre-construction monitoring surveys, construction monitoring, post-construction monitoring, marine mammal mitigation protocol (where required) and cable specification and installation plan.	Further discussion in relation to condition 11 and 12 is required. The MMO made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: - Design Plan submission: point 1.36. In the RR comments received on 12/09/18 the Applicant agreed to amend the wording of condition 11 to reflect that the design plan should be submitted to and approved by the MMO. The MMO is content with this. Agreed. - Cable Specification and Installation plan: 1.38. In the RR comments received on 12/09/18 the Applicant confirmed that a Cable Specification and Installation Plan will provide cable protection information as requested under point 1.38. The MMO is content with this. Agreed. - Archaeology: point 1.40 and 1.61. In the RR comments received on 12/09/18 the Applicant confirmed the inclusion of a condition to minimise	In progress

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		potential impacts on known or unknown archaeological features. The condition wording is provided below and will be updated in condition 11 (3) generation assets and 14 (30) transmission assets. – Agreed. <i>Pre-construction archaeological investigations and pre-commencement material operations which involve intrusive seabed works must only take place in accordance with a specific Written Scheme of Investigation which is itself in accordance with the details set out in the outline offshore Written Scheme of Investigation, and which has been submitted to and approved by the MMO.</i> • Timescale for Pre-construction surveys submission: - point 1.39 - Disagree Site Integrity Plan (SIP): point 1.41 In the RR comments received on 12/09/18 the Applicant confirmed the submission of a SIP. The MMO is content with this. An update SIP was provided to the MMO on the 9th January 19, which is currently under review. – In Progress	
	Condition 12 of Part 2 of the draft DML at Schedule 11 and Condition 13 of Part 2 of the draft DML at Schedule 12 of the draft DCO controls the pre-approval consultation requirements and timescales of the plans required under the relevant conditions outlined above.	Further discussion in relation to condition 12 and 13 is required. The MMO has made a number of comments in its Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: • Timeframes: point 1.34, 1.43, 1.44, 1.56 and 1.63 - Disagree • Arbitration: point 1.16, 1.30, 1.45, 1.541.64 and Schedule 13 - Disagree • Provision 7: Point 1.73 - In the RR comments received on 12/09/18 the Applicant confirmed their acceptance of an amendment of Schedule 13 – Provision 7 regarding the confidentiality requirement to allow other parties to comply with the disclosure obligations under relevant legislation. - Agreed Discussions with the Applicant regarding both matters have been ongoing and the MMO will provide further comments in their Written Representation submitted at Deadline 1 (7th November 18). Overall however, the MMO	Disagree

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		recognises a fundamental difference of opinion with the Applicant with regard to the timeframes and proposed arbitration set out in the draft DCO and DMLs. The MMO acknowledge that this issue is unlikely to be resolved prior to the Planning Inspectorate hearings and therefore reserve further discussion on this matter to the relevant issue specific hearing.	
	Condition 12 of Part 2 of the draft DML at Schedule 11 and Condition 13 of Part 2 of the draft DML at Schedule 12 of the draft DCO ensure pre-construction plans and documents required under Condition 11 are submitted and approved within appropriate timescales.	Further discussion in relation to condition 12 and 13 is required. The MMO made a number of comments in their Relevant Representation (20th July 18) to be addressed. The comments related to the following topics: - Timeframes: point 1.34, 1.43, 1.44 and 1.63 - Disagree - Arbitration: point 1.16, 1.30, 1.45, 1.64 and Schedule 13 – Disagree - Provision 7: Point 1.73 - In the RR comments received on 12/09/18 the Applicant confirmed their acceptance to amend Schedule 13 – Provision 7 regarding the confidentiality requirement to allow other parties to comply with the disclosure obligations under relevant legislation. – Agreed Discussions with the Applicant regarding both matters have been ongoing and the MMO will provide further comments in their Written Representation submitted at Deadline 1 (7th November 18). Overall however, the MMO recognises a fundamental difference of opinion with the Applicant with regard to the proposed timeframes and arbitration set out in the draft DCO and DMLs. The MMO acknowledge that these issues are unlikely to be resolved prior to the Planning Inspectorate hearings and therefore reserve further discussion on this matter to the relevant issue specific hearing.	Disagree
	Condition 15 of Part 2 of the draft DML at Schedule 11 and Condition 16 of Part 2 of the draft DML at Schedule 12 of the draft DCO provides for appropriate pre-construction, construction and post construction monitoring requirements and	Further discussions in relation to both conditions highlighted are required. The MMO made a number of comments in their Relevant Representation to be addressed. The comments related to the following topics: Monitoring and survey conditions: 1.46 -1.47 and 1.65. The MMO has requested further changes to be made to the monitoring and survey	In progress

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	reporting / notification activity associated with this monitoring.	conditions. The remaining changes required are in relation to Underwater noise monitoring, and Coastal Processes – In progress - Monitoring and surveys: 1.68 – clarification of the terms 'representative proportion' and 'sensitive cable protection' is required. No clarification was provided by the Applicant in the deadline 2 response. – In progress - In the RR comments received on 12/09/18 the Applicant confirmed that the requirement for benthic monitoring will also be included in the generation asset (schedule 11) and the transmission asset (schedule 12) dMLs and extended for both pre- and post-construction phases. – Agreed - Furthermore, the Applicant accepted the inclusion of the condition wording below, stating the requirements for cable monitoring (as long as this does not duplicate any specific commitments relating to cable burial depth as requested by Natural England). – Agreed <i>Following installation of cables, the cable monitoring plan required under condition XXX must be updated with the results of the post-installation surveys. The plan must be implemented during the operational lifetime of the project and reviewed as specified within the plan, following cable burial surveys, or as instructed by the MMO.</i> - The Applicant also confirmed their agreement to record all human activities in UK waters that produce underwater noise as set out by the UK Marine Strategy and has agreed to include the following conditions: – Agreed <i>Only when driven or part-driven pile foundations or detonation of explosives are proposed to be used as part of the foundation installation the undertaker must provide the following information to the Marine Noise Registry—</i> <i>(a) prior to the commencement of the licenced activities, information on the expected location, start and end dates of impact pile driving/detonation of explosives to satisfy the Marine Noise Registry's Forward Look requirements;</i>	

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		(b) at six month intervals following the commencement of pile driving/detonation of explosives, information on the locations and dates of impact pile driving/detonation of explosives to satisfy the Marine Noise Registry's Close Out requirements; (c) within 12 weeks of completion of impact pile driving/detonation of explosives, information on the locations and dates of impact pile driving/detonation of explosives to satisfy the Marine Noise Registry's Close Out requirements The undertaker must notify the MMO of the successful submission of Forward Look or Close Out data pursuant to paragraph () above within 7 days of the submission. For the purpose of this condition— (a) "Marine Noise Registry" means the database developed and maintained by JNCC on behalf of Defra to record the spatial and temporal distribution of impulsive noise generating activities in UK seas; (b) "Forward Look" and "Close Out" requirements are as set out in the UK Marine Noise Registry Information Document Version 1 (July 2015) or any updated information document. Reef features: Point 1.8, 1.47 and 1.67 – The MMO suggests that the Applicant provides details of pre- and post-construction monitoring surveys to inform micro-siting around any features of ecological importance prior to the commencement of any licenced works and to provide evidence post-construction as to the impact on any such features as a result of the development. In the RR comments received on 12/09/18 the Applicant committed to extending the existing condition within the transmission assets dML (16(2) (ii) details of a survey to determine the location, extent and composition of any Annex I reefs within SACs and/or biogenic or geogenic	

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
		reefs outside SACs within the Order limits.) to the generation assets and ensure that where necessary post construction monitoring is carried out under both dMLs. Furthermore, the Applicant made a commitment in the updated In Principle Monitoring Plan (to be formally submitted by Deadline 1) to undertake pre – and post construction surveys to assess direct impacts on reef features. The MMO is content with this. – Agreed. Monitoring requirements: point 4.3 –. In the RR comments received on 12/09/18 the Applicant committed to undertake monitoring to inform micro-siting and impacts on Annex I reef within the SAC. Discussions on monitoring requirements for Benthic Ecology as set out in the IPMP have been ongoing. Here the Applicant submitted a response to the MMO on 9th January 2019. The Applicant confirmed that the IPMP will ensure pre-construction monitoring encompasses areas of Annex I habitat that may be at risk of secondary effects. The Applicant has updated the post construction commitment within the IPMP to encompass monitoring for secondary effects on known reef features. The response provided by the Applicant to the MMO's comments is satisfactory. The MMO will review the updated report and provide final comments by Deadline 5. – In Progress	
Conditions relating to Reporting of agents, contractors and vessels	Condition 14 of Part 2 of the draft DML at Schedule 11 and Condition 15 of Part 2 of the draft DML at Schedule 12 of the draft DCO provides appropriate controls for notification of the use of agents, contractors	Agreed.	Agreed

Discussion Point	Hornsea Project Three Position	MMO's Position	Final Position
	and vessels associated with the offshore works.		
Conditions relating to Amendments to approved details	Paragraph 9 and 10 of Part 1 of the draft DMLs (at Schedules 11 and 12) of the draft DCO is appropriate in ensuring that any variations to the approved plans and programmes are dealt with in the appropriate manner.	Agreed.	Agreed
Activities outwith the application	All of the activities seaward of MHWS set out in Volume 1, Chapter 3: Project Description of the Environmental Statement and that are specified in the DCO will be authorised by the provisions set out in the DMLs contained in Schedules 11 and 12 of the draft DCO (subject to accompanying conditions and limitations set out in Part 2 of the DMLs).	Agreed.	Agreed
	Where piling works are proposed, an additional application for a European Protected Species (EPS) Licence may be required to allow for potential disturbance to marine mammals.	Agreed.	Agreed.

4. Summary

- 4.1 The agreement logs outlines those areas for which agreement has been reached with the MMO to date. The Applicant will seek to reach further agreement with the MMO on those items still under discussion following Deadline 1.