

Hornsea Project Three
Offshore Wind Farm



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Section 42 Consultation Potential Offshore Alternative Routes – Supporting Information

Date: November 2017

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Orsted

Section 42 Consultation

Potential Offshore Alternative Routes – Supporting Information

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Front cover picture: Kite surfer near a UK offshore wind farm © Orsted Energy Hornsea Project Three (UK) Ltd., 2017.

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Glossary

Term	Definition
Bathymetry	The measurement of water depth in oceans, seas and lakes.
Environmental Impact Assessment (EIA)	A statutory process by which certain planned projects must be assessed before a formal decision to proceed can be made. It involves the collection and consideration of environmental information, which fulfils the assessment requirements of the EIA Directive and EIA Regulations, including the publication of an Environmental Impact Assessment (EIA) Report.
Hornsea Three offshore cable corridor	The corridor in which the offshore export cables will be located.
Hornsea Project Three offshore wind farm	The third offshore wind farm project within the former Hornsea Zone. It has a maximum capacity of 2.4 GW (2,400 MW) and includes offshore and onshore infrastructure to connect to the existing National Grid substation located at Norwich Main, Norfolk. Referred to as Hornsea Three throughout the Environmental Statement.
Marine Conservation Zone (MCZ)	Marine Conservation Zones (MCZs) are a new type of Marine Protected Area (MPA) brought in under the UK Marine and Coastal Access Act 2009. MCZs will form a key part of the UK MPA network.
Orsted Hornsea Project Three (UK) Ltd	The company promoting the development of the Hornsea Project Three offshore wind farm. Orsted Hornsea Project Three (UK) Ltd is owned by Orsted Power (UK) Ltd, which is owned by Ørsted Vind A/S, which is owned by Ørsted VE A/S, which is owned by Ørsted Wind Power A/S, which is owned by Ørsted Wind Power Holding A/S, and which is owned by Ørsted A/S.
Special Area of Conservation (SAC)	A site designation specified in the Habitats Directive (Council Directive 92/43/EEC). Each site is designated for one or more of the habitats and species listed in the Directive. The Directive requires a management plan to be prepared and implemented for each SAC to ensure the favourable conservation status of the habitats or species for which it was designated. In combination with Special Protection Areas (SPAs), these sites contribute to the Natura 2000 Sites network.

Acronyms

Acronym	Description
AIS	Automatic Identification System
DCO	Development Consent Order
EIA	Environmental Impact Assessment
EMODnet	European Marine Observation Data Network
MCZ	Marine Conservation Zone
PEIR	Preliminary Environmental Information Report
REC	Regional Environmental Characterisation
rMCZ	recommended Marine Conservation Zone
RYA	Royal Yachting Association
SAC	Special Area of Conservation
UKHO	United Kingdom Hydrographic Office

Units

Unit	Description
km	kilometre
MW	megawatt

1. Introduction

- 1.1.1.1 Orsted Hornsea Project Three (UK) Ltd¹ is proposing to develop the Hornsea Project Three Offshore Wind Farm (hereafter referred to as Hornsea Three). 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.
- 1.1.1.2 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. 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.
- 1.1.1.3 Between 27 July and 20 September 2017, consultation under section 42(1) of the Planning Act 2008 (as amended) and the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 ("Statutory Consultation") was undertaken. Following feedback from this Statutory Consultation (particularly that received relating to the routing of the offshore cable corridor in the Cromer Shoal Chalk Beds MCZ and in the North Norfolk Sandbank and Saturn Reef SAC) site selection and the corridor routing has been reviewed. At this early stage, it is believed that alternative routes for the offshore cable corridor may be feasible in two areas, one close to the offshore array area, and the other closer to landfall. Both of those alternative routes would be located outside of the redline boundary previously consulted upon. The location of the two areas of potential offshore alternative routes are shown on Figure 1.1. At this stage of the pre-application process, the two potential offshore alternative routes will continue to be considered by Hornsea Three alongside the route presented in the previous Statutory Consultation.
- 1.1.1.4 This 'Section 42 Consultation. Potential Offshore Alternative Routes – Supporting Information' document (hereafter referred to as Supporting Information document) has been produced to provide further information on the potential offshore alternative routes. Specifically, the purpose of the Supporting Information document is to:
- Provide an opportunity for relevant stakeholders to comment on the potential offshore alternative routes;
 - To describe the data sources that are proposed to be used within the Environmental Statement to characterise the baseline environment and to underpin the assessment of the likely environmental effects of the construction, operation and maintenance, and decommissioning of Hornsea Three if these are taken forwards; and

¹ Previously DONG Energy Hornsea Project Three (UK) Ltd

- To outline any pertinent changes in the approach to the Environmental Statement assessment methodology which would need to be applied if the potential offshore alternative routes were taken forwards.

1.1.1.5 The Supporting Information document affords an opportunity to engage with statutory and non-statutory consultees during the pre-application process, inviting them to provide comment, which in turn will inform the Environmental Impact Assessment (EIA) process and associated Environmental Statement. Hornsea Three welcomes comments from all consultees (see section 4) and will continue to engage with relevant consultees throughout the pre-application consultation period on any updates or changes to the assessments.

1.1.1.6 Within this Supporting Information document, the two potential offshore alternative routes are differentiated by referring to them as the 'near shore potential alternative route' and the 'seaward potential alternative route' and collectively as the 'potential offshore alternative routes'.

2. Baseline Characterisation

2.1.1.1 Table 2.1 below outlines the data sources that will be drawn upon in order to characterise the baseline environment of the potential offshore alternative routes within the Environmental Statement, if these are taken forwards.

Table 2.1 Summary of key desktop data sources to characterise the baseline environment within the potential offshore alternative routes.

Topic	Data sources
Marine processes	Regional and local scale data sources, as outlined in Table 1.6 of volume 2, chapter 1: Marine Processes of the Hornsea Three Preliminary Environmental Information Report (PEIR) will be drawn upon to characterise the baseline environment within the potential offshore alternative routes. Those datasets remain valid for the potential offshore alternative routes given the wide geographic nature of these data sources.
Benthic ecology	<p>The seaward potential offshore alternative route will be characterised using the following data sources:</p> <ul style="list-style-type: none"> • Site specific benthic grab and drop down video sampling along the re-route (see Figure 2.1); • European Marine Observation Data Network (EMODnet) Seabed Habitats project (EUSeaMap2016, 2016); • Humber Regional Environmental Characterisation (REC) (Tappin <i>et al.</i>, 2011); and • Marine Aggregate Regional Environmental Assessment of the Humber and Outer Wash Region (ERM, 2012). <p>The near shore potential alternative route will be characterised using the following data sources:</p> <ul style="list-style-type: none"> • Hornsea Three site specific grab and drop down video sampling along the offshore cable corridor, including the inshore section of the potential alternative route (see Figure 2.2); • Data collected as part of baseline characterisation and pre/post construction monitoring for Sheringham Shoal and Dudgeon offshore wind farms, specifically: <ul style="list-style-type: none"> ○ Dudgeon Offshore Wind Farm. Environmental Statement (Dudgeon Offshore Wind Ltd, 2009); ○ Sheringham Shoal Environmental Statement (Scira Offshore Energy Ltd, 2006); ○ Sheringham Shoal Offshore Wind Farm, Post-Construction Benthic Monitoring Survey (Scira Offshore Energy Ltd, 2014); and ○ Dudgeon offshore wind farm pre-construction benthic ecology survey (Dudgeon Offshore Wind Ltd, 2014). • Information on the Wash and North Norfolk Coast SAC from Natural England Designated Sites View website (including mapping from magic.defra.gov.uk). • Analysis of Invertebrate Communities and Sediment Composition of the Subtidal Sandbanks of The Wash and North Norfolk Coast (APEM, 2013) (requested from Natural England); • Baseline monitoring survey of large shallow inlet and bay for The Wash and North Norfolk (Meadows and Frojan, 2012) (requested from Natural England); • Continuation of Baseline Monitoring of Reef Features in the Wash and North Norfolk Coast Special Area of Conservation (SAC) (McIlwaine <i>et al.</i>, 2014) (requested from Natural England); and • Cromer Shoal Chalk Beds recommended Marine Conservation Zone (rMCZ) Post-survey Site Report (Defra, 2015).

Topic	Data sources
Fish and shellfish ecology	Data sources, as outlined in Table 3.7 and Table 3.8 of volume 2, chapter 3: Fish and Shellfish Ecology of the Hornsea Three PEIR will be drawn upon to characterise the baseline environment within the potential offshore alternative routes. Those datasets remain valid for the potential offshore alternative routes given the wide geographic nature of these data sources. In addition, site specific benthic samples collected along the potential offshore alternative routes (see Figure 2.1 and Figure 2.2) will be analysed for herring spawning potential and sandeel habitat classification, the results of these will be incorporated into the Environmental Statement.
Marine mammals	Data sources, as outlined in Table 4.5 of volume 2, chapter 4: Marine Mammals of the Hornsea Three PEIR will be drawn upon to characterise the baseline environment within the potential offshore alternative routes. Those datasets remain valid for the potential offshore alternative routes given the wide geographic nature of these data sources. Furthermore, it is noted that within volume 2, chapter 4: Marine Mammals of the Hornsea Three PEIR (paragraph 4.6.2.1) it was identified that SCANS III data (from Hammond <i>et al.</i> 2017) would be incorporated into the Environmental Statement and this remains the case. In addition, it is noted that it was agreed through the Marine Mammal Expert Working Group (EWG) that surveys of the Hornsea Three offshore cable corridor were not required to inform the EIA.
Offshore ornithology	Data sources, as outlined in Table 5.4 of volume 2, chapter 5: Offshore Ornithology of the Hornsea Three PEIR will be drawn upon to characterise the baseline environment within the potential offshore alternative routes. Those datasets remain valid for the potential offshore alternative routes given the wide geographic nature of these data sources. In addition, it is noted that it was agreed through the Offshore Ornithology EWG that surveys of the Hornsea Three offshore cable corridor were not required to inform the EIA.
Commercial fisheries	Data sources, as outlined in Table 6.4 of volume 2, chapter 6: Commercial Fisheries of the Hornsea Three PEIR will be drawn upon and updated to incorporate 2016 data, where available, to characterise the baseline environment within the potential offshore alternative routes. Those datasets remain valid for the potential offshore alternative routes given the wide geographic nature of these data sources.
Shipping and navigation	<p>For the seaward potential alternative route, the shipping and navigation assessment will use a combination of vessel based marine traffic surveys and shore based Automatic Identification System (AIS) data sources (data will be from within two years at the point of the Environmental Statement submission) given the distance of the re-route offshore. The assessment will include consideration of AIS vessels only noting the extremely low level of non-AIS vessels in the area. The AIS data will also be considered alongside information from United Kingdom Hydrographic Office (UKHO) Admiralty Charts 1187, known vessel routes (Anatec ShipRoutes database) and consultation from regular operators (regular operator consultation letters and the hazard workshop).</p> <p>For the near shore potential alternative route, the shipping and navigation assessment will be undertaken using data derived from shore based AIS data sources (data will be from within two years at the point of the Environmental Statement submission), Royal Yachting Association (RYA) UK Coastal Atlas of Recreational Boating (2016), UKHO Admiralty Charts 10 /108, project bathymetric data and consultation from regular operators/local users.</p>

Topic	Data sources
Aviation, military and communication	Data sources, as outlined in Table 8.4 of volume 2, chapter 8: Aviation, Military and Communication of the Hornsea Three PEIR will be drawn upon to characterise the baseline environment within the potential offshore alternative routes. Those datasets remain valid for the potential offshore alternative routes given the wide geographic nature of these data sources.
Marine archaeology	Data sources, as outlined in Table 9.4 of volume 2, chapter 9: Marine Archaeology of the Hornsea Three PEIR will be drawn upon to characterise the baseline environment within the potential offshore alternative routes. Those datasets remain valid for the potential offshore alternative routes given the wide geographic nature of these data sources.
Seascape and visual resources	Data sources, as outlined in Table 10.6 of volume 2, chapter 10: Seascape and Visual Resources of the Hornsea Three PEIR will be drawn upon to characterise the baseline environment within the potential offshore alternative routes. Those datasets remain valid for the potential offshore alternative routes given the wide geographic nature of these data sources.
Infrastructure and other users	Data sources, as outlined in Table 11.4 of volume 2, chapter 11: Infrastructure and Other Users of the Hornsea Three PEIR will be drawn upon to characterise the baseline environment within the potential offshore alternative routes. Those datasets remain valid for the potential offshore alternative routes given the wide geographic nature of these data sources. It is noted that the seaward potential alternative route will overlap with an additional oil and gas licence block, specifically block 49/11b, operated by ConocoPhillips (see Figure 2.3). Further consultation will be held with ConocoPhillips on this overlap and an assessment presented within the Environmental Statement.

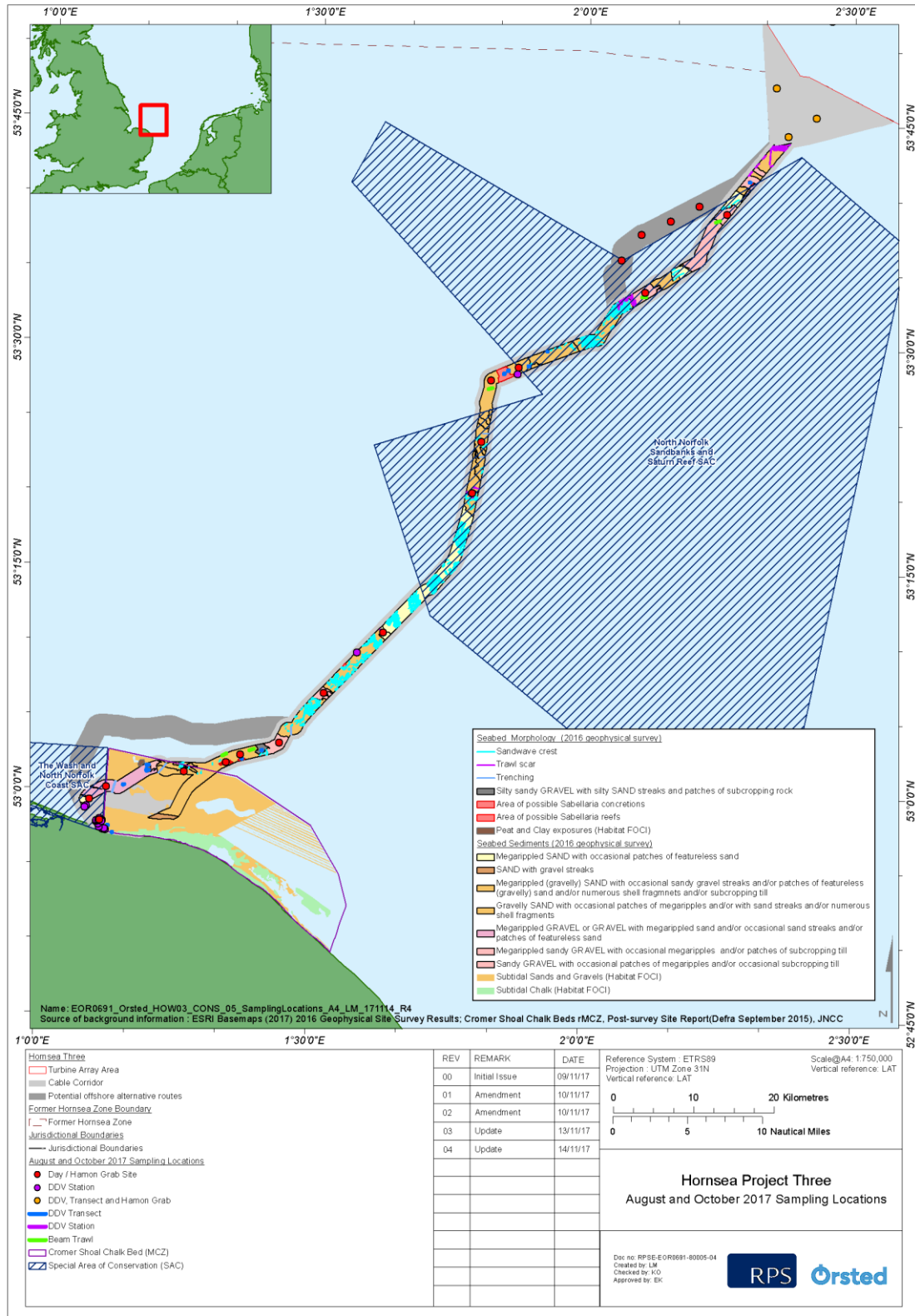


Figure 2.1 Benthic ecology sampling locations along the Hornsea Three offshore cable corridor and potential offshore alternative routes.

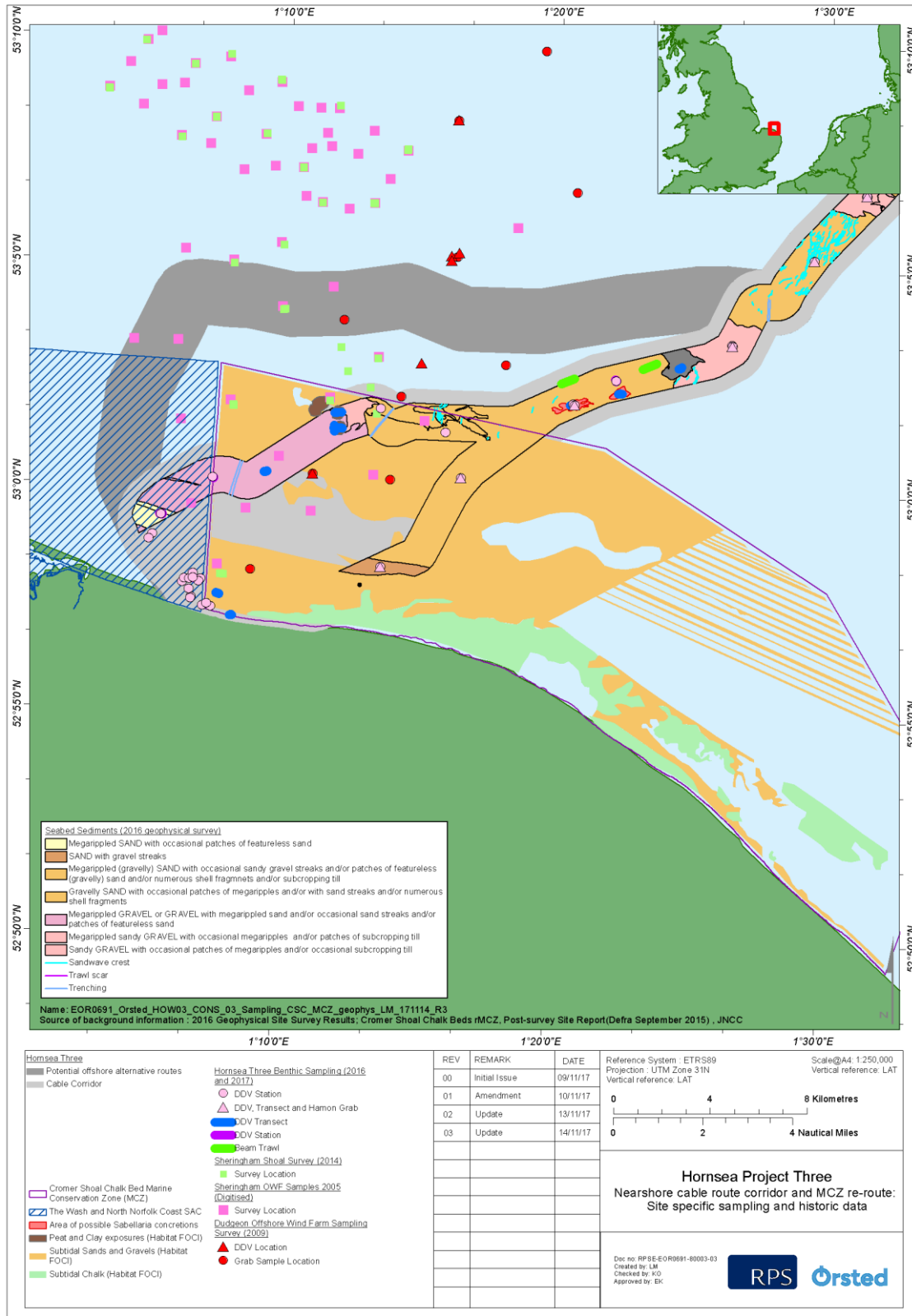


Figure 2.2 Benthic ecology sampling locations along the near shore potential alternative route.

3. Environmental Impact Assessment and Report to Inform Appropriate Assessment

- 3.1.1.1 The approach to the EIA, as outlined in volume 1, chapter 5: Environmental Impact Assessment Methodology of the PEIR and the offshore topic chapters (volume 2, chapters 1 to 11 of the PEIR) will not be affected by the potential offshore alternative routes.
- 3.1.1.2 The technical detail and baseline information presented in the EIA is used to inform the Report to Inform Appropriate Assessment (RIAA). The methodology of the draft RIAA will not be affected by the potential offshore alternative routes. The screening of offshore European sites and the potential for likely significant effect will be reviewed with regard to the potential offshore alternative routes and the RIAA updated accordingly.

4. Next Steps

4.1.1.1 Consultees are invited to consider the information provided in this Supporting Information document. Several broad questions are presented to encourage reflection of the key elements discussed in this Supporting Information document:

- Do consultees have any comments on the location of the potential offshore alternative routes?
- Are there any additional baseline data sources available that could be used to inform the EIA?
- Do consultees have any comments on the approach to the EIA if the potential offshore alternative routes are taken forward?

4.1.1.2 Hornsea Three will further refine the Project Description to be included in the Environmental Statement (including Hornsea Three offshore cable corridor) based upon the consultation responses received from this Section 42 consultation. The final results of the EIA will be presented in an Environmental Statement and a summary of all the consultation responses received will be presented in a Consultation Report, both of which will accompany the Development Consent Order (DCO) application to be submitted in quarter 2 of 2018.

5. References

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