

Hornsea Project Three
Offshore Wind Farm



Hornsea Project Three Offshore Wind Farm

Statement of Common Ground between Hornsea Project Three
(UK) Ltd., The Wildlife Trusts and Norfolk Wildlife Trust

Date: March 2019

**Statement of Common Ground between Ørsted Hornsea Project Three (UK) Ltd., The Wildlife Trusts
and Norfolk Wildlife Trust**

Ørsted

5 Howick Place,

London, SW1P 1WG


© Orsted Power (UK) Ltd, 2019. All rights reserved

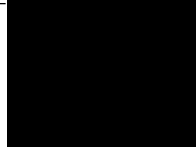
Front cover picture: Kite surfer near a UK offshore wind farm © Ørsted Hornsea Project Three (UK) Ltd., 2019.

Revision History

Version	Date	Author	Context
1	July 2018	Ørsted	Pre-examination: Initial draft for discussion with TWT and NWT
2	September 2018	TWT and NWT	TWT and NWT Inputs
3	October 2018	Orsted, TWT and NWT	Updates following TWT and NWT comments review
4	October 2018	TWT and NWT	Final Updates following conference call
5	04 March 2019	TWT	Final Updates following conference call

Signatories

Signed	
Name	Andrew Guyton
Position	Hornsea Project Three Consents Manager
For	Ørsted Hornsea Project Three (UK) Ltd

Signed	
Name	Joan Edwards
Position	Director of Livings Seas and Public Affairs
For	The Wildlife Trusts

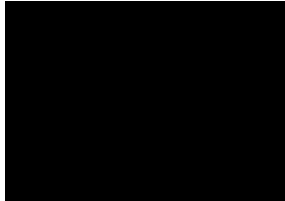
Signed	
Name	John Hiskett
Position	Senior Conservation Officer
For	Norfolk Wildlife Trust

Table of Contents

1. Introduction.....	6
Overview.....	6
Approach to SoCG.....	6
Hornsea Three.....	6
2. Consultation	7
Application elements of interest to TWT’s.....	7
Consultation summary	7
Pre-application.....	7
3. Agreement Log (offshore).....	11
Benthic ecology.....	11
Marine Mammals	19
4. Agreements Log (onshore).....	30
Ecology and Nature Conservation	30
5. Summary	40
Appendix A: Supporting Information from TWT	41
Appendix B: Supporting Information from the Applicant.....	43

List of Tables

Table 2.1: Pre-application consultation with TWT/NWT.....	8
Table 2.2: Post application consultation with TWT and NWT.....	9
Table 3.1: Benthic ecology.....	12
Table 3.2: Marine mammals.....	20
Table 4.1: Ecology and nature conservation.....	31

Acronyms

Acronym	Description
CEA	Cumulative Effects Assessment
CoCP	Code of Construction Practice
DCO	Development Consent Order
cSAC	Candidate Special Area of Conservation
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EWG	Expert Working Group
Ex.A	Examining Authority
HRA	Habitats Regulations Assessment
HVAC	High Voltage Alternating Current
HVDC	High Voltage Directional Current
HDD	Horizontal Directional Drilling
MCZ	Marine Conservation Zone
MHWS	Mean High Water Springs
MMO	Marine Management Organisation
NWT	Norfolk Wildlife Trust
LSE	Likely Significant Effect
PEIR	Preliminary Environmental Information Report
PINS	Planning Inspectorate
rMCZ	Recommended Marine Conservation Zone
RIAA	Report to Inform Appropriate Assessment
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SCI	Site of Community Importance
SoCG	Statement of Common Ground
TWT	The Wildlife Trusts
UXO	Unexploded Ordinance

1. Introduction

Overview

- 1.1 This Statement of Common Ground (SoCG) has been prepared by Orsted Hornsea Project Three (UK) Ltd. ('the Applicant') The Wildlife Trusts (TWT; together 'the parties') and Norfolk Wildlife Trust (NWT) 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-application and examination phases of Hornsea Three. In accordance with discussions between the parties, the SoCG is focused on those issues raised by TWT and NWT 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 TWT and NWT 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 (offshore);
 - Section 4: Agreements Log (onshore); and
 - Section 5: 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, with a total generating capacity of up to 2,400 MW 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 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 of interest to TWT's

- 2.1 Work Nos. 1 to 5 (offshore works), and 6 to 15 (onshore 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 TWT.

Consultation summary

- 2.2 This section briefly summarises the consultation that the Applicant has undertaken with TWT and NWT. Those technical topics of the Development Consent application of relevance to TWT and NWT (and therefore considered within this SoCG) comprise:
- Benthic Ecology;
 - Marine Mammals;
 - Onshore Ecology and Nature Conservation;
 - The Marine Conservation Zone (MCZ) assessment; and
 - The Report to Inform Appropriate Assessment (RIAA; Document A5.2).

Pre-application

- 2.3 The Applicant has engaged with TWT and NWT on Hornsea Three during the pre-application process, both in terms of informal non-statutory engagement and formal consultation carried out pursuant to section 42 of the Planning Act 2008.
- 2.4 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 consultations in late 2017.
- 2.5 In addition to section 42 consultation, the Applicant held several meetings with TWT and NWT through the Evidence Plan process (further detail of this consultation is presented in the Consultation Report, Annex 1 - Evidence Plan; Document A5.5.1).
- 2.6 Table 2.2 summarises the consultation undertaken between the parties during the post-application phase.

Table 2.1: Pre-application consultation with TWT/NWT.

Date	Attending	Detail
Overarching		
26 October 2016	Scoping report published for consultation by the Applicant.	
08 December 2018	TWT letter response to Scoping Report.	
26 July 2017	PEIR published by the Applicant for consultation (section 42).	
19 September 2017	TWT letter response providing comments on the PEIR.	
16 November 2017	Further statutory consultation published by the Applicant.	
13 December 2017	TWT letter response comments on further statutory consultation.	
Offshore		
13 April 2016	Natural England, TWT and the Marine Management Organisation (MMO)	Marine Mammal Expert Working Group (EWG)
04 August 2016	Natural England and TWT	Marine Mammal EWG
08 September 2016	TWT	Project outline and update including the scoping area and data to be presented in the scoping report assessment.
18 October 2016	TWT	Project updates and the intended level of detail to be presented within the PEIR.
23 November 2016	Natural England, MMO and TWT	Marine Mammal EWG
16 December 2016	TWT/NWT	Project updates, ornithology matters, MCZ and cable installation lessons learnt.
01 February 2017	Natural England, MMO, TWT and Cefas	Marine Processes, Benthic Ecology and Fish Ecology EWG
01 February 2017	Planning Inspectorate (PINS), Natural England, MMO, TWT and NWT	MCZ Working Group
28 March 2017	Natural England, TWT, MMO	Marine Mammal EWG
22 May 2017	PINS, Natural England, MMO TWT and NWT	MCZ Working Group
10 July 2017	Natural England, TWT, MMO	Marine Mammal EWG

Date	Attending	Detail
21 September 2017	Consultation on MCZ Assessment	Consultation on revised draft Hornsea Three MCZ assessment completed based on draft Conservation Objectives for Cromer Shoal Chalk Beds MCZ (provided by Natural England in May 2017).
20 November 2017	Natural England, MMO and TWT	Marine Mammal EWG
16 November 2017	TWT (Email response)	Consultation response to revised draft Hornsea Three MCZ assessment.
04 December 2017	PINS, Natural England, MMO, Cefas TWT and NWT	Marine Processes, Benthic Ecology and Fish Ecology EWG
04 December 2017	PINS, Natural England, MMO TWT and NWT	MCZ Working Group
15 February 2018	Natural England, MMO, Cefas and TWT	Marine Mammal EWG
23 February 2018	Natural England, MMO, Cefas TWT and NWT	Marine Processes, Benthic Ecology and Fish Ecology EWG
<u>Onshore</u>		
17 February 2017	NWT, Natural England, Norfolk County Council, Environment Agency, RSPB	Onshore Ecology EWG
28 April 2017	NWT, Natural England, Norfolk County Council, Environment Agency, North Norfolk District Council, RSPB	Onshore Ecology EWG
25 June 2017	NWT, Natural England, Norfolk County Council, Environment Agency, RSPB	Onshore Ecology EWG
02 November 2017	NWT, Norfolk County Council, Environment Agency, RSPB	Onshore Ecology EWG
23 March 2018	NWT, Norfolk County Council, Environment Agency, North Norfolk District Council, RSPB	Onshore Ecology EWG

Table 2.2: Post application consultation with TWT and NWT.

Date	Detail
15 August 2018	Meeting with TWT and NWT to discuss drafting of SoCG.
20 August 2018	Conference call to discuss marine mammal issues raised by TWT

Date	Detail
13 September 2018	Conference call with TWT and NWT to discuss drafting of SoCG and areas of continuing discussion.
31 October 2018	Conference call with TWT and NWT to discuss outstanding points in the SoCG.
10 January 2019	Conference call with TWT to discuss outstanding points in the SoCG.
04 March 2019	Conference call with TWT to discuss outstanding points in the SoCG.

3. Agreement Log (offshore)

- 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.
- 3.2 It should be noted that, section 4 of this SoCG identifies the level of agreement between the parties for each relevant component of the application material (as identified in paragraph 2.1) as it relates to landward of MHWS.

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 3.1 identifies the status of discussions relating to this topic area between the parties.

Table 3.1: Benthic ecology.

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
Volume 5, Annex 2.3: Cromer Shoal Chalk Beds MCZ Assessment (Document A6.5.2.3)			
Screening	The sites and features screened into Volume 5, Annex 2.3: MCZ Assessment of the Environmental Statement (APP-104) are appropriate, with only two MCZ/rMCZ sites identified as having the potential to be affected by Hornsea Three: Markham's Triangle recommended MCZ (rMCZ) and Cromer Shoal Chalk Beds MCZ.		Agreed
	The impacts screened into Volume 5, Annex 2.3: MCZ Assessment 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.		Agreed
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.		Agreed
	The use of relevant biotope information to assess sensitivity as part of the Stage 1 assessment is appropriate.		Agreed
	The maximum adverse scenarios identified for each effect in Section 5 of Volume 5, Annex 2.3: MCZ Assessment of the Environmental Statement (APP-104) are appropriate based on the information presented in Volume 1, Chapter 3: Project Description of the Environmental Statement (APP-058).		Agreed

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
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.	Agreed, although we believe a programme of monitoring is required to verify the predictions of the assessment.	Agreed
RIAA			
Screening	Those sites identified as having potential likely significant effect (LSE) from Hornsea Three alone or in-combination are appropriate.		Agreed
	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 Special Area of Conservation (SAC).		Agreed
	It is appropriate to assess the following subtidal features of the Wash and North Norfolk Coast SAC within the RIAA: sandbanks which are slightly covered by sea water at all times and reefs.		Agreed
Assessment Methodology	The RIAA has identified all relevant features of the designated sites that may be sensitive to potential effects on benthic ecology.		Agreed
	The methodology to assess features of designated sites that may be sensitive to potential effects on benthic ecology is appropriate. The Applicant recognises that fishing has an impact on certain receptors. This is considered within the environmental baseline against which the assessments have been carried out. It is not possible to determine what the baseline conditions would be without the impacts that fishing impacts impose on such receptors	Fishing should be included in the in-combination assessment. See supporting text 1 in the word document.	Not Agreed

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
	<p>and therefore there is no means by which the Applicant can undertake such an assessment.</p> <p>The Applicant has undertaken an updated in-combination assessment to consider the Race Bank and Lincs marine licence applications for cable protection measures and operation and maintenance operations (see REP3-024).</p> <p>The Applicant has provided comments on the updated condition assessment for the WNNC SAC (REP6-019). The main conclusion of this is that the updated condition assessment did not alter the conclusions reached that Hornsea Three would not give rise to an adverse effect on integrity of the SAC. Communities affected by Race Bank cable installation are expected to be recovering and will fully recover due to natural processes (the cable was installed <2 years ago, while full recovery may take up to 5 years), while fisheries restrictions (as proposed by the Eastern IFCA) will help to restore these sub-features to favourable condition.</p>	<p>TWT is pleased that an updated in-combination assessment has been undertaken, However, this does not take into account the unfavourable conservation status of the site. In particular, subtidal coarse and subtidal mixed sediment are in unfavourable condition, a contributing factor being the impact of existing cable routes through the site. This has resulted in a lack of recovery of 'species composition of component communities' and 'presence and spatial distribution of communities'. With the addition of the HO3 cable through the SAC and potential for repeated disturbance due to additional cable repair, maintenance, burial and rock protection within the SAC, we are concerned about the recovery of the site and achievement of the conservation objectives.</p>	<p>Not agreed</p>
<p>Assessment Conclusions</p>	<p>No adverse effect on integrity of The Wash and North Norfolk Coast SAC are predicted either alone or in-combination as a result of effects on benthic ecological receptors.</p> <p>In response to TWT's comments, the Applicant has provided justification of the maximum design scenario for cable protection within the SAC via a Cable Protection Clarification Note.</p>	<p>Cabling through The Wash and North Norfolk Coast SAC: Before TWT/NWT can agree no adverse effect on the integrity of the SAC, we require certainty on the following:</p> <p>a) confidence that a maximum on 10% of the cabling route within The Wash and North Norfolk Coast SAC will require cable protection</p>	<p>Not agreed</p>

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
	<p>The Applicant has provided responses to the further information requests in note 2 in their Deadline 2 response (see page 43-44 of REP2-004).</p> <p>As outlined above, the Applicant has provided comments on the updated condition assessment for the WNNC SAC (REP6-019) and this updated condition assessment did not alter the conclusions reached that Hornsea Three would not give rise to an adverse effect on integrity of the SAC.</p>	<p>b) certainty that cable protection will not have an adverse effect on the integrity of The Wash and North Norfolk SAC. The introduction of rock protection will result in a loss in extent of subtidal sandbank. We are concerned about the in-combination impacts and suggest further assessment is undertaken.</p> <p>TWT/NWT request further information as outlined in note 2.</p> <p>We welcome the additional information which has been provided by the applicant. However, as above, we are concerned that with the addition of of the HO3 cable through the SAC and potential for repeated disturbance due to additional cable repair, maintenance, burial and rock protection within the SAC, we are concerned about the recovery of the site and achievement of the conservation objectives.</p>	
	<p>In order to resolve some of the concerns raised by TWT in realltion to the ability to bury cables off the North Norfolk Coast, the Applicant has provided a Preliminary Trenching Assessment (REP5-010). This demonstrates that for the specific ground conditions present within the Hornsea Three offshore cable</p>	<p>We welcome the production of this document.</p>	<p>Neither agree nor disagree</p>

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
	<p>corridor, the tools within the project description are appropriate to bury cables.</p> <p>The Applicant will not be updating this document, but will provide clarifications on the comments provided by Natural England on this document at Deadline 7, which include clarification of some of the lessons learned from Race Bank and possible measures to manage risks to cable burial, based on the experience from other projects, including Race Bank.</p>		
	<p>The Applicant has also produced an outline Cable Specification and Installation Plan, including an outline Sandwave Clearance Plan and outline Cable Protection Plan (REP5-011; updated version to be submitted at Deadline 7). The main aims of these plans are to:</p> <ul style="list-style-type: none"> • Ensure proactive consultation pre, during and post construction, particularly in relation to sandwave clearance and cable protection within designated sites; • Allow for decisions relating to cable protection measures to be clearly communicated to SNCBs early in the process to facilitate timely and efficient approval of other post consent plans; • Ensure auditability in relation the relevant activities within designated sites, with reporting of activities being directly related to the limits of the DCO, as assessed in the Environmental Statement and the RIAA. <p>These plans, and the consultation related to these, will be managed by an Ecological Clerk of Works for the project and will be “live documents” to be used throughout the construction and operation and maintenance phases of the project.</p>	<p>We welcome the production of this document, which provides clarity on the development of cabling post consent. The HO3 and TWT Memorandum of Understanding outlines that the parties will engage post-consent on the development of the cabling route, protection and monitoring.</p>	<p>Agreed</p>

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
	<p>These will help to minimise the effects on protected features of the relevant designated sites, wherever possible, by ensuring the importance of the designated features within SACs during the procurement process, with a view to maximising the potential for burial.</p> <p>This will also help SNCBs to better understand impacts within designated sites, giving greater confidence to future condition assessments.</p>		
	<p>No further mitigation to those embedded measures identified is necessitated as a result of the assessment conclusions.</p>	<p>We welcome what has been developed as part of the cable specification and installation plan and now defer the the SNCBs on any further requirements for this site.</p>	<p>N/A</p>
Draft DCO			
<p>Commitments / Restrictions</p>	<p>Hornsea Three's commitment to avoid the use of concrete mattressing 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 avoid potential adverse effects on integrity of Natura 2000 sites and significant risks of hindering conservation objectives of MCZs.</p>	<p>TWT/NWT are pleased that the project will avoid concrete mattressing within designated sites. However, we do not feel there is certainty that the sensitive cable protection will avoid adverse effect on The Wash and North Norfolk Coast SAC and allow the recovery of the site to favourable condition</p>	<p>Not agreed</p>
	<p>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.</p> <p>The Applicant has provided TWT with clarification of the evidence on the proposed sensitive cable protection measures via a Cable Protection Clarification Note. The purpose of these measures is to</p>	<p>We welcome the further information which the applicant has provided.</p>	<p>Neither agree nor disagree</p>

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
	minimise habitat loss effects (i.e. change in sediment/substrate type) where cable protection is deployed.		
Monitoring	<p>The monitoring approach described in Table 3.2 of the In-Principle Monitoring Plan (IPMP; Document A.8.8) is appropriate and includes both pre and post construction monitoring of targeted features within the designated sites (i.e. SACs and MCZs).</p> <p>The Applicant has updated the IPMP to include monitoring of HDD exit pits, monitoring of cable burial impacts (including sandwave clearance) and specific consideration of cable protection (latest version of IPMP to be submitted at Deadline 7). The Applicant will ensure TWT/NWT is updated with the results of the monitoring.</p>	Agree. The HO3 and TWT Memorandum of Understanding highlighted post-consent engagement on monitoring.	Agree

Marine Mammals

- 3.4 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 3.2 **Error! Reference source not found.** identifies the status of discussions relating to this topic area between the parties.
- 3.5 This agreement log is between TWT and Hornsea 3. NWT is supportive of TWT comments.

Table 3.2: Marine mammals

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
Environmental Impact Assessment			
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
Baseline environment	Sufficient primary and secondary data has been collated to appropriately characterise the baseline environment for the purposes of informing the EIA.	Agreed, although we highlight that the SCANS data provides only a snapshot in time. To overcome this, TWT is advocating a strategic monitoring programme within the Southern North Sea area which should be delivered through an offshore wind underwater noise levy.	Agreed
	The reference populations, densities and study areas for all marine mammals considered within this chapter are appropriate.		Agreed
	All data gaps have been highlighted and all appropriate measures for filling any data gaps have been proposed.		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
	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 2: Marine Mammals of the Environmental Statement.		Agreed
	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 an appropriate criteria for defining magnitude and sensitivity.	TWT cannot agree at present. This is because TWT have concerns regarding the definitions of magnitude and sensitivity across all offshore wind	Not agreed

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
		farms – there is no consistency in the approach. The differences in approaches make cumulative impact assessments particularly difficult. Beyond the project, this issue should be reviewed for future projects.	
	The maximum adverse 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 apart from pin piles for the PTS maximum case scenario spatial impacts using NOAA thresholds. Table 4.22 in the marine mammals chapter shows that the pin pile maximum range is 1,200m, which is greater than monopile PTS impacts. This should be a consideration when developing the piling MMMP if pin piles are chosen in the final design.	Agreed
	It is appropriate for disturbance impacts to have been assessed through a dose response curve.	Agreed, but TWT would expect the dose response curve to be verified through monitoring	Agreed.
	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.		Agreed
	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. The Applicant recognises the undertaker will need to secure approval of a robust MMMP for any UXO clearance activity. The Applicant notes that UXO clearance is not being licenced as part of this consent.	TWT is pleased that some assessment of UXO impacts has been considered. However, we expect all offshore wind farm developers to undertake more pre-consent surveys to have a more realistic figure of how much UXO clearance will be required in order to undertake a robust assessment. With this information in place, a	Not agreed

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
	<p>As part of the preparation of any future UXO MMMP plans for the project, Hornsea Three can issue these to the TWT for review prior to or concurrently to submission to the MMO.</p> <p>The Applicant can confirm that TWT will be consulted on relevant post consent documents relating to marine mammals including any UXO MMMP that is developed prior to the commencement of clearance works.</p>	<p>realistic dML could also be included within an application.</p> <p>With the use of the updated NOAA guidance, TWT have concerns regarding the alone and cumulative effects of underwater noise impacts from UXO clearance. Based on the outputs of the new NOAA guidance, TWT expect industry to collaborate to develop effective mitigation to reduce underwater noise impacts from UXO clearance.</p>	
		<p>TWT request to be named as a consultee on the UXO MMMP. We welcome that the applicant will consult with TWT on the development of relevant post consent documents.</p>	Agreed
	<p>The assessment of impacts from vessel activity have adequately addressed the TWT comments raised in the EWG on 28 March 2017 and in their S42 consultation response.</p>	<p>TWT recommend that the Heinänen and Skov (2015) metric should be used to assess cumulative impacts. The Heinänen and Skov report states that responses to the number of ships per year indicate markedly lower densities with increasing levels of traffic. A threshold level in terms of impact seems to be approximately 20,000 ships/year (approx. 80/day).</p>	Agreed

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
		<p>The Applicant has provided further response to the point raised by TWT in Appendix B of this SoCG.</p> <p>Heinänen, S. & Skov, H 2015. 'The identification of discrete and persistent areas of relatively high harbour porpoise density in the wider UK marine area'. JNCC Report No.544 JNCC, Peterborough</p> <p>TWT welcomes that the applicant has used the metric in the alone assessment. The use of this metric needs to be applied at a strategic level to fully understand cumulative impacts, but understand this is outside the scope of this application.</p>	
	The list of projects included within the CEA are appropriate and comprehensive.	TWT believe that Norfolk Boreas, East Anglia One North, East Anglia Two and Hornsea 4 should be included in the assessment.	Not agreed
	It is appropriate that shipping and fishing activity is not included within the quantified cumulative assessment, but it has been made adequately clear within the chapter that the assessment is not implying that these sources of noise do not affect marine mammals.	TWT recognises the difficulty in undertaking quantified cumulative impact assessments and advocates that assessments should take place at a strategic level. However, without this mechanism in place, an attempt should be made	Not agreed

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
	<p>The Applicant has provided further response to the points raised by TWT in Appendix B of this SoCG.</p>	<p>to quantify the cumulative impact of fishing and shipping.</p> <p>On shipping, please see previous comments regarding the use of the Heinänen and Skov (2015) metric in cumulative impact assessments.</p> <p>With regard to fishing, TWT refer the Applicant to comment number 1 in Appendix A.</p>	
Assessment conclusions	<p>The assessment of potential effects on marine mammal receptors 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).</p>	<p>TWT refer the Applicant to comment number 3 in Appendix A.</p>	Not agreed
	<p>The cumulative assessment uses a quantified approach where possible, and no significant effects are identified for any receptor within the Tier 1 conclusions, which is appropriate.</p>	<p>The Applicant has provided further response to the points raised by TWT in Appendix B of this SoCG.</p>	Not agreed
	<p>Potential for a temporary moderate cumulative effect (in the form of behavioural disturbance) from underwater noise associated with piling activity is predicted on harbour porpoise under the Tier 2 scenario, solely as a result of the uncertainty in what projects may have temporal overlap of their piling schedules and the subsequent worst case scenario that has been applied to</p>	<p>Our outstanding concern is related to the use of the iPCoD model to determine the impacts significance.</p>	

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
	<p>that assessment. Given the uncertainty as to when future projects may come forward (and in what form) this conclusion is suitably precautionary.</p> <p>The embedded measures identified in Table 4.19 of Volume 2, Chapter 4: Marine Mammals of the Environmental Statement are sufficient and no additional measures are necessitated as a result of the assessment conclusions.</p>		
RIAA			
Screening	<p>The sites which have the potential for LSE from Hornsea Three alone or in combination are:</p> <ul style="list-style-type: none"> • 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); • Berwickshire and North Northumberland Coast SAC (for grey seal); and • Noordzeekustzone SAC (for grey seal). 		Agreed
	<p>The only impacts where LSE has been identified or could not be ruled out for the sites and features identified above are:</p> <ul style="list-style-type: none"> • Underwater noise (foundation installation and UXO clearance); • Increased accidental vessel traffic and collision risk; and • Accidental pollution events. 		Agreed

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
Assessment Methodology	It is agreed the methodology for assessing effects on marine mammal features within the RIAA has been undertaken in accordance with guidance from the SNCBs and is appropriate.	TWT does not agree with the proposed SNCB guidance to assess the impact of underwater noise on the Southern North Sea (SNS) SCI. The evidence base which the SNCBs have used to support the proposed 10/20% thresholds is weak and therefore the approach is not precautionary enough. TWT advocate the use of noise limits such as those employed in Germany.	Not Agreed
	The assessment of disturbance within the RIAA has applied the standard Effective Deterrence Range of 26 km, in line with the SNCB advice, which is appropriate.		Agreed
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.	As above, TWT do not agree with the proposed SNCB guidance and therefore cannot agree with the results.	Not Agreed
	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) would have the potential for agreed thresholds to be exceeded, it is considered that a scenario where all these projects are taken forward and are constructed concurrently is very unlikely. On this basis there is no indication of an adverse effect on the integrity of the Southern North Sea cSAC.	As previous, TWT do not agree with the proposed SNCB advice and therefore do not agree with the in-combination assessment results. However, when considering the assessment results, there is evidence that the proposed temporal and spatial thresholds will be exceeded if Tier 2 and 3 projects go ahead. The assessment cannot conclude beyond reasonable scientific doubt that there will not be an in-combination impact on the site integrity of the SNS SCI.	Not Agreed

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
	<p>The Applicant has provided further response to the points raised by TWT in Appendix B of this SoCG.</p>	<p>TWT request to be named on the piling MMMP and any other mitigation required for underwater noise impacts. TWT welcomes that the Memorandum of Understanding which highlights post consent engagement on the piling MMMP</p>	<p>Agreed</p>
<p>TWT also request to be consulted on monitoring in relation to underwater noise and impacts on harbour porpoise. TWT welcomes that the Memorandum of Understanding which highlights post consent engagement on marine mammal monitoring</p>		<p>Agreed</p>	
<p>For information, TWT is proposing the development of an underwater noise levy for offshore wind farms to deliver strategic monitoring and mitigation for harbour porpoise in the Southern North Sea. A copy of the draft proposal has been provided to Hornsea Project 3.</p>		<p>Neutral</p>	
<p>Draft DCO</p>			
<p>Commitments / Restrictions</p>	<p>Given the uncertainty with regard to the number of projects that may have overlapping piling schedules the potential for a significant adverse (behavioural) effect on the harbour porpoise feature of the cSAC cannot be</p>	<p>TWT is pleased to see a commitment by Hornsea 3 for a post-consent assessment of adverse effects on the SNS SCI and welcome the</p>	<p>Not agreed</p>

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
	<p>ruled out at this stage and therefore, a commitment is made in the dML to develop and secure approval of a Site Integrity Plan (SIP) 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.</p>	<p>commitment to a Site integrity Plan. However, the plan currently lacks the required detail to conclude no adverse effect. Further information should be provided on the effectiveness of mitigation including the demonstration of effectiveness through noise modelling.</p>	
		<p>TWT welcomes being named on the Site Integrity Plan as a consultee providing rather than formal engagement. We wish to continue the relationship and approach to work which has been developed through the evidence plan process.</p>	Agreed
<p>Monitoring</p>	<p>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 (Document A.8.8)) are appropriate: A plan for marine mammal monitoring that will contribute to reducing key uncertainties within assessments relating to effects on marine mammals from construction activities;</p> <ul style="list-style-type: none"> • 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. <p>The Applicant has provided further response to the points raised by TWT in Appendix B of this SoCG.</p>	<p>TWT recommend that strategic approach to monitoring required, and we are pleased to see that Hornsea 3 is supportive of this approach. Pre, during and post construction monitoring is required of both noise levels and harbour porpoise activity to understand the impact of underwater noise impacts on harbour porpoise as an EPS and on the SNS SCI. TWT believe this should be delivered through an offshore wind underwater noise levy, as described previously.</p>	Neutral
		<p>TWT are concerned that if a strategic approach is not agreed, then monitoring will not be adequate. For example, noise monitoring will only be made</p>	Not agreed

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
		<p>for the first 4 piles installed and this is only to verify the noise modelling predictions. This does not provide any information on the noise levels per day or during the course of the construction programme, which is essential for understanding the impacts of underwater noise on harbour porpoise as an EPS and the Southern North Sea SCI</p>	
		<p>TWT request a commitment from Hornsea 3 for post consent engagement in the development of the marine mammals monitoring plan.</p>	Agreed

4. Agreements Log (onshore)

- 4.1 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 landward of 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 is used, respectively, in the “final position” column to represent the respective status of discussions. This agreement log is between NWT and Hornsea 3. TWT is supportive of NWT comments.
- 4.2 Section 3 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 MHWS.

Ecology and Nature Conservation

- 4.3 Hornsea Three has the potential to impact upon onshore ecology receptors and nature conservation designations and these interactions are duly considered within Volume 3, Chapter 3: Ecology and Nature Conservation of the Environmental Statement (Document A6.3.3). As part of the DCO application, an outline Ecological Management Plan (EMP) (Document A8.6) has been prepared that captures all ecological management and mitigation measures associated with this topic. Other relevant management measures are captured in the outline Code of Construction Practice (CoCP) which is also included as part of the DCO application (Document A8.5). Table 4.1 identifies the status of discussions relating to this topic area between the parties.

Table 4.1: Ecology and nature conservation.

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
<i>Design, site selection and route refinement</i>			
Site selection of onshore HVAC booster station	The site selected for the onshore HVAC booster station has avoided direct impacts on of sensitive habitats and designated sites.		Agreed
Site selection of onshore HVDC converter/HVAC substation	The site selected for the onshore HVDC converter/HVAC substation has avoided direct impacts on sensitive habitats and designated sites.		Agreed
Route of Hornsea Three onshore cable corridor	<p>The route selected for the Hornsea Three onshore cable corridor has avoided direct impacts on designated sites and non-designated sites and where possible, avoidance of sensitive habitats and species. Where the route alignment could not avoid designated and non-designated sites the use of horizontal directional drilling (HDD) was used.</p> <p>The design of the Hornsea Three onshore cable corridor has taken into consideration TWT feedback provided through the statutory consultation process in respect to avoidance of designated sites, restoration of habitat and inclusion of designed-in measures during construction.</p>	Some concern over GCN but happy to agree under design discussion point	Agreed
Use of HDD	The use of HDD to cross all main rivers, and most ordinary water courses, as well as many hedgerows is appropriate and has reduced the potential for significant land take impacts from Hornsea Three.		Agreed

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
<i>Environmental Impact Assessment</i>			
Policy and planning	The assessment has identified all appropriate plans and policies relevant to ecology and nature conservation and has given due regard to them within the assessment.		Agreed
Baseline environment	Sufficient primary and secondary data has been collated (using appropriate methods) to appropriately characterise the baseline environment for the purposes of informing the EIA.		Agreed
	The future baseline identified within the assessment is considered appropriate.		Agreed
	Surveys for fish, hazel dormouse, red squirrel and freshwater pearl mussel were not required for Hornsea Three.		Agreed
	The approach to pre-construction surveys, where necessary, is appropriate to identify potential changes in baseline conditions and to survey areas where access was not granted during the survey campaign.		Agreed
	All data gaps have been highlighted and all appropriate measures for filling any data gaps have been proposed.		Agreed
Assessment methodology	The approach to the assessment of effects is deemed appropriate for the purposes of predicting potential effects on the receiving environment.		Agreed
	The potential impacts identified within the chapter represent a comprehensive list of potential impacts on ecology and nature conservation from Hornsea Three (during construction, operation and maintenance and decommissioning).		Agreed

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
	The definitions used for magnitude and sensitivity, as outlined in Section 3.9 of Volume 3, Chapter 3: Ecology and Nature Conservation of the Environmental Statement are appropriate criteria .		Agreed
	The maximum adverse scenarios identified for each effect in Table 3.14 of Volume 3, Chapter 3: Ecology and Nature Conservation of the Environmental Statement are appropriate based on the information presented in Volume 1, Chapter 3: Project Description of the Environmental Statement.		Agreed
	The scope of the hydrological characterisation study (in respect to its relationship with ecology and nature conservation) is considered appropriate.		Agreed
	The list of projects screened into the CEA are appropriate.		Agreed

<p>Assessment conclusions</p>	<p>The measures adopted as part of Hornsea Three, as outlined in Table 3.19 of Volume 3, Chapter 3: Ecology and Nature Conservation of the Environmental Statement, are considered appropriate and sufficient and no additional measures are necessitated as a result of the assessment conclusions.</p> <p>Hornsea Three’s preferred approach to Great Crested Newt licencing is through the new landscape scale pathway promoted by Natural England. See below in this Section of the SoCG for further details.</p> <p>The Outline Landscape Management Plan (Document A8.7 of the Environmental Statement), includes details on the mitigations for loss of hedgerows and trees due to Hornsea Three.</p> <p>With regard to the permanent infrastructure, Hornsea Three propose to enhance existing landscape features such as hedgerows by planting gaps with hedgerow plants and trees along field edges adjacent to the onshore HVAC booster station and onshore HVDC converter/HVAC substation. Indicative plans for landscape planting, including woodland, around the proposed onshore HVAC booster station and onshore HVDC converter/HVAC substation are provided in the Outline LMP.</p> <p>Furthermore since the point of application, Hornsea Three has committed to planting sections of the landscape planting at the commencement of works at the onshore HVDC converter/ HVAC substation. It is therefore proposed to add the following wording at newly created paragraph 3.1.3.4 of the outline LMP (Document A8.7):</p> <p><i>“3.1.3.4 Hornsea Three has committed to implementing sections of the mitigation planting at the commencement of works at the onshore HVDC converter/HVAC substation, which could be up to three years ahead of the planned completion of construction works, in order to maximise the screening provided in the shortest period of time. Areas which will not be pre-planted comprise planting to the north-west and south-east of the permanent HVDC converter/HVAC substation (where it connects to the onshore cable corridor), a 5 m buffer around the permanent site and</i></p>	<p>It is agreed that the approach taken towards Great Crested Newt mitigation is appropriate.</p> <p>It is agreed that the approach taken towards hedgerows and trees, as described by the Applicant, is appropriate.</p>	<p>Agreed</p>
-------------------------------	--	---	----------------------

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
	<p><i>between the permanent footprint and temporary construction site. These areas will not be pre-planted to facilitate the construction works at the site. Further details of the pre-planting to be undertaken at the onshore HVDC converter/HVAC substation will be provided in the final LMP which will be submitted and agreed with the relevant local planning authorities”</i></p> <p>As the loss of hedgerow will be temporary along the cable corridor, the commitment to undertake hedgerow enhancement (gap filling with species rich mix) within a 100 m wide corridor that will contain the working corridor (where hedgerows are planned to be removed, and with landowner agreement) would constitute an overall enhancement to hedgerows once planting has matured. Trees will not be planted above the onshore cable corridor – however, where practicable and with landowner agreement, broadleaved trees will be planted along hedgerows elsewhere in the enhancement corridor.</p> <p>Orsted Power (UK) Ltd has established voluntary Community Benefit Funds (CBFs) for a number of projects, which are currently under construction. These funds can make a valuable contribution to the local area by supporting projects such as conservation and wildlife projects, among other issues. Hornsea Three will review its interactions as the proposal is refined and consider an appropriate way to feed benefits back into the local community. Any decision to establish a CBF for Hornsea Three would be subject to positive financial investment decision (post consent).</p>		

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
	<p>The assessment of potential effects on ecology and nature conservation receptors is appropriate and (given the embedded measures in place (Table 3.19 of Volume 3, Chapter 3: Ecology and Nature Conservation of the Environmental Statement)), 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 3, Chapter 3: Ecology and Nature Conservation of the Environmental Statement).</p> <p>The only exception is Pink Footed Geese which are considered separately below.</p>		Agreed
	<p>The potential for significant effects on Natura 2000 sites has been minimised through route refinement and the proposed cable installation procedure (including HDD).</p>		Agreed
	<p>The potential mitigation for Pink Footed Geese (should works occur between November and January inclusive) is appropriate to avoid significant effects on this species – i.e. the provision of a two step mitigation plan.</p>	No NWT/TWT comment	No NWT/TWT comment

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
	<p>Hornsea Three has taken an appropriate approach to great crested newt mitigation. It provides sufficient flexibility to allow the innovative landscape scale great crested newt solution, promoted by Natural England to be implemented if feasible with appropriate local organisations and if agreed through the standard licencing procedures.</p> <p>As a result of EWG meeting advice (25 July 2017), Hornsea Three has been engaging with the Norfolk Ponds Project with regard to the implementation of the preferred landscape-scale licencing route for GCN. Hornsea Three is preparing a ghost licence application using this method, which will be submitted to Natural England during the course of Examination no later than Deadline 3. If Natural England do not agree that a Letter of No Impediment can be issued with the principles outlined in the ghost licence application, Hornsea Three propose to submit a revised ghost licence application based on the traditional exclusion route.</p> <p>It is noted that the landscape-scale approach offers habitat improvement outside the Hornsea Three Order Limits.</p>	<p>It is agreed that the approach taken towards Great Crested Newt mitigation is appropriate.</p>	<p>Agreed</p>
	<p>The enhancements proposed by Hornsea Three, which comprises replanting all removed sections of hedgerows with a native species rich mix, are considered appropriate.</p> <p>Hornsea Three's approach to hedgerow enhancement and tree planting has been detailed above in the 'Assessment Conclusions' section of this SoCG.</p>	<p>It is agreed that the enhancements proposed by Applicant are appropriate.</p>	<p>Agreed</p>
	<p>No significant cumulative effects are predicted</p>		<p>No NWT/TWT comment</p>
	<p>There is no potential for significant transboundary effects</p>		<p>Agreed</p>

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
RIAA			
Screening	Those sites identified as having potential LSE from Hornsea Three alone or in-combination are appropriate.		No NWT/TWT comment
Assessment Methodology	The RIAA has identified all relevant features of the designated sites that may be sensitive to potential effects on ecology.		No NWT/TWT comment
	The methodology to assess features of designated sites that may be sensitive to potential effects on ecology is appropriate.		No NWT/TWT comment
Assessment Conclusions	No significant effects on Natura 2000 sites are predicted either alone or in-combination.		No NWT/TWT comment
	The potential mitigation for Pink Footed Geese (should works occur between November and January inclusive) is appropriate to avoid any potential adverse effects on integrity of Natura 2000 sites – i.e. the provision of a two step mitigation plan to be agreed with Natural England 12 months prior to the works near the landfall commencing.	No NWT/TWT comment	No NWT/TWT comment
Draft DCO			
Commitments / Restrictions	The commitment to submit an EMP and CoCP that must be approved prior to the commencement of works is appropriate control measures for managing the potential effects on ecology and nature conservation. The EMP and CoCP will include all relevant embedded measures cited within the chapter and also the Outline EMP (Document A8.6) and Outline CoCP (Document A8.5) which accompany the DCO application.		No NWT/TWT comment
Monitoring	The monitoring proposed by Hornsea Three, in relation to the restored hedgerows, is considered appropriate.		No NWT/TWT comment

Discussion Point	Hornsea Project Three Position	TWT's Position	Final Position
	Pre-construction monitoring proposals (including for protected species) as outlined in the Outline EMP (Document A8.6) and Outline CoCP (Document A8.5) included as part of the Hornsea Three DCO application, are appropriate.		No NWT/TWT comment
Outline Management Plans			
Outline EMP - Management and Mitigation Measures	The management measures identified within the Outline EMP (Document 8.6) and outline CoCP (Document A8.5) as relevant, are appropriate for controlling any potentially significant effects on ecology and nature conservation and no further measures are required to those stated within these documents. Please see comments in the 'Assesement Conclusion' section of this SoCG for further details on Hornsea Three's approach to great crested newt and enhancement planting.	Following post application discussions with the Applicant, the NWT agrees that there are no further management measures required to those stated in the outline EMP and outline CoCP.	Agreed

5. Summary

- 5.1 This SoCG has been developed with the The Wildlife Trusts and Norfolk Wildlife Trust during the Hornsea Three examination period to capture those matters agreed and not agreed in relation to:
- Benthic Ecology;
 - Marine Mammals;
 - Onshore Ecology and Nature Conservation;
 - The Marine Conservation Zone (MCZ) assessment; and
 - The Report to Inform Appropriate Assessment (RIAA; Document A5.2).
- 5.2 Regarding section 3, Offshore, for Benthic Ecology (Table 3.1) there are four lines that are not agreed which relate to the impact of cable installation in the Wash and North Norfolk Coast SAC. Regarding Marine Mammals (Table 3.2) there are a number of matters that are not agreed. Given the scope of disagreements both parties refer to their relative submissions made on the subject during the examination period for Hornsea Three for more information.
- 5.3 Regarding section 4, Onshore (Ecology and Nature Conservation), there no matters outstanding, with all matters agreed or where NWT/TWT did not have comment.

Appendix A: Supporting Information from TWT

The following text was prepared by TWT following review of V1.0 of the SoCG and further expands on their position presented within the main SoCG table for marine mammals (Table 3.2).

Supporting text #1

Fishing has not been included in the in-combination assessment. Fishing is a licensable activity that has the potential to have an adverse impact on the marine environment. We do not consider fishing to be part of the baseline and believe that it should be included in all in-combination assessments.

It is important to remember that according to the 'letter of the law', all fishing within European Marine Sites (EMS) should cease until an assessment of impacts is carried out, with only those activities not affecting the conservation status of designated features or impacting on site integrity being re-introduced. The current, risk-based, 'revised approach' to fisheries management in EMS is a compromise agreed by all to prevent the closure of fisheries during assessment. As a result, we do not believe that fishing can be considered part of the baseline; in-combination assessment must take fishing impacts into account in the same way as if they were removed and the total impact of all human activities considered.

A precedent was set for the inclusion of fishing in in-combination assessments when The Wildlife Trusts (TWT) began Judicial Review proceedings against the Department for Energy and Climate Change (DECC) in August 2015 against the approval of Dogger Bank Offshore Wind Farm Order due to the exclusion of fishing from the in-combination assessment as part of the HRA. TWT withdrew the claim due to assurances given by the government regarding the management of fishing within Dogger Bank SAC. One of those assurances was that steps would be put in place to ensure that this scenario would not happen again and that Defra and DECC would work together to ensure fishing would be included in future offshore wind farm impact assessments.

Supporting text #2

Further information is required to give certainty that there will be no adverse effect on The Wash and North Norfolk Coast SAC. This includes:

1. Certainty that the cable can be buried if a sediment veneer over rock is present. The applicant has informed us that they are confident that they will be able to cut into rock in order to bury the cables. Further information on the confidence in cutting and burial techniques is required, including information from similar activities for other projects. In addition, how much geophysical information of the route within the SAC is available to determine how much sediment veneer over rock may be within the cable corridor? This information would be useful in providing confidence on the maximum 10% cable protection required within the SAC.
2. Due to the issues we have seen with cable burial within the Wash, we would like to understand if there is any chance of similar problems occurring along the Hornsea three cable route along the North Norfolk Coast. Due to the dynamics within the Wash, sediment does not remain in situ and cables have become exposed, requiring cable protection. Does the applicant expect similar coastal processes within the Hornsea Three cable route which may result in cables becoming exposed which would require further cable protection? We are aware that rocky outcrops within this area do become exposed due to the shifting sediment.

3. It would be useful if the applicant could provide examples of cable burial success from other cable routes within the area e.g. Dudgeon and Sheringham Offshore Wind Farms. We would like to understand if the cables from these offshore wind farms have become exposed and how much cable protection was used.

Supporting text 3

TWT has serious concerns regarding the cumulative effect of underwater noise disturbance, particularly on harbour porpoise. For just Tier 1 projects, it is predicted that between 12,158 and 18,290 harbour porpoise could be affected by piling operations. We do not consider this an insignificant number. When the tier 1 and 2 cumulative impacts figures are collated for harbour porpoise, the number of animals becomes considerable – between 22,546 and 36,905 individuals. In addition, Hornsea 3 will take place over a period of 12 breeding cycles for harbour porpoise, and we do not know what the impacts of this will be on the population.

We do not believe it is appropriate to use the Booth et al (2017) paper to determine the significance of cumulative underwater noise impacts on harbour porpoise. Although we see the benefits of using iPCoD or other models in the future to understand population impacts on marine mammals, the model version used in the Booth et al (2017) paper heavily relies on expert opinion rather than empirical data. Therefore, the benefits of the model in this format are useful as illustrative purposes only rather than as an assessment tool.

We do not agree that the underwater noise disturbance cumulative impact result for harbour porpoise is minor adverse significance for tier 1 projects. The assessment suggests that for tier 1 and 2 projects the impacts are “moderate (in terms of overall numbers of animals affected and the duration of effect) but of minor adverse significance in the long term”. We neither agree with this conclusion. As a result, we do not believe the embedded measures are appropriate. It is highlighted in table 4.19 that the MMMP will mitigate the risk of physical or permanent auditory injury to marine mammals. Mitigation proposed in the MMMP is therefore not appropriate to reduce the impacts of disturbance caused by underwater noise. Harbour porpoise are listed as a European Protected Species as part of the Habitats Directive which requires the maintenance of the Favourable Conservation Status (FCS) of the species. When considering the cumulative effect of tier 1, 2 and 3 projects, potentially over 40,000 harbour porpoise will be affected by cumulative underwater noise disturbance and we cannot be certain that this will not impact upon the FCS of the population. Therefore, to meet article 12 of the Habitats Directive, a precautionary approach is required and a commitment to further mitigation to reduce underwater noise disturbance impacts is essential.

Appendix B: Supporting Information from the Applicant

The following text was prepared by the Applicant in response to the detailed points raised by TWT in Appendix A and also in response to a number of comments raised within Table 3.2 of V1.0 of the SoCG.

Applicants response to Supporting text #1

The Applicant recognises that fishing has an impact on certain receptors. This is considered within the environmental baseline against which the assessments have been carried out. It is not possible to determine what the baseline conditions would be without the impacts that fishing impacts impose on such receptors and therefore there is no means by which the Applicant can undertake such an assessment.

Specifically regarding the assessment for Marine Mammals, with respect to the inclusion of fishing in the cumulative and in-combination assessment, the Applicant maintains that recent and current levels of fishing activity and the impacts resulting from this activity, are implicitly included in the marine mammal baseline characterisation that provides the context for, and the quantitative density estimates and abundance estimates used to inform the marine mammal impact assessment. This is because the current size and status of the relevant marine mammal populations, the harbour porpoise in particular, have been assessed and quantified in the presence of this ongoing activity. The data used to inform the selection of the SNS SCI (in terms of areas of high persistent density of harbour porpoise) were collected over the timescale and locations where current levels of fishing activity were ongoing, over multiple years, where any population consequence of such impacts would be manifest. Unless there is any reason to expect that the levels of fishing activity that are currently undertaken in the SNS SCI are proposed to increase above recent historical levels then adding in any additional mortality from fished (bycatch) would be effectively double counting. Any population modelling undertaken to inform the risk of future activities would include the addition of new and/or increasing impacts above the baseline population trajectory as predicted by ongoing baseline monitoring. Therefore crucially any ongoing sources of mortality would be already included. There is currently no available information to suggest that the scale or nature of fishing-related impacts on marine mammals are likely to change from current levels over the timescale of the cumulative and in-combination assessment.

Applicants response to Supporting text #3

In response to TWT's comments on the level of population effect on harbour porpoise, the Applicant would like to clarify how the figures presented in the CEA are intended to be interpreted. It is important to note that the maximum number of porpoises predicted to be disturbed over all the projects combined, is a result of the simple addition from all projects together. This assumes the maximum degree of temporal overlap between projects and where each project is undertaking concurrent piling operations and that there is no spatial overlap between projects in the areas of disturbance. This is an extremely unlikely scenario and a demonstration of the degree to which these precautionary assumptions would overestimate the total level of impact is provided in the Applicant's Clarification Note on precaution within the marine mammal assesment. Importantly, this maximum overlap scenario would not lead to impacts occurring over a 12 year period – all the overlapping activity would be truncated into a much shorter period and given that most projects included in the CEA only have a 1-3 year construction period, the overall time where the total levels of cumulative disturbance would be at maximum levels would be relatively short. The stated 12 year period from start to end would result from the alternative scenario of less temporal overlap and more sequential construction, but for this scenario, the total cumulative magnitude of disturbance would be at a much lower number than the maximum additive figures presented in the ES and quoted by TWT in Supporting text #2. The Applicant confirms, for the avoidance of doubt, the maximum disturbance presented under the Tier 1 (12,158 - 18,290) and Tier 1 and 2 (22,546 - 36,905) would not be predicted to occur for the whole period of time that the CEA covers. Again, for the avoidance of doubt, the piling noise impacts from Hornsea Three alone would occur over a maximum of 3 harbour porpoise breeding cycles (from a total of 2.5 year foundation installation period).

The following paragraphs provide the Applicants response to a number of statements from TWT (as presented in italics) within the SoCG:

TWT statement: *TWT recommend that the Heinänen and Skov (2015) metric should be used to assess cumulative impacts. The Heinänen and Skov report states that responses to the number of ships per year indicate markedly lower densities with increasing levels of traffic. A threshold level in terms of impact seems to be approximately 20,000 ships/year (approx. 80/day).*

Applicant response: *The Heinänen and Skov (2015) metric has a spatial element to it; in that the analysis presented in the report suggests that there was a significant decline in harbour porpoise density in grid cells (measuring 5x5km) which also had a quantified level of shipping density. While it was possible to apply this threshold to the Hornsea 3 alone assessment, due to a project specific understanding of the spatial pattern of baseline and additional vessel traffic, this was not possible at the cumulative assessment level due to the lack of appropriate detail on all the other projects. As such the assessment considered the total number of additional vessel movements, in light of the total baseline levels of vessel activity in the management unit as a whole, without being able to apply the Heinänen and Skov (2015) derived 'threshold' of 80 ships per day per grid cell.*

TWT statement: *As previous, TWT do not agree with the proposed SNCB advice and therefore do not agree with the in-combination assessment results. However, when considering the assessment results, there is evidence that the proposed temporal and spatial thresholds will be exceeded if Tier 2 and 3 projects go ahead. The assessment cannot conclude beyond reasonable scientific doubt that there will not be an in-combination impact on the site integrity of the SNS SCI. It is therefore essential that Hornsea 3 commits to further mitigation for underwater noise disturbance impacts.*

Applicant response: The Applicant cross refers TWT to its response to its comment on the “Support text #2” as set out above and further evidenced within the referenced Clarification Note, the high levels of precaution highlighted, which are compounded at in-combination level indicate why it is not appropriate to add the Tiers together. Notwithstanding this, it is recognised that theoretical (but unrealistic) scenarios can be generated by adding Tiers together to generate outputs for behavioural effects that would breach thresholds. In light of this the Applicant made a commitment within the draft dMLs (in line with existing consents) to ensure that appropriate mitigation was applied (by the undertaker) and approved (by the MMO), if deemed necessary, prior to the commencement of construction. Following requests for a Site Integrity Plan (from a number of stakeholders in their Relevant Representations) the Applicant has updated this Condition to reflect the development and approval of a SIP prior to the commencement of construction. This process will similarly, ensure Site Integrity is not at risk from the development of Hornsea Project Three.

TWT statement: *TWT request to be named on the piling MMMP and any other mitigation required for underwater noise impacts. TWT also request to be consulted on monitoring in relation to underwater noise and impacts on harbour porpoise.*

Applicant response: The Applicant has confirmed to TWT that it will not be advocating the inclusion of named parties that should be consulted as part of the approval of individual plans. It is for the MMO discretion as to who they wish to consult with in approving such plans. Equally, if MMO are minded to include TWT as a named consultee in the plans approval the Applicant will not object. The Applicant can, as part of the preparation of any future UXO and MMMP plans for the project, commit to submitting these to the TWT for review prior to or concurrently to submission to the MMO.

TWT statement: *For information, TWT is proposing the development of an underwater noise levy for offshore wind farms to deliver strategic monitoring and mitigation for harbour porpoise in the Southern North Sea. A copy of the draft proposal has been provided to Hornsea Project 3.*

Applicant response: Noted.

TWT statement: *TWT recommend that strategic approach to monitoring required, and we are pleased to see that Hornsea 3 is supportive of this approach. Pre, during and post construction monitoring is required of both noise levels and harbour porpoise activity to understand the impact of underwater noise impacts on harbour porpoise as an EPS and on the SNS SCI. TWT believe this should be delivered through an offshore wind underwater noise levy, as described previously.*

TWT are concerned that if a strategic approach is not agreed, then monitoring will not be adequate. For example, noise monitoring will only be made for the first 4 piles installed and this is only to verify the noise modelling predictions. This does not provide any information on the noise levels per day or during the course of the construction programme, which is essential for understanding the impacts of underwater noise on harbour porpoise as an EPS and the Southern North Sea SCI.

Applicant response: The Applicant welcomes the agreement on the potential benefits that strategic monitoring can bring and the importance to have a commitment that facilitates it should it be deemed appropriate at that juncture. The Applicant cannot comment specifically about the merits of an offshore wind underater noise levy. This is point that requires discussion at a strategic industry and regulatory level.

With regard to noise monitoring the Applicant points out that it has made a commitment within the dML to provide information on piling duration following the completion of construction. The specific aim of this reporting will be to better inform the industry on actual durations of construction noise, which as detailed in the Clarification Note on the precaution within the marine mammal assessment are often significantly overestimated at the application stage.

TWT statement: *TWT request a commitment from Hornsea 3 for post consent engagement in the development of the marine mammals monitoring plan.*

Applicant response: The Applicant cross refers TWT to the comments above with regard to consultation on pre-commecement documentation.