

Hornsea Three  
Offshore Wind Farm



## Hornsea Three Offshore Wind Farm

Appendix 1 to Deadline I submission –  
Habitats Regulations Assessment Screening and integrity matrices  
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## 1. Appendix A – HRA Screening Matrices

### 1.1 Introduction

- 1.1.1.1 Screening and integrity matrices are requested by the Planning Inspectorate to assist the relevant Secretary of State (SoS) as competent authority in fulfilling the requirements of the Habitats Directive and the Habitats Regulations in the context of the 2008 Act process. The Planning Inspectorate has requested the screening and integrity matrices as part of the Section 51 Advice. The matrices are developing best practice and may be revised in light of experience. Screening Matrices summarise the likely significant effects of the project on the European site and Integrity Matrices summarise the information required for the appropriate assessment.

## 2. Screening Matrices – Stage 1

### 2.1 Potential Impacts

- 2.1.1.1 Potential impacts upon the European site(s) which are considered within the submitted Habitats Regulations Assessment Screening report are provided in the tables below. Impacts have been grouped where appropriate for ease of presentation.

#### 2.1.1 Impacts considered within the screening matrices (Annex I habitats)

Designation	Impacts in submission information	Presented in screening matrices as
European site name/designation SAC/SCI	Construction and Decommissioning <ul style="list-style-type: none"> <li>• Temporary habitat loss/Disturbance</li> <li>• Temporary increase in suspended sediments/smothering</li> </ul> Operation and Maintenance <ul style="list-style-type: none"> <li>• Permanent/long term habitat loss</li> <li>• Temporary increase in suspended sediments/smothering</li> <li>• Colonisation of hard substrate and Invasive Non Native Species (INNS)</li> </ul>	<ul style="list-style-type: none"> <li>• Changes to habitat</li> </ul>
	Construction and Decommissioning <ul style="list-style-type: none"> <li>• Accidental pollution</li> </ul> Operation and Maintenance <ul style="list-style-type: none"> <li>• Accidental pollution</li> </ul>	<ul style="list-style-type: none"> <li>• Changes to water quality</li> </ul>
	Operation and maintenance <ul style="list-style-type: none"> <li>• Changes in physical processes</li> </ul>	<ul style="list-style-type: none"> <li>• Changes in physical processes</li> </ul>

	<ul style="list-style-type: none"> <li>In-combination</li> </ul>	<ul style="list-style-type: none"> <li>In-combination</li> </ul>
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2.1.2 Impacts considered within the screening matrices (Annex II migrating fish)

Designation	Impacts in submission information	Presented in screening matrices as
European site name/designation SAC/SCI	Construction and Decommissioning <ul style="list-style-type: none"> <li>Temporary habitat loss/disturbance</li> <li>Underwater noise</li> </ul> Operation and Maintenance <ul style="list-style-type: none"> <li>Disturbance</li> <li>Underwater noise</li> </ul>	<ul style="list-style-type: none"> <li>Behavioural disturbance/physical injury</li> </ul>
	Construction and Decommissioning <ul style="list-style-type: none"> <li>Accidental pollution</li> <li>Increase suspended sediments/ deposition</li> </ul> Operation and maintenance <ul style="list-style-type: none"> <li>Accidental pollution</li> <li>Increase suspended sediments/ deposition</li> </ul>	<ul style="list-style-type: none"> <li>Changes to water quality</li> </ul>
	Operation and Maintenance <ul style="list-style-type: none"> <li>Long term habitat loss</li> <li>Colonisation of hard substrate</li> <li>EMF</li> </ul>	<ul style="list-style-type: none"> <li>Changes to habitat</li> </ul>
	Construction / decommissioning and operation and maintenance <ul style="list-style-type: none"> <li>In-combination</li> </ul>	<ul style="list-style-type: none"> <li>In-combination</li> </ul>

2.1.3 Impacts considered within the screening matrices (Annex II marine mammals)

Designation	Impacts in submission information	Presented in screening matrices as
European site name/designation SAC/SCI	Construction and Decommissioning <ul style="list-style-type: none"> <li>• Underwater noise</li> <li>• Increased vessel noise and collision risk</li> </ul> Operation and Maintenance <ul style="list-style-type: none"> <li>• Underwater noise</li> <li>• Vessel noise and collision risk</li> <li>• EMFs</li> </ul>	<ul style="list-style-type: none"> <li>• Behavioural disturbance/physical injury</li> </ul>
	Construction and Decommissioning <ul style="list-style-type: none"> <li>• Increased suspended sediment</li> <li>• Accidental pollution</li> </ul> Operation and Maintenance <ul style="list-style-type: none"> <li>• Accidental pollution events</li> </ul>	<ul style="list-style-type: none"> <li>• Changes to water quality</li> </ul>
	Construction and Decommissioning <ul style="list-style-type: none"> <li>• Changes in prey availability</li> </ul> Operation and Maintenance <ul style="list-style-type: none"> <li>• Changes in prey availability</li> </ul>	<ul style="list-style-type: none"> <li>• Changes in prey availability</li> </ul>
	Construction / decommissioning and operation and maintenance <ul style="list-style-type: none"> <li>• In-combination</li> </ul>	<ul style="list-style-type: none"> <li>• In-combination</li> </ul>

#### 2.1.4 Impacts considered within the screening matrices (Annex II species)

Designation	Impacts in submission information	Presented in screening matrices as
European site name/designation SAC/SCI	Construction and Decommissioning <ul style="list-style-type: none"> <li>• Temporary habitat loss/Disturbance</li> <li>• Permanent loss of habitat</li> <li>• Habitat fragmentation</li> </ul> Operation and Maintenance <ul style="list-style-type: none"> <li>• Temporary habitat disturbance/damage</li> </ul>	<ul style="list-style-type: none"> <li>• Changes to habitat</li> </ul>
	Construction and Decommissioning <ul style="list-style-type: none"> <li>• Accidental pollution</li> </ul> Operation and Maintenance <ul style="list-style-type: none"> <li>• Accidental pollution</li> </ul>	<ul style="list-style-type: none"> <li>• Release of contaminants</li> </ul>
	<ul style="list-style-type: none"> <li>• In-combination</li> </ul>	<ul style="list-style-type: none"> <li>• In-combination</li> </ul>

#### 2.1.5 Impacts considered within the screening matrices (Offshore Bird Features)

Designation	Impacts in submission information	Presented in integrity matrices as
European site name/designation SPA/pSPA	Construction and decommissioning <ul style="list-style-type: none"> <li>• Changes to prey availability</li> </ul>	<ul style="list-style-type: none"> <li>• Changes to prey availability</li> </ul>
	Construction and decommissioning <ul style="list-style-type: none"> <li>• Changes to prey availability</li> </ul>	<ul style="list-style-type: none"> <li>• Disturbance</li> </ul>
	Operation and maintenance <ul style="list-style-type: none"> <li>• Collision</li> </ul>	<ul style="list-style-type: none"> <li>• Collision</li> </ul>
	Operation and maintenance <ul style="list-style-type: none"> <li>• Barrier effect</li> </ul>	<ul style="list-style-type: none"> <li>• Barrier</li> </ul>

Designation	Impacts in submission information	Presented in integrity matrices as
	Operation and maintenance <ul style="list-style-type: none"> <li>• Displacement</li> </ul>	<ul style="list-style-type: none"> <li>• Displacement</li> </ul>
	Construction and decommissioning <ul style="list-style-type: none"> <li>• Temporary habitat loss (direct and indirect)</li> </ul> Operation and maintenance <ul style="list-style-type: none"> <li>• Permanent habitat loss</li> </ul>	<ul style="list-style-type: none"> <li>• Habitat loss</li> </ul>
	Construction / decommissioning and operation and maintenance <ul style="list-style-type: none"> <li>• In-combination</li> </ul>	<ul style="list-style-type: none"> <li>• In-combination</li> </ul>



## 2.2 Screening Matrices Sites (stages 1 & 2 )

The European Sites included within the screening assessment are:

### OFFSHORE SACs, pSACs, cSACs and SCIs

- Anse de Vauville SCI (Annex 1 Habitat features)
- Anse de Vauville SCI (Marine mammal features)
- Baie de canche et couloir des trois estuaires SCI (Annex 1 Habitat features)
- Baie de canche et couloir des trois estuaires SCI (Migratory fish features)
- Baie de canche et couloir des trois estuaires SCI (Marine mammal features)
- Baie de Seine occidentale SCI (Annex 1 Habitat features)
- Baie de Seine occidentale SCI (Migratory fish features)
- Baie de Seine occidentale SCI (Marine mammal features)
- Banc et récifs de Surtainville SCI (Annex 1 Habitat features)
- Banc et récifs de Surtainville SCI (Marine mammal features)
- Bancs des Flandres pSCI (Annex 1 Habitat features)
- Bancs des Flandres pSCI (Marine mammal features)
- Berwickshire and North Northumberland Coast SAC (Annex 1 Habitat features)
- Berwickshire and North Northumberland Coast SAC (Marine mammal features)
- Borkum – Riffgrund SCI (Annex 1 Habitat features)
- Borkum – Riffgrund SCI (Migratory fish features)
- Borkum – Riffgrund SCI (Marine mammal features)
- Dogger Bank (UK) (Annex 1 Habitat features)
- Doggerbank (German Dogger Bank) SCI (Annex 1 Habitat features)
- Doggerbank (German Dogger Bank) SCI (Marine mammal features)
- Doggersbank pSCI (Dutch) (Annex 1 Habitat features)
- Doggersbank pSCI (Dutch) (Marine mammal features)
- Dråby Vig SAC (Annex 1 Habitat features)
- Dråby Vig SAC (Migratory fish features)
- Dråby Vig SAC (Marine mammal features)
- Estuaire de la Seine SCI (Annex 1 Habitat features)
- Estuaire de la Seine SCI (Migratory fish features)
- Estuaire de la Seine SCI (Marine mammal features)
- Estuaires et Littoral Picards (baies de Somme et d'Authie) SAC (Annex 1 Habitat features)
- Estuaires et Littoral Picards (baies de Somme et d'Authie) SAC (Migratory fish features)
- Estuaires et Littoral Picards (baies de Somme et d'Authie) SAC (Marine mammal features)
- Falaises du Cran aux oeufs et du cap gris-nez, dunes du chatelet, marais de tardinghen et dunes de wissant SCI (Annex 1 Habitat features)
- Falaises du Cran aux oeufs et du cap gris-nez, dunes du chatelet, marais de tardinghen et dunes de wissant SCI (Marine mammal features)
- Firth of Tay and Eden Estuary (Annex 1 Habitat features)
- Firth of Tay and Eden Estuary (Marine mammal features)
- Flamborough Head (Annex 1 Habitat features)
- Gule Rev pSCI (Annex 1 Habitat features)
- Gule Rev pSCI (Marine mammal features)
- Haisborough, Hammond and Winterton (Annex 1 Habitat features)
- Hamburgisches Wattenmeer SAC (Annex 1 Habitat features)
- Hamburgisches Wattenmeer SAC (Migratory fish features)
- Hamburgisches Wattenmeer SAC (Marine mammal features)
- Helgoland mit Helgoländer Felssockel SAC (Annex 1 Habitat features)
- Helgoland mit Helgoländer Felssockel SAC (Marine mammal features)
- Humber Estuary SAC (Annex 1 Habitat features)
- Humber Estuary SAC (Migratory fish features)



- Humber Estuary SAC (Marine mammal features)
- Inner Dowsing, Race Bank and North Ridge cSAC (Annex 1 Habitat features)
- Klaverbank SCI (Annex 1 Habitat features)
- Klaverbank SCI (Marine mammal features)
- Løgstør Bredning, Vejlerne og Bulbjerg (Annex 1 Habitat features)
- Løgstør Bredning, Vejlerne og Bulbjerg (Migratory fish features)
- Løgstør Bredning, Vejlerne og Bulbjerg (Marine mammal features)
- Moray Firth (Annex 1 Habitat features)
- Moray Firth (Marine mammal features)
- Nationalpark Niedersächsisches Wattenmeer SCI (Annex 1 Habitat features)
- Nationalpark Niedersächsisches Wattenmeer SCI (Migratory fish features)
- Nationalpark Niedersächsisches Wattenmeer SCI (Marine mammal features)
- Noordzeekustzone SAC (Annex 1 Habitat features) (Annex 1 Habitat features)
- Noordzeekustzone SAC (Annex 1 Habitat features) (Migratory fish features)
- Noordzeekustzone SAC (Annex 1 Habitat features) (Marine mammal features)
- North Norfolk Coast SAC (Annex 1 Habitat features)
- North Norfolk Sandbanks and Saturn Reef cSAC (Annex 1 Habitat features)
- NTP S-H Wattenmeer und angrenzende Küstengebiete SCI (Annex 1 Habitat features)
- NTP S-H Wattenmeer und angrenzende Küstengebiete SCI (Migratory fish features)
- NTP S-H Wattenmeer und angrenzende Küstengebiete SCI (Marine mammal features)
- Östliche Deutsche Bucht (Annex 1 Habitat features)
- Östliche Deutsche Bucht (Migratory fish features)
- Östliche Deutsche Bucht (Marine mammal features)
- Récifs et landes de la Hague SCI (Annex 1 Habitat features)
- Récifs et landes de la Hague SCI (Marine mammal features)
- Récifs Gris-Nez Blanc-Nez SCI (Annex 1 Habitat features)
- Récifs Gris-Nez Blanc-Nez SCI (Marine mammal features)
- Ridens et dunes hydrauliques du detroit du pas-de-calais pSCI (Annex 1 Habitat features)
- Ridens et dunes hydrauliques du detroit du pas-de-calais pSCI (Marine mammal features)
- River Derwent SAC (Annex 1 Habitat features)
- River Derwent SAC (Marine mammal features)
- SBZ 1/ ZPS 1 SCI (Annex 1 Habitat features)
- SBZ 1/ ZPS 1 SCI (Migratory fish features)
- SBZ 1/ ZPS 1 SCI (Marine mammal features)
- SBZ 2/ ZPS 2 SCI (Annex 1 Habitat features)
- SBZ 2/ ZPS 2 SCI (Migratory fish features)
- SBZ 2/ ZPS 2 SCI (Marine mammal features)
- SBZ 3/ ZPS 3 SCI (Annex 1 Habitat features)
- SBZ 3/ ZPS 3 SCI (Migratory fish features)
- SBZ 3/ ZPS 3 SCI (Marine mammal features)
- Southern North Sea (Marine mammal features)
- Steingrund SAC (Annex 1 Habitat features)
- Steingrund SAC (Marine mammal features)
- Sydlige Nordsø SAC (Annex 1 Habitat features)
- Sydlige Nordsø SAC (Marine mammal features)
- Sylter Außenriff SCI (Annex 1 Habitat features)
- Sylter Außenriff SCI (Migratory fish features)
- Sylter Außenriff SCI (Marine mammal features)
- The Wash and North Norfolk Coast SAC (Annex 1 Habitat features)
- The Wash and North Norfolk Coast SAC (Marine mammal features)
- Untereibe SCI (Migratory fish features)
- Untereibe SCI (Marine mammal features)
- Vadehavet med Ribe Å, Tved Å og Varde Å vest for Varde SAC (Annex 1 Habitat features)
- Vadehavet med Ribe Å, Tved Å og Varde Å vest for Varde SAC (Migratory fish features)
- Vadehavet med Ribe Å, Tved Å og Varde Å vest for Varde SAC (Marine mammal features)
- Venø, Venø Sund SAC (Annex 1 Habitat features)
- Venø, Venø Sund SAC (Migratory fish features)
- Venø, Venø Sund SAC (Marine mammal features)

- Vlakte van de Raan( pSCI) (Annex 1 Habitat features)
- Vlakte van de Raan( pSCI) (Migratory fish features)
- Vlakte van de Raan( pSCI) (Marine mammal features)
- Vlakte van de Raan (SAC) (Annex 1 Habitat features)
- Vlakte van de Raan (SAC) (Migratory fish features)
- Vlakte van de Raan (SAC) (Marine mammal features)
- Waddenzee (Annex 1 Habitat features)
- Waddenzee (Migratory fish features)
- Waddenzee (Marine mammal features)

## ONSHORE SACs

- Norfolk Valley Fens SAC (Annex 1 Habitat features)
- Norfolk Valley Fens SAC (Annex II species)
- River Wensum SAC (Annex 1 Habitat features)
- River Wensum SAC (Annex II species)
- North Norfolk Coast SAC (Annex 1 Habitat features)
- North Norfolk Coast SAC (Annex II species)
- The Wash and North Norfolk Coast SAC (Annex 1 Habitat features)
- The Wash and North Norfolk Coast SAC (Annex II species)]
- The Broads SAC

## OFFSHORE SPA, pSPAs AND RAMSAR SITES

- Stage 1 Matrix: Abberton Reservoir
- Stage 1 Matrix: Agrarraum und Bergbaufolgelandschaft bei Delitzsch
- Stage 1 Matrix: Benfleet and Southend Marshes
- Stage 1 Matrix: Bergbaufolgelandschaft Bockwitz
- Stage 1 Matrix: Bergbaufolgelandschaft Werben

- Stage 1 Matrix: Binnenboden von Rügen
- Stage 1 Matrix: Blackwater Estuary (Mid-Essex Coast Phase 4)
- Stage 1 Matrix: Breydon Water
- Stage 1 Matrix: Buchan Ness to Collieston Coast
- Stage 1 Matrix: Calf of Eday
- Stage 1 Matrix: Cape Wrath
- Stage 1 Matrix: Colne Estuary (Mid-Essex Coast Phase 2)
- Stage 1 Matrix: Copinsay
- Stage 1 Matrix: Coquet Island SPA
- Stage 1 Matrix: Cromarty Firth
- Stage 1 Matrix: Crouch and Roach Estuaries (Mid-Essex Coast Phase 3)
- Stage 1 Matrix: Deben Estuary
- Stage 1 Matrix: Dengie (Mid-Essex Coast Phase 1)
- Stage 1 Matrix: Diepholzer Moorniederung
- Stage 1 Matrix: Dornoch Firth and Loch Fleet
- Stage 1 Matrix: Dümmer
- Stage 1 Matrix: East Caithness Cliffs
- Stage 1 Matrix: East Sanday Coast
- Stage 1 Matrix: Emsmarsch von Leer bis Emden
- Stage 1 Matrix: Engerser Feld –
- Stage 1 Matrix: Esterweger Dose
- Stage 1 Matrix: Fair Isle
- Stage 1 Matrix: Farne Islands SPA
- Stage 1 Matrix: Fetlar
- Stage 1 Matrix: Firth of Forth
- Stage 1 Matrix: Firth of Tay & Eden Estuary
- Stage 1 Matrix: Flamborough and Filey Coast pSPA/Flamborough Head and Bempton Cliffs
- Stage 1 Matrix: Forth Islands SPA
- Stage 1 Matrix: Foula SPA

- Stage 1 Matrix: Foulness (Mid-Essex Coast Phase 5) SPA
- Stage 1 Matrix: Fowlsheugh SPA
- Stage 1 Matrix: Gibraltar Point SPA
- Stage 1 Matrix: Greifswalder Bodden und südlicher Strelasund SPA
- Stage 1 Matrix: Hamford Water SPA
- Stage 1 Matrix: Handa SPA
- Stage 1 Matrix: Hermaness, Saxa Vord and Valla Field SPA
- Stage 1 Matrix: Hornsea Mere SPA
- Stage 1 Matrix: Hoy SPA
- Stage 1 Matrix: Humber Estuary SPA
- Stage 1 Matrix: Inner Moray Firth SPA
- Stage 1 Matrix: Krammer-Volkerak SPA
- Stage 1 Matrix: Lausitzer Bergbaufolgelandschaft
- Stage 1 Matrix: Lindisfarne
- Stage 1 Matrix: Loch of Strathbeg
- Stage 1 Matrix: Luckauer Becken
- Stage 1 Matrix: Marwick Head
- Stage 1 Matrix: Medway Estuary and Marshes
- Stage 1 Matrix: Montrose Basin
- Stage 1 Matrix: Moray and Nairn Coast
- Stage 1 Matrix: Niedersächsisches Wattenmeer und angrenzendes Küstenmeer
- Stage 1 Matrix: North Caithness Cliffs
- Stage 1 Matrix: North Norfolk Coast SPA
- Stage 1 Matrix: Northumberland Marine potential SPA
- Stage 1 Matrix: Northumbria Coast SPA
- Stage 1 Matrix: Noss SPA
- Stage 1 Matrix: Ostenholzer Moor und Meißendorfer Teiche
- Stage 1 Matrix: Outer Thames Estuary
- Stage 1 Matrix: Papa Stour
- Stage 1 Matrix: Papa Westray (North Hill and Holm)
- Stage 1 Matrix: Ramsar-Gebiet S-H Wattenmeer und angrenzende Küstengebiete
- Stage 1 Matrix: Rietzer See
- Stage 1 Matrix: Rousay
- Stage 1 Matrix: Schorfheide-Chorin
- Stage 1 Matrix: Seevogelschutzgebiet Helgoland
- Stage 1 Matrix: St Abb`s Head to Fast Castle
- Stage 1 Matrix: Stour and Orwell Estuaries
- Stage 1 Matrix: Sule Skerry and Sule Stack
- Stage 1 Matrix: Sumburgh Head
- Stage 1 Matrix: Thames Estuary and Marshes
- Stage 1 Matrix: Thanet Coast and Sandwich Bay
- Stage 1 Matrix: The Greater Wash pSPA
- Stage 1 Matrix: The Swale
- Stage 1 Matrix: The Wash
- Stage 1 Matrix: Tips of Corsemaul and Tom Mor
- Stage 1 Matrix: Troup, Pennan and Lion`s Heads
- Stage 1 Matrix: Untere Elbe
- Stage 1 Matrix: Vogelschutzgebiet 'Unterer Niederrhein'
- Stage 1 Matrix: Vorpommersche Boddenlandschaft und nördlicher Strelasund
- Stage 1 Matrix: Waddenzee
- Stage 1 Matrix: Wesertalaue bei Landesbergen
- Stage 1 Matrix: West Westray
- Stage 1 Matrix: Wismarbucht und Salzhaff
- Stage 1 Matrix: Zwanenwater & Pettemerduinen

## ONSHORE SPAs AND RAMSAR SITES

- Stage 1 Matrix: Broadland Ramsar

- Stage 1 Matrix: Broadland SPA
- Stage 1 Matrix: North Norfolk Coast SPA
- Stage 1 Matrix: North Norfolk Coast Ramsar Site (Annex 1 Habitats)
- Stage 1 Matrix: North Norfolk Coast Ramsar Site

- Stage 2 Matrix : Norfolk Valley Fens SAC (Annex I habitats)

Evidence for likely significant effects on their qualifying features is detailed within the footnotes to the screening matrices below.

Matrix Key:

✓ = Likely significant effect cannot be excluded

✗ = Likely significant effect can be excluded

C = construction

O = operation

D = decommissioning

Where effects are not applicable to a particular feature they are greyed out.

## **STAGE 2 SITES**

- Stage 2 Matrix : Flamborough and Filey Coast pSPA (Ornithological)
- Stage 2 Matrix : Humber Estuary SAC (Annex II marine mammals)
- Stage 2 Matrix : Klaverbank SCI (Annex I habitats)
- Stage 2 Matrix : Klaverbank SCI (Annex II marine mammals)
- Stage 2 Matrix : Noordzeekustzone SAC (Annex II marine mammals)
- Stage 2 Matrix : North Norfolk Sandbanks and Saturn Reef cSAC (Annex I habitats)
- Stage 2 Matrix : Southern north sea cSAC (Annex II marine mammals)
- Stage 2 Matrix : Berwickshire and North Northumberland SAC (Annex II marine mammals)
- Stage 2 Matrix : The Wash and North Norfolk Coast SAC (Annex I habitats)
- Stage 2 Matrix : Doggersbank SCI (Annex II marine mammals)
- Stage 2 Matrix : The Wash and North Norfolk Coast SAC (Annex II marine mammals)
- Stage 2 Matrix : Forth Islands SPA (Ornithological)
- Stage 2 Matrix : Coquet Islands SPA (Ornithological)
- Stage 2 Matrix : Farne Islands SPA (Ornithological)
- Stage 2 Matrix : River Wensum SAC (Annex I habitats)
- Stage 2 Matrix : River Wensum SAC (Annex II species)
- Stage 2 Matrix : North Norfolk Coast SAC (Annex I habitats)
- Stage 2 Matrix : North Norfolk Coast SPA (ornithological)
- Stage 2 Matrix : North Norfolk Coast Ramsar
- Stage 2 Matrix : Greater wash (Ornithological)
- Stage 2 Matrix : Norfolk Valley Fens SAC (Annex II Species)

### 2.3 Stage 1 Matrix : Anse de Vauville SCI (Annex 1 habitat features)

Name of European site: Anse de Vauville SCI												
Distance to array area: 584 km												
Distance to cable route: 422 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

#### Evidence supporting conclusions

- a. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report). No LSE predicted for the Annex 1 habitat feature.

## 2.4 Stage 1 Matrix: Anse de Vauville SCI (Marine mammal features)

Name of European site: Anse de Vauville SCI												
Distance to array area: 584 km												
Distance to cable route: 422 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/Physical injury</i>			<i>Changes to water quality</i>			<i>Changes in prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour porpoise	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Bottlenose dolphin	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.



## 2.5 Stage 1 Matrix: Baie de canche et couloir des trois estuaires SCI (Annex 1 habitat features)

Name of European site: Baie de canche et couloir des trois estuaires SCI												
Distance to array area: 356 km												
Distance to cable route: 264km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Estuaries	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Mudflats and sandflats not covered by seawater at low tide	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Annual vegetation of drift lines	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site does not fall within the project zone of influence. No LSE predicted for the Annex 1 habitat feature.



## 2.6 Stage 1 Matrix: Baie de canche et couloir des trois estuaires SCI (Migratory fish features)

Name of European site: Baie de canche et couloir des trois estuaires SCI												
Distance to array area: 356 km												
Distance to cable area: 264 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
River lamprey	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Sea lamprey	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Shad spp.	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salmon	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or the Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish features.

## 2.7 Stage 1 Matrix: Baie de canche et couloir des trois estuaires SCI (Marine mammal features)

Name of European site: Baie de canche et couloir des trois estuaires SCI												
Distance to array area: 356 km												
Distance to cable route: 264 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/Physical injury</i>			<i>Changes to water quality</i>			<i>Changes in prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour porpoise	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). There is no LSE predicted for the marine mammal features.

## 2.8 Stage 1 Matrix: Baie de Seine occidentale SCI (Annex 1 habitat features)

Name of European site: Baie de Seine occidentale SCI												
Distance to array area: 522 km												
Distance to cable route: 402 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Large shallow inlets and bays	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site is not within the zone of influence of the project. Therefore no LSE is predicted for the Annex 1 habitat feature.

## 2.9 Stage 1 Matrix : Baie de Seine occidentale SCI (Migratory fish features)

Name of European site: Baie de Seine occidentale SCI												
Distance to array area: 522 km												
Distance to cable route: 402 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In-combination</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
River lamprey	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Sea lamprey	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Shad spp.	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salmon	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- b. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or the Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.

## 2.1 Stage 1 Matrix: Baie de Seine occidentale SCI (Marine mammal features)

Name of European site: Baie de Seine occidentale SCI												
Distance to array area: 522 km												
Distance to cable route: 402 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/Physical injury</i>			<i>Changes to water quality</i>			<i>Changes in prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal,	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour seal,	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour porpoise,	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Bottlenose dolphin	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

## 2.2 Stage 1 Matrix: Banc et récifs de Surtainville SCI (Annex 1 habitat features)

Name of European site: Banc et récifs de Surtainville SCI												
Distance to array area: 564 km												
Distance to cable route: 438 km												
European site features	Likely Effects of Hornsea Three											
	<i>Changes to habitat</i>			<i>Changes to water quality</i>			<i>Changes to physical processes</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.3 Stage 1 Matrix: Banc et récifs de Surtainville SCI (Marine mammal features)

Name of European site: Banc et récifs de Surtainville SCI												
Distance to array area: 564 km												
Distance to cable route: 438 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/Physical injury</i>			<i>Changes to water quality</i>			<i>Changes in prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal,	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour seal,	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour porpoise,	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Bottlenose dolphin	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.



## 2.4 Stage 1 Matrix: Bancs des Flandres pSCI (Annex 1 habitat features)

Name of European site: Bancs des Flandres pSCI												
Distance to array area: 266 km												
Distance to cable route: 191 km												
European site features	Likely Effects of Hornsea Three											
	<i>Changes to habitat</i>			<i>Changes to water quality</i>			<i>Changes to physical processes</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the pSCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site does not sit within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature

## 2.5 Stage 1 Matrix: Bancs des Flandres pSCI (Marine mammal features)

Name of European site: Bancs des Flandres pSCI												
Distance to array area: 266 km												
Distance to cable route: 191 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/Physical injury</i>			<i>Changes to water quality</i>			<i>Changes in prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour porpoise	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

## 2.6 Stage 1 Matrix: Berwickshire and North Northumberland Coast SAC (Annex 1 habitat features)

Name of European site: Berwickshire and North Northumberland Coast SAC												
Distance to array area: 283 km												
Distance to cable route: 287 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Mudflats and sandflats not covered by seawater at low tide	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Large shallow inlets and bays	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Submerged or partially submerged sea caves	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site does not sit within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.7 Stage 1 Matrix: Berwickshire and North Northumberland Coast SAC (Marine mammal features)

Name of European site: Berwickshire and North Northumberland Coast SAC												
Distance to array area: 283 km												
Distance to cable route: 287 km												
European site features	Likely Effects of Hornsea Three											
	Behavioural disturbance/Physical injury			Changes to water quality			Changes in prey availability			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	✓a	Xb	Xc	Xd	Xd	Xd	Xe	Xf	Xe	✓a	X b,d,f	X c, d, e

### Evidence supporting conclusions:

- There is potential for a LSE in respect of behavioural disturbance associated with construction noise (See paragraphs 5.3.2 to 5.3.9 of HRA Screening Report). Whilst the grey seal population of the Berwickshire and North Northumberland Coast SAC is located at a considerable distance (242 km) from Subzone 2, it has been identified that there is potential connectivity between its grey seal population and Project Three. (See paragraphs 5.3.62 to 5.3.66 and Table 5.3).
- With regard to operational underwater turbine noise a behavioural response is only likely within close proximity to turbines and no LSE is predicted (See paragraphs 5.3.36 to 5.3.39 of **HRA Screening Report**). Given the anticipated localised effects of disturbance associated with vessel traffic and the wide distribution range of Annex II marine mammals species, any impacts would be expected to be very limited and LSEs on marine mammals associated with vessel noise are not anticipated alone or in-combination (See paragraphs 5.3.41 to 5.3.43). There is little potential for the increased vessel activity to result in a significant impact in terms of collision risk with vessels and potential corkscrew injuries and no LSEs are predicted either alone or in-combination (See paragraphs 5.3.44 to 5.3.50). EMF effects will be localised within the immediate vicinity of the cables and no LSEs are predicted either alone or in-combination (See paragraphs 5.3.51 to 5.3.54).
- During decommissioning piling will not be required. The noise resulting from wind turbine decommissioning is unlikely to result in any injury, avoidance or significant disturbance to marine mammals and no LSE is predicted either alone or in-combination (see paragraph 5.3.9 of HRA Screening Report). As per Construction, No LSEs have been identified with regard to vessel noise (See paragraphs 5.3.10) and collision risk (See paragraphs 5.3.13 to 5.3.20) during Decommissioning.
- During Construction and Decommissioning, potential impacts associated with increased suspended sediment concentrations will be short term, intermittent and localised. Marine mammals frequently occur in relatively turbid areas and therefore are adapted to find prey in such conditions. Furthermore, they possess mechanisms to detect prey through means other than visual detection (See paragraphs 5.3.21 to 5.3.25 of **HRA Screening Report**). No LSE is predicted with regard to increased suspended sediment concentrations either alone or in-combination (See paragraph 5.3.25). A number of mitigation measures and best practice approaches will be implemented during the Construction and Decommissioning and Operation phases to mitigate potential impacts associated with potential accidental pollution events. Taking adherence to such approaches, LSEs on Annex II marine mammal qualifying features associated with accidental release of pollutants are not anticipated to arise during any phase of the Project (See paragraphs 5.3.26 to 5.3.28 and 5.3.55 to 5.3.56).
- During Construction and Decommissioning, potential impacts on prey species have been identified with regard to habitat disturbance, increased suspended sediments and underwater noise for prey species (See paragraphs 5.3.29 to 5.3.35 of HRA Screening Report). No potential impacts have been identified with regard to accidental pollution events (See paragraph 5.3.34) Whilst an impact pathway has been identified, the potential loss of prey as a result of Project Three would be expected to be minimal. The potential impacts identified on fish receptors will be localised, short term and reversible. Furthermore, the fish community found in Project Three is characteristic of the fish and shellfish assemblage of the wider region and therefore marine mammals would be able to exploit similar resources in adjacent undisturbed areas. As such, LSEs associated with changes in prey availability are not anticipated to arise as a result of Project Three, either alone or in-combination with other plans and projects (See paragraph 5.3.35).
- Whilst an impact pathway has been identified (See paragraphs 5.3.57 to 5.3.61 of HRA Screening Report), the potential loss of prey as a result of Project Three during Operation would be expected to be minimal and highly localised. There may be increased feeding opportunities within Project Three as a result of potential reef effects and reduction in fishing activity. Furthermore, the fish community found in Project Three is characteristic of the fish and shellfish assemblage of

the wider region and therefore marine mammals would be able to exploit similar resources in adjacent undisturbed areas. LSEs associated with changes in prey availability are not anticipated to arise on marine mammals as a result of Project Three, either alone or in-combination with other plans or projects. (See paragraphs 5.3.57 to 5.3.61).

## 2.8 Stage 1 Matrix: Borkum – Riffgrund SCI (Annex I habitat features)

Name of European site: Borkum – Riffgrund SCI												
Distance to array area: 221 km												
Distance to cable route: 221 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	<i>Changes to habitat</i>			<i>Changes to water quality</i>			<i>Changes to physical processes</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site does not sit within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.9 Stage 1 Matrix: Borkum – Riffgrund SCI (Migratory fish features)

Name of European site: Borkum – Riffgrund SCI												
Distance to array area: 221 km												
Distance to cable route: 221 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Twaite shad	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or the Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.



## 2.10 Stage 1 Matrix: Borkum – Riffgrund SCI (Marine mammal features)

Name of European site: Borkum – Riffgrund SCI												
Distance to array area: 221 km												
Distance to cable route: 221 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour porpoise	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

## 2.11 Stage 1 Matrix: The Broads SAC (Annex II species)

Name of European site: The Broads SAC												
Distance to array area: Not relevant												
Distance to cable route: 5 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Release of contaminants			Invasive species			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Otter <i>Lutra lutra</i>	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Desmoulin's whorl snail <i>Vertigo moulinsiana</i>	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Little whirpool ram's-horn snail <i>Anisus Vorticulus</i>	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Fen orchid <i>Liparis loeselii</i>	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusion

- a. The Broads SAC was considered in HRA Screening due to its proximity to the Hornsea Three offshore cable corridor (see section 6.2 of the HRA Screening report and figure 5.17). Onshore cable corridor refinement has resulted in there being no pathway for effect between Hornsea Three and the Broads SAC (as agreed through the Evidence Plan process).

2.12 Stage 1 Matrix: Dogger Bank (UK) SAC (Annex 1 habitat features)

Name of European site: Dogger Bank UK												
Distance to array area: 29 km												
Distance to cable route:33												
European site features	Likely Effects of Hornsea Three											
	<i>Changes to habitat</i>			<i>Changes to water quality</i>			<i>Changes to physical processes</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site does not sit within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.13 Stage 1 Matrix: Doggerbank (German Dogger Bank) SCI (Annex I habitat features)

Name of European site: Doggerbank (German Dogger Bank) SCI												
Distance to array area: 183 km												
Distance to cable route: 204 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	<i>Changes to habitat</i>			<i>Changes to water quality</i>			<i>Changes to physical processes</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Sandbanks which are slightly covered by sea water all the time	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site does not sit within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.14 Stage 1 Matrix: Doggerbank SCI (Germany) (Marine mammal features)

Name of European site: Doggerbank (German Dogger Bank) SCI												
Distance to array area: 183 km												
Distance to cable route: 204 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	<b>Xa</b>	<b>Xb</b>	<b>Xa</b>	<b>Xc</b>	<b>Xc</b>	<b>Xc</b>	<b>Xd</b>	<b>Xd</b>	<b>Xd</b>	<b>Xa, c, d</b>	<b>Xb, c, d</b>	<b>Xa, c, d</b>
Harbour porpoise	<b>Xa</b>	<b>Xb</b>	<b>Xa</b>	<b>Xc</b>	<b>Xc</b>	<b>Xc</b>	<b>Xd</b>	<b>Xd</b>	<b>Xd</b>	<b>Xa, c, d</b>	<b>Xb, c, d</b>	<b>Xa, c, d</b>

### Evidence supporting conclusions:

- a. Doggerbank (German Dogger Bank) SCI is located a considerable distance from the array area (183 km) and offshore Hornsea Three offshore cable corridor (204 km) (see Table 5.10 of **HRA Screening Report**) therefore, no potential LSE is anticipated concerning the impact on harbour porpoises at this site from underwater noise associated with Hornsea Three; It is located beyond the JNCC agreed 26km safety boundary (see paragraphs 6.2. 41 – 6. 2. 42, and Table 6.4. of HRA Screening Report ). No potential for LSE are anticipated, regarding interaction between harbour seals at this site and underwater noise associated with Hornsea Three (see Table 5.10 of HRA Screening Report), as Dogger bank SCI is located beyond the 120km boundary, which establishes the potential for direct and indirect effects on foraging trips (see paragraphs 6.2.43, and Table 6.5 of HRA Screening Report). With regard to additional vessel noise affecting behavioural disturbance to, both, harbour seals and porpoises No LSE is expected, as construction/decommissioning would be relatively small in the context of baseline shipping activity in the area (Table 6.7 of HRA Screening Report). Doggerbank (German Dogger bank) SCI experiences high levels of commercial shipping and fishing vessel activity therefore marine mammals have become habituated to vessel noise. No LSE are anticipated in terms of vessel collision risk for marine mammals, as a relatively small increase in vessel traffic is associated with the construction/decommissioning of Hornsea Three (Table 6.8 of HRA Screening Report).
- b. No LSE on marine mammals is anticipated in relation to behavioural disturbance/physical injury associated with the operation phase of Hornsea Three. Given the low level and limited spatial extent of the radiated noise, the risk of behavioural impacts on marine mammals would be limited to the immediate vicinity of the turbines (see paragraphs 6.2.74 – 6.2.77, HRA Screening Report). No LSE regarding vessel noise is anticipated for marine mammals during the operation phase of Hornsea Three on the basis vessel movement during operation would be relatively small in the context of baseline shipping activity in the area (Table 6.15, HRA Screening Report). No LSEs are anticipated in terms of vessel collision risk for marine mammals, as a relatively small increase in vessel traffic is associated with the operation phase of Hornsea Three (Table 6.16 of HRA Screening Report). With regard to Electro-magnetic Fields (EMFs) No LSE on marine mammals are anticipated, with effects being very localised and short-term (see paragraphs 6.2.88 – 6.2.90, and Table 6.17, HRA Screening Report).
- c. No LSEs on marine mammals are anticipated in relation to changes in water quality associated with suspended sediment and accidental pollution, during any stage of development; construction, decommissioning (Table 6.9 & 6.10, HRA Screening Report), and operation (Table 6.18, HRA Screening Report), of Hornsea Three.
- d. No LSE on marine mammals is anticipated in relation to changes in prey availability associated with the construction, decommissioning (Table 6.11 & 6.12, HRA Screening Report), and operation (Table 6.19, HRA Screening Report) of Hornsea Three.

2.15 Stage 1 Matrix: Doggersbank SCI (The Netherlands) (Annex 1 habitat features)

Name of European site: Doggersbank SCI												
Distance to array area: 42 km												
Distance to cable route: 58 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to Fishing Activity			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site does not sit within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.16 Stage 1 Matrix: Doggersbank SCI (Marine mammal features)

Name of European site: Doggersbank SCI												
Distance to array area: 42 km												
Distance to cable route: 58 km												
European site features	Likely Effects of Hornsea Three											
	Behavioural disturbance/Physical injury			Changes to water quality			Changes in prey availability			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	✓a	Xg	✓a	✓c, Xd	✓c, Xd	✓c, Xd	Xe	Xe	Xe	✓f	✓f	✓f
Harbour seal	✓a	Xg	✓a	✓c, Xd	✓c, Xd	✓c, Xd	Xe	Xe	Xe	✓f	✓f	✓f
Harbour porpoise	✓b	Xg	✓b	✓c, Xd	✓c, Xd	✓c, Xd	Xe	Xe	Xe	✓f	✓f	✓f

### Evidence supporting conclusions:

- a. It is considered that there is potential for connectivity between underwater-noise during construction/decommissioning of Hornsea Three and marine mammals associated with Doggersbank SCI, which include: Harbour Seals (see Table 6.5, HRA Screening Report) and Grey seal (see Table 6.6, HRA Screening Report) during construction and decommissioning phases. Doggersbank SCI is located in the proximity of the array area (42 km) and offshore Hornsea Three offshore cable corridor (58 km) (see Table 5.10, HRA Screening Report), meaning this site is within the limits of potentially causing impact on marine mammals. Based on studies and recent research using The Wash European site haul-out, it has been determined that harbour seals forage between 75km – 120km offshore to assume foraging locations (see paragraph 6.2.43, HRA Screening Report). As this particular European site is within this limit potential for LSEs, whether direct or indirect, on foraging trips are anticipated (see paragraph 6.2.43, HRA Screening Report). Furthermore, Grey seals have foraging ranges of up to 145km, therefore as this site is within this limit, potential for LSEs in terms of behavioural changes to grey seals are anticipated (see paragraphs 6.2.44 – 6.2.46, HRA Screening Report). There is therefore potential for significant interaction between harbour seals and grey seals at this site and underwater noise associated with Hornsea Three (see Tables 6.5 & 6.6, HRA Screening Report).
- b. Although noise related impacts were screened out within the HRA Screening Report following discussion with the Marine Mammal expert working group it was agreed that impacts on harbour porpoise should be assessed further within the RIAA (see Section 3.4.3 of the RIAA.)
- c. Potential for an LSE in relation to accidental pollution during construction, operation and decommissioning (see section 3.4 of the RIAA).
- d. No LSEs on marine mammals are anticipated in relation to changes in water quality associated with suspended sediment, during any stage of development (Table 6.9 & 6.10, HRA Screening Report), and operation (Table 6.18, HRA Screening Report), of Hornsea Three.
- e. No potential LSE on harbour porpoise, harbour seals and grey seals are anticipated in relation to changes in prey availability, during the construction, operation and decommissioning (Table 6.12 & 6.13, HRA Screening Report and Section 3.4.3 of the RIAA).
- f. An LSE is predicted for these features from the Project alone and therefore further assessment of in-combination impacts is required.
- g. Following consultation on the HRA Screening Report it was agreed that the potential LSE of vessel noise and collision risk would be assessed for each interest feature that is screened in to the assessment (see section 3.4 of the RIAA).

## 2.17 Stage 1 Matrix Dråby Vig SAC (Annex I habitat features)

Name of European site: Dråby Vig SAC												
Distance to array area: 503 km												
Distance to cable route: 522 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Mudflats and sandflats not covered by seawater at low tide	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Coastal lagoons	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Large shallow inlets and bays	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Annual vegetation of drift lines	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Perennial vegetation of stony banks	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Salicornia and other annuals colonizing mud and sand	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritima</i> )	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Fixed coastal dunes with herbaceous vegetation ("grey dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Semi-natural dry grasslands and scrubland facies on calcareous substrates ( <i>Festuco-Brometalia</i> ) (* important orchid sites)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Species-rich <i>Nardus</i> grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Petrifying springs with tufa formation ( <i>Cratoneurion</i> )	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Alkaline fens	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site does not sit within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.



2.18 Stage 1 Matrix: Dråby Vig SAC (Migratory fish features)

Name of European site: Dråby Vig SAC												
Distance to array area: 503 km												
Distance to cable route: 522 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Twaiite shad	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.

## 2.19 Stage 1 Matrix: Dråby Vig SAC (Marine mammal features)

Name of European site: Dråby Vig SAC												
Distance to array area: 503 km												
Distance to cable route: 522 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Harbour seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour porpoise	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.20 Stage 1 Matrix : Estuaire de la Seine SCI (Annex 1 habitat features)

Name of European site: Estuaire de la Seine SCI												
Distance to array area: 495 km												
Distance to cable route: 378 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Estuaries	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Mudflats and sandflats not covered by seawater at low tide	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Annual vegetation of drift lines	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Perennial vegetation of stony banks	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Salicornia and other annuals colonizing mud and sand	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salt meadows (Glauco-Puccinellietalia maritima)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Embryonic shifting dunes	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Fixed coastal dunes with herbaceous vegetation ("grey dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Dunes with Hippophaë rhamnoides	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Wooded dunes of the Atlantic, Continental and Boreal region	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Humid dune slacks	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

Name of European site: Estuaire de la Seine SCI												
Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Caves not open to the public	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robur-petraeae or Ilici-Fagenion)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Asperulo-Fagetum beech forests	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Tilio-Acerion forests of slopes, screes and ravines	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions**

- a. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site does not sit within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.21 Stage 1 Matrix: Estuaire de la Seine SCI (Migratory fish features)

Name of European site: Estuaire de la Seine SCI												
Distance to array area: 495 km												
Distance to cable route: 378 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
River lamprey	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Sea lamprey	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Shad spp.	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salmon	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.

## 2.22 Stage 1 Matrix: Estuaire de la Seine SCI (Marine mammal features)

Name of European site: Estuaire de la Seine SCI												
Distance to array area: 495 km												
Distance to cable route: 378 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/Physical injury</i>			<i>Changes to water quality</i>			<i>Changes in prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour porpoise	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.23 Stage 1 Matrix: Estuaires et Littoral Picards (baies de Somme et d'Authie) SAC (Annex 1 habitat features)

Name of European site: Estuaires et Littoral Picards (baies de Somme et d'Authie) SAC												
Distance to array area: 377 km												
Distance to cable route: 285 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Estuaries	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Mudflats and sandflats not covered by seawater at low tide	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Coastal lagoons	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Annual vegetation of drift lines	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Perennial vegetation of stony banks	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Vegetated sea cliffs of the Atlantic and Baltic Coasts	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Salicornia and other annuals colonizing mud and sand	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salt meadows (Glaucopuccinellietalia maritima)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Embryonic shifting dunes	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Fixed coastal dunes with herbaceous vegetation ("grey dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Dunes with Hippophaë rhamnoides	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Dunes with Salix repens ssp. argentea (Salicion arenariae)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Wooded dunes of the Atlantic, Continental and Boreal region	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa



Name of European site: Estuaires et Littoral Picards (baies de Somme et d'Authie) SAC												
Humid dune slacks	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Alkaline fens	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site does not sit within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.24 Stage 1 Matrix: Estuaires et Littoral Picards (baies de Somme et d'Authie) SAC (Migratory fish features)

Name of European site: Estuaires et Littoral Picards (baies de Somme et d'Authie) SAC												
Distance to array area: 377 km												
Distance to cable route: 285 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
River lamprey	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.

## 2.25 Stage 1 Matrix: Estuaires et Littoral Picards (baies de Somme et d'Authie) SAC (Marine mammal features)

Name of European site: Estuaires et Littoral Picards (baies de Somme et d'Authie) SAC												
Distance to array area: 377 km												
Distance to cable route: 285 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/Physical injury</i>			<i>Changes to water quality</i>			<i>Changes in prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal,	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour seal,	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour porpoise	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Bottlenose dolphin	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.26 Stage 1 Matrix: Falaises du Cran aux oeufs et du cap gris-nez, dunes du chatelet, marais de tardinghen et dunes de wissant SCI (Annex 1 habitat features)

Name of European site: Falaises du Cran aux oeufs et du cap gris-nez, dunes du chatelet, marais de tardinghen et dunes de wissant SCI												
Distance to array area: 319 km												
Distance to cable route: 229 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Mudflats and sandflats not covered by seawater at low tide	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Vegetated sea cliffs of the Atlantic and Baltic Coasts	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Embryonic shifting dunes	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Fixed coastal dunes with herbaceous vegetation ("grey dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Dunes with <i>Hippophaë rhamnoides</i>	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Dunes with <i>Salix repens</i> ssp. <i>argentea</i> ( <i>Salicion arenariae</i> )	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Wooded dunes of the Atlantic, Continental and Boreal region	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Humid dune slacks	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or of the <i>Isoëto-Nanojuncetea</i>	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

Name of European site: Falaises du Cran aux oeufs et du cap gris-nez, dunes du chatelet, marais de tardingen et dunes de wissant SCI												
Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Petrifying springs with tufa formation (Cratoneurion)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Alkaline fens	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site does not sit within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

2.27 Stage 1 Matrix: Falaises du Cran aux oeufs et du cap gris-nez, dunes du chatelet, marais de tardinghen et dunes de wissant SCI (Marine mammal features)

Name of European site: Falaises du Cran aux oeufs et du cap gris-nez, dunes du chatelet, marais de tardinghen et dunes de wissant SCI												
Distance to array area: 319 km												
Distance to cable route: 229 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/Physical injury</i>			<i>Changes to water quality</i>			<i>Changes in prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal,	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour seal,	Xb	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour porpoise,	✓c	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Bottlenose dolphin	Xi	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.28 Stage 1 Matrix: Firth of Tay and Eden SAC (Annex I habitat features)

Name of European site: Firth of Tay and Eden SAC												
Distance to array area: 412 km												
Distance to cable route: 416 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Estuaries	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Mudflats and sandflats not covered by seawater at low tide	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site does not sit within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.



## 2.29 Stage 1 Matrix: Firth of Tay and Eden SAC (Marine mammal features)

Name of European site: Firth of Tay and Eden SAC												
Distance to array area: 412 km												
Distance to cable route: 416 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Harbour seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.30 Stage 1 Matrix: Flamborough Head SAC (Annex 1 habitat features)

Name of European site: Flamborough Head SAC												
Distance to array area: 144 km												
Distance to cable route: 135 km												
European site features	Likely Effects of Hornsea Three											
	Changed to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Vegetated sea cliffs of the Atlantic and Baltic Coasts	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Submerged or partially submerged sea caves	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site does not sit within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

2.31 Stage 1 Matrix: Gule Rev pSCI (Annex I habitat features)

Name of European site: Gule Rev pSCI												
Distance to array area: 489 km												
Distance to cable route: 512 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	<i>Changes to habitat</i>			<i>Changes to water quality</i>			<i>Changes to physical processes</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the pSCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site does not sit within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.32 Stage 1 Matrix: Gule Rev pSCI (Marine mammal features)

Name of European site: Gule Rev pSCI												
Distance to array area: 489 km												
Distance to cable route: 512 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the pSCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

### 2.33 Stage 1 Matrix: Haisborough, Hammond and Winterton SAC (Annex 1 habitat features)

Name of European site: Haisborough, Hammond and Winterton SAC												
Distance to array area: 90 km												
Distance to cable route: 3 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. Originally screened in, offshore cable corridor reroutes mean that no direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment, as the site does not sit within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.34 Stage 1 Matrix: Hamburgisches Wattenmeer SAC (Annex I habitat features)

Name of European site: Hamburgisches Wattenmeer SAC												
Distance to array area: 359 km												
Distance to cable route: 364 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Mudflats and sandflats not covered by seawater at low tide	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Large shallow inlets and bays	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Annual vegetation of drift lines	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Salicornia and other annuals colonizing mud and sand	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Spartina swards (Spartinion maritima)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salt meadows (Glauco-Puccinellietalia maritima)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Embryonic shifting dunes	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Fixed coastal dunes with herbaceous vegetation ("grey dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Humid dune slacks	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site does not sit within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.35 Stage 1 Matrix: Hamburgisches Wattenmeer SAC (Migratory fish features)

<b>Name of European site: Hamburgisches Wattenmeer SAC</b>												
Distance to array area: 359 km												
Distance to cable route: 364 km												
<b>SAC marine mammal features</b>	<b>Likely Effects of Hornsea Three</b>											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Twaite shad	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
River lamprey	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Sea lamprey	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.



2.36 Stage 1 Matrix: Hamburgisches Wattenmeer SAC (Marine mammal features)

Name of European site: Hamburgisches Wattenmeer SAC												
Distance to array area: 359 km												
Distance to cable route: 364 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour porpoise	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.37 Stage 1 Matrix: Helgoland mit Helgoländer Felssockel SAC (Annex I habitat features)

Name of European site: Helgoland mit Helgoländer Felssockel SAC												
Distance to array area: 334 km												
Distance to cable route: 334 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Annual vegetation of drift lines	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Perennial vegetation of stony banks	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Vegetated sea cliffs of the Atlantic and Baltic Coasts	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Embryonic shifting dunes	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Fixed coastal dunes with herbaceous vegetation ("grey dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Dunes with <i>Hippophaë rhamnoides</i>	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report). No LSE predicted for the Annex 1 habitat feature.

2.38 Stage 1 Matrix: Helgoland mit Helgoländer Felssockel SAC (Marine mammal features)

Name of European site: Helgoland mit Helgoländer Felssockel SAC												
Distance to array area: 334 km												
Distance to cable route: 334 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour porpoise	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

## 2.39 Stage 1 Matrix: Humber Estuary SAC (Annex 1 habitat features)

Name of European site: Humber Estuary SAC												
Distance to array area: 141 km												
Distance to cable route: 67 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to Fishing Activity			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Estuaries	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Mudflats and sandflats not covered by seawater at low tide	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Coastal lagoons	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Salicornia and other annuals colonizing mud and sand	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritima</i> )	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Embryonic shifting dunes	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Fixed coastal dunes with herbaceous vegetation (grey dunes)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Dunes with <i>Hippophae rhamnoides</i>	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site does not sit within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.40 Stage 1 Matrix: Humber Estuary SAC (Migratory fish features)

Name of European site: Humber Estuary SAC															
Distance to array area: 141 km															
Distance to cable route: 67 km															
European site features	Likely Effects of Hornsea Three														
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>Changes in fishing activity</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
River lamprey	Xa	Xa	Xa	Xb,c	Xb,c	Xb,c	Xd	Xd	Xd				Xe	Xe	Xe
Sea lamprey	Xa	Xa	Xa	Xb,c	Xb,c	Xb,c	Xd	Xd	Xd				Xe	Xe	Xe

### Evidence supporting conclusions

- There is limited potential interaction between the lamprey protected features and the construction, operational and decommissioning works, given their preference for estuarine/coastal environments and the distance to both the offshore cable corridor and the array area. There is no LSE which has been identified for underwater noise (see section 6.2.14 – 6.2.17 and Table 6.2 of the HRA Screening Report).
- In respect of elevated suspended sediment concentrations, lamprey populations of the Humber Estuary SAC may be disturbed during migration along the estuary and its vicinity in relation to export cable installation activities. However there is limited potential interaction between the qualifying features and construction works given their preference for estuarine/coastal environments and the distance to both the offshore Hornsea Three offshore cable corridor and array area. No LSE as a result of Project Three (See (See paragraphs 5.3.10 to 5.3. 12, and Table 6.2 of HRA Screening Report).
- With regard to accidental pollution events, there is limited potential interaction between the qualifying features and Hornsea Three given their preference for estuarine/coastal environments and the distance to both the offshore Hornsea Three offshore cable corridor and array area. A number of mitigation measures and best practice approaches will be implemented during the all project phases (See paragraphs 5.3.10 to 5.3. 12, and Table 6.2 of HRA Screening Report). No LSE is anticipated with regard to this during construction, operation or decommissioning.
- Given the limited potential interaction between the qualifying features and the construction, operation and decommissioning works, due to their preference for estuarine/coastal environments and the distance to both the offshore cable corridor and the array area, no LSE has been identified for temporary habitat loss/disturbance, long-term habitat loss, EMFs or colonisation of hard substrates (see section 6.2.14 – 6.2.17 and Table 6.2 of the HRA Screening Report).
- Given the limited potential interaction between the qualifying features and the construction, operation and decommissioning works no LSE has been identified for Hornsea Three no in-combination with other plans and projects.

## 2.41 Stage 1 Matrix: Humber Estuary SAC (Marine mammal features)

Name of European site: Humber Estuary SAC												
Distance to array area: 141 km												
Distance to cable route: 67 km												
European site features	Likely Effects of Hornsea Three											
	Behavioural disturbance/Physical injury			Changes to water quality			Changes in prey availability			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	✓a,b	✓b Xc,h	✓b	✓d Xe	✓d Xe	✓d Xe	Xf	Xf	Xf	✓g	✓g	✓g

### Evidence supporting conclusions:

- It is considered that there is potential for connectivity between underwater noise during construction of Hornsea Three and marine mammals associated with Humber Estuary SAC (see Table 6.6, HRA Screening Report). This is due to the proximity of this site to the array area (141km). Grey seals have foraging ranges of up to 145km, therefore as this site is within this limit, potential for LSEs in terms of behavioural changes to grey seals are anticipated (see paragraphs 6.2.44 – 6.2.46, HRA Screening Report).
- No LSE was predicted for vessel noise and vessel collision during the HRA Screening Phase (see Section 6.2 of the HRA Screening Report), however, following consultation with the Marine Mammal EWG it was agreed that potential effects of vessel noise and collision should be assessed in the RIAA (see Section 3.4.3 of the RIAA).
- With regard to Electro-magnetic Fields (EMFs) no LSE on marine mammals are anticipated, with any potential effects being very localised and short-term (see paragraphs 6.2.88 – 6.2.90, and Table 6.17, HRA Screening Report).
- No LSE was predicted for accidental pollution events during the HRA Screening Phase (see Section 6.2 of the HRA Screening Report), however, following consultation with the Marine Mammal EWG it was agreed that potential effects of accidental pollution should be assessed in the RIAA (see Section 3.4.3 of the RIAA).
- Taking into account the localised and intermittent nature of construction activities as well as the relatively wide foraging and distribution range of marine mammal species, no LSE has been identified in relation to increased suspended sediments (see section 6.2 of the HRA Screening Report).
- Potential LSEs on Grey Seals were identified in relation to changes in prey availability, during construction/decommissioning (see Table 6.13, HRA Screening Report). However through consultation on the Scoping Response and the Evidence Plan it was agreed that this impact would be considered further pending outcomes of investigations into marine processes effects. No significant effect has been identified within the Marine Processes assessment, or in turn within the fish and shellfish ecology assessments (Environmental Statement volume 2, chapters 1 and 3) and as such potential effects on prey availability have been screened out of the RIAA (see section 3.4.3 of the RIAA).
- An LSE is predicted for these features from the Project alone and therefore further assessment of in-combination impacts is required.
- No LSE has been identified for operation noise as studies have shown to date that significant behavioural responses are unlikely to occur (see section 6.2 of the HRA Screening Report).

## 2.42 Stage 1 Matrix: Humber Estuary Ramsar (Marine mammal features)

Name of European site: Humber Ramsar SAC												
Distance to array area: 141 km												
Distance to cable route: 67 km												
European site features	Likely Effects of Hornsea Three											
	Behavioural disturbance/Physical injury			Changes to water quality			Changes in prey availability			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	✓a,b	✓b,c	✓a,b	✓d Xe	✓d Xe	✓d Xe	Xf	Xf	Xf	✓g	✓g	✓g

### Evidence supporting conclusions

- a. It is considered that there is potential for connectivity between underwater noise during construction/decommissioning of Hornsea Three and marine mammals associated with Humber Estuary Ramsar (see Table 6.6, HRA Screening Report). This is due to the proximity of this site to the array area (141km). Grey seals have foraging ranges of up to 145km, therefore as this site is within this limit, potential for LSEs in terms of behavioural changes to grey seals are anticipated (see paragraphs 6.2.44 – 6.2.46, HRA Screening Report).
- b. No LSE was predicted for vessel noise and vessel collision during the HRA Screening Phase (see Section 6.2 of the HRA Screening Report), however, following consultation with the Marine Mammal EWG it was agreed that potential effects of vessel noise and collision should be assessed in the RIAA (see Section 3.4.3 of the RIAA).
- c. With regard to Electro-magnetic Fields (EMFs) no LSE on marine mammals are anticipated, with any potential effects being very localised and short-term (see paragraphs 6.2.88 – 6.2.90, and Table 6.17, HRA Screening Report).
- d. No LSE was predicted for accidental pollution events during the HRA Screening Phase (see Section 6.2 of the HRA Screening Report), however, following consultation with the Marine Mammal EWG it was agreed that potential effects of accidental pollution should be assessed in the RIAA (see Section 3.4.3 of the RIAA).
- e. Taking into account the localised and intermittent nature of construction activities as well as the relatively wide foraging and distribution range of marine mammal species, no LSE has been identified in relation to increased suspended sediments (see section 6.2 of the HRA Screening Report).
- f. Potential LSEs on Grey Seals are anticipated in relation to changes in prey availability, during construction/decommissioning (see Table 6.13, HRA Screening Report). However through consultation on the Scoping Response and the Evidence Plan it was agreed that this impact would be considered further pending outcomes of investigations into marine processes effects. No significant effect has been identified within the Marine Processes assessment, or in turn within the fish and shellfish ecology assessments (Environmental Statement volume 2, chapters 1 and 3) and as such potential effects on prey availability have been screened out of the RIAA (see section 3.4.3 of the RIAA).
- g. An LSE is predicted for these features from the Project alone and therefore further assessment of in-combination impacts is required.



2.43 Stage 1 Matrix: Inner Dowsing, Race Bank, and North Ridge cSAC (Annex 1 habitat features)

Name of European site: Inner Dowsing, Race Bank, and North Ridge cSAC												
Distance to array area: 106km												
Distance to cable route: 12km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes in physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xb	Xb	Xb	Xb	Xb	Xb	Xa,b	Xa,b	Xa,b
Reefs	Xa	Xa	Xa	Xb	Xb	Xb	Xb	Xb	Xb	Xa,b	Xa,b	Xa,b

**Evidence supporting conclusions:**

- a. No LSE has been identified on Annex I habitats for temporary habitat loss/disturbance, long-term habitat loss, colonisation of hard structures or temporary seabed disturbance due to the lack of overlap between the Hornsea Three offshore cable corridor and the European site (see table 6.1 of the HRA Screening Report).
- b. In the HRA Screening report a potential LSE was identified for temporary increases in suspended sediments/smothering, accidental pollution and changes in physical processes, however due to the offshore cable corridor route refinement the site no longer sits within the zone of influence of Hornsea Three, and therefore no LSE has been identified on Annex I habitats.



## 2.44 Stage 1 Matrix: Klaverbank SCI (Annex 1 habitat features)

Name of European site: Klaverbank SCI												
Distance to array area: 11 km												
Distance to cable route: 18 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Reefs	Xa	Xa	Xa	Xb	Xb	Xb	Xb	Xb	Xb	Xa,b	Xa,b	Xa,b

### Evidence supporting conclusions:

- a. No LSE has been identified on Annex I habitats for temporary habitat loss/disturbance, long-term habitat loss, colonisation of hard structures or temporary seabed disturbance due to the lack of overlap between the array area and the European site (see table 6.1 of the HRA Screening Report).
- b. In the HRA Screening report a potential LSE was identified for temporary increases in suspended sediments/smothering, accidental pollution and changes in physical processes, however by the time that a sediment plume (which has the largest zone of influence) might reach Klaverbank SCI, the SSC and any associated deposition are predicted to be at background levels, and are therefore expected to have negligible effects on the benthic receptors., and therefore no LSE has been identified on Annex I habitats.

## 2.45 Stage 1 Matrix: Klaverbank SCI (Marine mammal features)

Name of European site: Klaverbank SCI												
Distance to array area: 11 km												
Distance to cable route: 18 km												
European site features	Likely Effects of Hornsea Three											
	Behavioural disturbance/Physical injury			Changes to water quality			Changes in prey availability			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	✓a,e	✓e Xf,h	✓e	✓b Xc	✓b Xc	✓b Xc	Xd	Xd	Xd	✓g	✓g	✓g
Harbour seal	✓a,e	✓e Xf,h	✓e	✓b Xc	✓b Xc	✓b Xc	Xd	Xd	Xd	✓g	✓g	✓g
Harbour porpoise	✓a,e	✓e Xf,h	✓e	✓b Xc	✓b Xc	✓b Xc	Xd	Xd	Xd	✓g	✓g	✓g

### Evidence supporting conclusions

- a. It is considered that there is potential for connectivity between underwater-noise during construction of Hornsea Three and marine mammals associated with Klaverbank SCI, which include: Harbour Seals (see Table 6.5, HRA Screening Report), grey seals (see Table 6.6, HRA Screening Report) and harbour porpoise (see table 6.4 of the HRA Screening Report) during construction. This is due to the close proximity of the array area to the European site (11km).
- b. No LSE was predicted for accidental pollution events during the HRA Screening Phase (see Section 6.2 of the HRA Screening Report), however, following consultation with the Marine Mammal EWG it was agreed that potential effects of accidental pollution should be assessed in the RIAA (see Section 3.4.3 of the RIAA).
- c. Taking into account the localised and intermittent nature of construction activities as well as the relatively wide foraging and distribution range of marine mammal species, no LSE has been identified in relation to increased suspended sediments (see section 6.2 of the HRA Screening Report).
- d. Potential LSEs on grey seals, harbour seals and harbour porpoise were identified in relation to changes in prey availability, during construction/decommissioning (see Table 6.13, HRA Screening Report). However through consultation on the Scoping Response and the Evidence Plan it was agreed that this impact would be considered further pending outcomes of investigations into marine processes effects. No significant effect has been identified within the Marine Processes assessment, or in turn within the fish and shellfish ecology assessments (Environmental Statement volume 2, chapters 1 and 3) and as such potential effects on prey availability have been screened out of the RIAA (see section 3.4.3 of the RIAA).
- e. No LSE was predicted for vessel noise and vessel collision during the HRA Screening Phase (see Section 6.2 of the HRA Screening Report), however, following consultation with the Marine Mammal EWG it was agreed that potential effects of vessel noise and collision should be assessed in the RIAA (see Section 3.4.3 of the RIAA).
- f. With regard to Electro-magnetic Fields (EMFs) no LSE on marine mammals are anticipated, with any potential effects being very localised and short-term (see paragraphs 6.2.88 – 6.2.90, and Table 6.17, HRA Screening Report).
- g. An LSE is predicted for these features from the Project alone and therefore further assessment of in-combination impacts is required.
- h. No LSE has been identified for operation noise as studies have shown to date that significant behavioural responses are unlikely to occur (see section 6.2 of the HRA Screening Report).

2.46 Stage 1 Matrix: Løgstør Bredning, Vejlerne og Bulbjerg SAC (Annex I habitat features)

Name of European site: Løgstør Bredning, Vejlerne og Bulbjerg SAC												
Distance to array area: 510 km												
Distance to cable route: 528 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Mudflats and sandflats not covered by seawater at low tide	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Coastal lagoons	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Large shallow inlets and bays	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Annual vegetation of drift lines	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Perennial vegetation of stony banks	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Vegetated sea cliffs of the Atlantic and Baltic Coasts	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Salicornia and other annuals colonizing mud and sand	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Embryonic shifting dunes	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Fixed coastal dunes with herbaceous vegetation ("grey dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Decalcified fixed dunes with Empetrum nigrum	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Dunes with Hippophaë rhamnoides	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Dunes with Salix repens ssp. argentea (Salicion arenariae)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Humid dune slacks	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Coastal dunes with Juniperus spp.	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

Name of European site: Løgstør Bredning, Vejlerne og Bulbjerg SAC												
Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Hard oligo-mesotrophic waters with benthic vegetation of Chara spp.	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Natural dystrophic lakes and ponds	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Northern Atlantic wet heaths with Erica tetralix	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
European dry heaths	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Juniperus communis formations on heaths or calcareous grasslands	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Transition mires and quaking bogs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Petrifying springs with tufa formation (Cratoneurion)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Alkaline fens	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Luzulo-Fagetum beech forests	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Old acidophilous oak woods with Quercus robur on sandy plains	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

Name of European site: Løgstør Bredning, Vejlerne og Bulbjerg SAC												
Bog woodland	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.47 Stage 1 Matrix: Løgstør Bredning, Vejlerne og Bulbjerg SAC (Migratory fish features)

Name of European site: Løgstør Bredning, Vejlerne og Bulbjerg SAC												
Distance to array area: 510 km												
Distance to cable route: 528 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Sea lamprey	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.

## 2.48 Stage 1 Matrix: Løgstør Bredning, Vejlerne og Bulbjerg SAC (Marine mammal features)

Name of European site: Løgstør Bredning, Vejlerne og Bulbjerg SAC												
Distance to array area: 510 km												
Distance to cable route: 528 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Harbour seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations, accidental pollution) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.49 Stage 1 Matrix: Moray Firth SAC (Annex I habitat features)

Name of European site: Moray Firth SAC												
Distance to array area: 539 km												
Distance to cable route: 543 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	<i>Changes to habitat</i>			<i>Changes to water quality</i>			<i>Changes to physical processes</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.



## 2.50 Stage 1 Matrix: Moray Firth SAC (Marine mammal features)

Name of European site: Moray Firth SAC												
Distance to array area: 539 km												
Distance to cable route: 543 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Bottlenose dolphin	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.51 Stage 1 Matrix: Nationalpark Niedersächsisches Wattenmeer SCI (Annex I habitat features)

Name of European site: Nationalpark Niedersächsisches Wattenmeer SCI												
Distance to array area: 251 km												
Distance to cable route: 251 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Estuaries	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Mudflats and sandflats not covered by seawater at low tide	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Coastal lagoons	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Large shallow inlets and bays	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Salicornia and other annuals colonizing mud and sand	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Spartina swards (Spartinion maritimae)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salt meadows (Glaucopuccinellietalia maritimae)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Embryonic shifting dunes	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Fixed coastal dunes with herbaceous vegetation ("grey dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Decalcified fixed dunes with Empetrum nigrum	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic decalcified fixed dunes (Calluno-Ulicetea)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Dunes with Hippophaë rhamnoides	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Dunes with Salix repens ssp. argentea (Salicion arenariae)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

Name of European site: Nationalpark Niedersächsisches Wattenmeer SCI												
Wooded dunes of the Atlantic, Continental and Boreal region	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Humid dune slacks	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.52 Stage 1 Matrix: Nationalpark Niedersächsisches Wattenmeer SCI (Migratory fish features)

Name of European site: Nationalpark Niedersächsisches Wattenmeer SCI												
Distance to array area: 251 km												
Distance to cable route: 251 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Twaiite shad	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
River lamprey	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Sea lamprey	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.

## 2.53 Stage 1 Matrix: Nationalpark Niedersächsisches Wattenmeer SCI (Marine mammal features)

Name of European site: Nationalpark Niedersächsisches Wattenmeer SCI												
Distance to array area: 251 km												
Distance to cable route: 251 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

## 2.54 Stage 1 Matrix: Noordzeekustzone SAC (Annex 1 habitat features)

Name of European site: Noordzeekustzone SAC												
Distance to array area: 138 km												
Distance to cable route: 138 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Mudflats and sandflats not covered by seawater at low tide	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Salicornia and other annuals colonizing mud and sand	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritima</i> )	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Embryonic shifting dunes	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Humid dune slacks	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

2.55 Stage 1 Matrix: Noordzeekustzone SAC (Migratory fish features)

Name of European site: Noordzeekustzone SAC												
Distance to array area: 138 km												
Distance to cable route: 138 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Sea lamprey,	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
River lamprey	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Twaite shad	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

Evidence supporting conclusions

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.

## 2.56 Stage 1 Matrix: Noordzeekustzone SAC (Marine mammal features)

Name of European site: Noordzeekustzone SAC												
Distance to array area: 138 km												
Distance to cable route: 138 km												
European site features	Likely Effects of Hornsea Three											
	Behavioural disturbance/Physical injury			Changes to water quality			Changes in prey availability			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	
Grey seal	✓a,e	✓e Xf	✓a,e	✓b Xc	✓b Xc	✓b Xc	Xd	Xd	Xd	✓g	✓g	✓g
Harbour seal	Xh	Xh	Xh	Xh	Xh	Xh	Xh	Xh	Xh	Xh	Xh	Xh
Harbour porpoise	Xh	Xh	Xh	Xh	Xh	Xh	Xh	Xh	Xh	Xh	Xh	Xh

### Evidence supporting conclusions

- It is considered that there is potential for connectivity between underwater-noise during construction of Hornsea Three and grey seals associated with Noordzeekustzone SAC. This is because the array area is located within the foraging range of grey seals from the European site (within 145 km).
- No LSE was predicted for accidental pollution events during the HRA Screening Phase (see Section 6.2 of the HRA Screening Report), however, following consultation with the Marine Mammal EWG it was agreed that potential effects of accidental pollution should be assessed in the RIAA (see Section 3.4.3 of the RIAA).
- Taking into account the localised and intermittent nature of construction activities as well as the relatively wide foraging and distribution range of marine mammal species, no LSE has been identified in relation to increased suspended sediments (see section 6.2 of the HRA Screening Report).
- Potential LSEs on grey seals, harbour seals and harbour porpoise were identified in relation to changes in prey availability, during construction/decommissioning (see Table 6.13, HRA Screening Report). However through consultation on the Scoping Response and the Evidence Plan it was agreed that this impact would be considered further pending outcomes of investigations into marine processes effects. No significant effect has been identified within the Marine Processes assessment, or in turn within the fish and shellfish ecology assessments (Environmental Statement volume 2, chapters 1 and 3) and as such potential effects on prey availability have been screened out of the RIAA (see section 3.4.3 of the RIAA).
- No LSE was predicted for vessel noise and vessel collision during the HRA Screening Phase (see Section 6.2 of the HRA Screening Report), however, following consultation with the Marine Mammal EWG it was agreed that potential effects of vessel noise and collision should be assessed in the RIAA (see Section 3.4.3 of the RIAA).
- With regard to Electro-magnetic Fields (EMFs) no LSE on marine mammals are anticipated, with any potential effects being very localised and short-term (see paragraphs 6.2.88 – 6.2.90, and Table 6.17, HRA Screening Report).
- An LSE is predicted for these features from the Project alone and therefore further assessment of in-combination impacts is required.
- No potential LSE for underwater noise (construction and operation), vessel noise, vessel collision, accidental pollution, increased suspended sediment, changes to prey availability and EMFs has been identified for harbour seal of harbour porpoise because Hornsea Three is located beyond the maximum interaction range of the qualifying features (120 km for harbour seal and 26 km for harbour porpoise) of Noordzeekustzone SAC (see section 6.2 of the HRA Screening Report).



2.57 Stage 1 Matrix: Norfolk Valley Fens SAC (Annex I habitat)

Name of European site: Norfolk Valley Fens SAC												
Distance to array area: not relevant												
Distance to cable route: 0 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Release of contaminants			Invasive species			In combination effects		
	C	O	D	C	C	C	C	O	D	C	O	D
Alkaline fens (Calcium-rich springwater-fed fens)	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,c
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> ( <i>Alno-Padion</i> , <i>Alnionincanae</i> , <i>Salicion albae</i> ). (Alder woodland on floodplains)*	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,c
Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davalliana</i> . (Calcium-rich fen dominated by great fen sedge (saw sedge))*	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,c
European dry heaths	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,c
Molinia meadows on calcareous, peaty or clayey-silt-laden soils ( <i>Molinion caeruleae</i> ). (Purple moor-grass meadows)	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,c

Name of European site: Norfolk Valley Fens SAC												
Northern Atlantic wet heaths with <i>Erica tetralix</i> (Wet heathland with cross-leaved heath)	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,c
Semi-natural dry grasslands and scrubland facies: on calcareous substrates (Festuco-Brometalia) (Dry grasslands and scrublands on chalk or limestone)	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,c

**Evidence supporting conclusion**

- a. With regard to habitat change there is potential for LSE in terms of temporary habitat loss/disturbance during the construction and operation phases. Given that the onshore Hornsea Three offshore cable corridor overlaps with the Norfolk Valley Fens SAC, construction works associated with the onshore cable route may result in temporary disturbance/damage to Annex I habitat qualifying features. Operation and maintenance works may also result in temporary habitat disturbance/damage.
- b. With regard to habitat change there is potential for LSE in terms of permanent habitat loss during the construction phase. Where the construction of the Hornsea Three onshore substation and HVAC booster station coincides with the distribution of Annex I habitat qualifying feature for this SAC there will be a permanent habitat loss.
- c. No LSE for release of contaminants was identified during HRA Screening (see section 6.2 of the HRA Screening Report), however following consultation with the EWG (Evidence Plan process) it was agreed that accidental pollution would be considered in the RIAA (see section 3.4.5 of the RIAA).
- d. No LSE for INNS was identified during HRA Screening (see section 6.2 of the HRA Screening Report), however following consultation with the EWG (Evidence Plan process) it was agreed that INNS would be considered within the RIAA (see paragraph 3.5.4.1 of the RIAA).

2.58 Stage 1 Matrix: Norfolk Valley Fens SAC (Annex II species)

Name of European site: Norfolk Valley Fens SAC												
Distance to array area: not relevant												
Distance to cable route: 0 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Release of contaminants			Invasive species			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Desmoulin's whorl snail <i>Vertigo moulinsiana</i>	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,c
Narrow-mouthed whorl snail <i>Vertigo angustor</i>	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,c

Evidence supporting conclusion

- a. With regard to habitat change there is potential for LSE in terms of temporary habitat loss/disturbance during the construction and operation phases. Given that the onshore Hornsea Three offshore cable corridor overlaps with the Norfolk Valley Fens SAC, construction works associated with the onshore elements of Hornsea Three may result in temporary disturbance/damage to Annex II species qualifying features. Operation and maintenance works may also result in temporary habitat disturbance/damage (see section 6.2 of the HRA Screening Report).
- b. With regard to habitat change there is potential for LSE in terms of permanent habitat loss during the construction phase. The construction of the Hornsea Three onshore substation and HVAC booster station will result in a permanent habitat loss, potentially affecting qualifying Annex II species (see section 6.2 of the HRA Screening Report).
- c. No LSE for release of contaminants was identified during HRA Screening (see section 6.2 of the HRA Screening Report), however following consultation with the EWG (Evidence Plan process) it was agreed that accidental pollution would be considered in the RIAA (see section 3.4.5 of the RIAA).
- d. No LSE for INNS was identified during HRA Screening (see section 6.2 of the HRA Screening Report), however following consultation with the EWG (Evidence Plan process) it was agreed that INNS would be considered within the RIAA (see paragraph 3.5.4.1 of the RIAA).

## 2.59 Stage 1 Matrix: North Norfolk Coast SAC (Annex I habitat features)

Name of European site: North Norfolk Coast SAC												
Distance to array area: 128 km												
Distance to cable route: 0.32 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Release of contaminants			Invasive species			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Coastal lagoons	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,c
Perennial vegetation of stony banks	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,c
Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,c
Embryonic shifting dunes	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,c
Shifting dunes along the shoreline with Ammophila arenaria (white dunes)	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,c
Fixed coastal dunes with herbaceous vegetation (grey dunes)	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,c
Humid dune slacks	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,c

### Evidence supporting conclusions:

- A potential LSE for temporary habitat disturbance/damage was identified due to the overlap of the European site with the Hornsea Three offshore cable corridor (see section 6.2 of the HRA Screening report).
- With regard to habitat change there is potential for LSE in terms of permanent habitat loss during the construction phase. Where the construction of the Hornsea Three onshore substation and HVAC booster station coincides with the distribution of Annex I habitat qualifying feature for this SAC there will be a permanent habitat loss.
- No potential LSE in relation to accidental pollution was identified in the HRA Screening Report, however following consultation through the Evidence Plan process it was agreed that this impact will be considered within the RIAA (see section 3.4.5 of the RIAA).
- No LSE for INNS was identified during HRA Screening (see section 6.2 of the HRA Screening Report), however following consultation with the EWG (Evidence Plan process) it was agreed that INNS would be considered within the RIAA (see paragraph 3.5.4.1 of the RIAA).

## 2.60 Stage 1 Matrix: North Norfolk Coast SAC (Annex II species)

Name of European site: North Norfolk Coast SAC												
Distance to array area: not relevant												
Distance to cable route: 0 km (cable route crosses site)												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Release of contaminants			Invasive species			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Otter <i>Lutra lutra</i>	✓a,b,d	✓a	✓a,d	✓c	✓c	✓c	✓e	✓e	✓e	✓a,b,c	✓a,c	✓a,d,c
Petalwort <i>Petalophyllum ralfsii</i>	✓a,b	✓a	✓a	✓c	✓c	✓c	✓e	✓e	✓e	✓a,b,c	✓a,c	✓a,c

### Evidence supporting conclusion

- With regard to habitat change there is potential for LSE in terms of temporary habitat damage/disturbance during the construction and operation phases. Construction works associated with the onshore elements of Hornsea Three may result in temporary disturbance/damage to Annex II species qualifying features. Operation and maintenance works may also result in temporary habitat disturbance/damage.
- With regard to habitat change there is potential for LSE in terms of permanent habitat loss during the construction phase. The construction of the Hornsea Three onshore substation and HVAC booster station will result in a permanent habitat loss, potentially affecting qualifying Annex II species.
- No LSE for release of contaminants was identified during HRA Screening (see section 6.2 of the HRA Screening Report), however following consultation with the EWG (Evidence Plan process) it was agreed that accidental pollution would be considered in the RIAA (see section 3.4.5 of the RIAA).
- A potential LSE on otter has been identified in relation to construction activity in the onshore ECR corridor which could result in the fragmentation of key habitats.
- No LSE for INNS was identified during HRA Screening (see section 6.2 of the HRA Screening Report), however following consultation with the EWG (Evidence Plan process) it was agreed that INNS would be considered within the RIAA (see paragraph 3.5.4.1 of the RIAA).

## 2.61 Stage 1 Matrix: North Norfolk Sandbanks and Saturn Reef SAC (Annex 1 habitat features)

Name of European site: North Norfolk Sandbanks and Saturn Reef SAC												
Distance to array area: 9 km												
Distance to cable route: 0 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	✓a	✓a,b,e	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a, b, c, d	✓a, b, c, d	✓a, b, c, d
Reefs	✓a	✓a,b,e	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a, b, c, d	✓a, b, c, d	✓a, b, c, d

### Evidence supporting conclusions

- Potential for LSE in terms of temporary habitat loss/disturbance due to significant overlap between European site (and assumed presence of qualifying features) and offshore cable corridor. No overlap with the array area (see Tables 5.2 and 6.1, HRA Screening Report).
- Potential LSE in terms of permanent habitat loss and colonisation of hard structures during the operation phase (Table 6.1, HRA Screening Report). Significant overlap between European site (and assumed presence of qualifying features) and potential ZOI for suspended sediment in the Hornsea Three offshore cable corridor. No overlap with the array area. (See Tables 5.2 and 6.1, HRA Screening Report).
- With regard to water quality the North Norfolk Sandbanks and Saturn Reef SAC is located within the zone of influence of increased suspended sediment concentrations and potential sediment re-deposition, therefore a potential LSE has been identified (Tables 5.2 and 6.1, HRA Screening Report). No LSE was originally identified in the HRA Screening Report for accidental pollution, however following consultation through the Evidence Plan process, it was agreed that this impact should be assessed within the RIAA.
- Potential for LSE resulting in changes to hydrodynamic and wave regime to Annex I Habitats during the operation phase (see Tables 5.2 and 6.1, HRA Screening Report), due to the overlap between European site (and assumed presence of qualifying features) and Hornsea Three.
- Potential for LSE regarding colonisation of hard structures due to overlap between the European site and Hornsea Three (offshore cable corridor) (see section 6.2 of the HRA Screening Report).

## 2.62 Stage 1 Matrix: NTP S-H Wattenmeer und angrenzende Küstengebiete SCI (Annex I habitat features)

Name of European site: NTP S-H Wattenmeer und angrenzende Küstengebiete SCI												
Distance to array area: 351 km												
Distance to cable route: 354 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Estuaries	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Mudflats and sandflats not covered by seawater at low tide	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Coastal lagoons	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Large shallow inlets and bays	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Annual vegetation of drift lines	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Perennial vegetation of stony banks	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Salicornia and other annuals colonizing mud and sand	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Spartina swards ( <i>Spartinion maritimae</i> )	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salt meadows ( <i>Glauco-Puccinellietalia maritimae</i> )	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Embryonic shifting dunes	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report), as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.



## 2.63 Stage 1 Matrix: NTP S-H Wattenmeer und angrenzende Küstengebiete SCI (Migratory fish features)

Name of European site: NTP S-H Wattenmeer und angrenzende Küstengebiete SCI												
Distance to array area: 351 km												
Distance to cable route: 354 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Twaiite shad	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
River lamprey	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Sea lamprey	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.



2.64 Stage 1 Matrix : NTP S-H Wattenmeer und angrenzende Küstengebiete SCI (Marine mammal features)

Name of European site: NTP S-H Wattenmeer und angrenzende Küstengebiete SCI												
Distance to array area: 351 km												
Distance to cable route: 354 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Grey seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.65 Stage 1 Matrix: Östliche Deutsche Bucht SCI (Annex I habitat features)

Name of European site: Östliche Deutsche Bucht SCI												
Distance to array area: 314 km												
Distance to cable route: 319 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.66 Stage 1 Matrix: Östliche Deutsche Bucht SCI (Migratory fish features)

Name of European site: Östliche Deutsche Bucht SCI												
Distance to array area: 313 km												
Distance to cable route: 327 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Twaite shad	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
River lamprey	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.

2.67 Stage 1 Matrix: Östliche Deutsche Bucht SCI (Marine mammal features)

Name of European site: Östliche Deutsche Bucht SCI												
Distance to array area: 313 km												
Distance to cable route: 327 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Grey seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

## 2.68 Stage 1 Matrix: Récifs et landes de la Hague SCI (Annex 1 habitat features)

Name of European site: Récifs et landes de la Hague SCI												
Distance to array area: 537 km												
Distance to cable route: 411 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Mudflats and sandflats not covered by seawater at low tide	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Annual vegetation of drift lines	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Vegetated sea cliffs of the Atlantic and Baltic Coasts	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salt meadows ( <i>Glaucopuccinellietalia maritima</i> )	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Humid dune slacks	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
European dry heaths	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Degraded raised bogs still capable of natural regeneration	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic acidophilous beech forests with <i>Ilex</i> and sometimes also <i>Taxus</i> in the shrublayer ( <i>Quercion robori-petraeae</i> or <i>Ilici-Fagenion</i> )	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Tilio-Acerion forests of slopes, screes and ravines	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions

- c. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

2.69 Stage 1 Matrix: Récifs et landes de la Hague SCI (Marine mammal features)

Name of European site: Récifs et landes de la Hague SCI												
Distance to array area: 537 km												
Distance to cable route: 411 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/Physical injury</i>			<i>Changes to water quality</i>			<i>Changes in prey availability</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Grey seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Bottlenose dolphin	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions**

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.70 Stage 1 Matrix: Récifs Gris-Nez Blanc-Nez SCI (Annex 1 habitat features)

Name of European site: Récifs Gris-Nez Blanc-Nez SCI												
Distance to array area: 310 km												
Distance to cable route: 218 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

Evidence supporting conclusions:

- d. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.71 Stage 1 Matrix: Récifs Gris-Nez Blanc-Nez SCI (Marine mammal features)

Name of European site: Récifs Gris-Nez Blanc-Nez SCI												
Distance to array area: 310 km												
Distance to cable route: 218 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/Physical injury</i>			<i>Changes to water quality</i>			<i>Changes in prey availability</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Grey seal,	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour seal,	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

### Evidence supporting conclusions

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.



2.72 Stage 1 Matrix: Ridens et dunes hydrauliques du detroit du pas-de-calais pSCI (Annex 1 habitat features)

Name of European site: Ridens et dunes hydrauliques du detroit du pas-de-calais pSCI												
Distance to array area: 319 km												
Distance to cable route: 221 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions**

- e. No direct or indirect effect is anticipated on the pSCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

2.73 Stage 1 Matrix: Ridens et dunes hydrauliques du detroit du pas-de-calais pSCI (Marine mammal features)

Name of European site: Ridens et dunes hydrauliques du detroit du pas-de-calais pSCI												
Distance to array area: 319 km												
Distance to cable route: 221 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/Physical injury</i>			<i>Changes to water quality</i>			<i>Changes in prey availability</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Grey seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions**

- a. No direct or indirect effect is anticipated on the pSCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.74 Stage 1 Matrix: River Derwent SAC (Annex I habitat features)

Name of European site: River Derwent SAC												
Distance to array area: 193 km												
Distance to cable route: 158 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Water courses of plain to montane levels with the Ranunculus fluitantis and Callitriche-Batrachion vegetation	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.43 to 5.3.45 of HRA Screening Report) as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.75 Stage 1 Matrix: River Derwent SAC (Migratory fish features)

Name of European site: River Derwent SAC												
Distance to array area: 193 km												
Distance to cable route: 158 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
River lamprey	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Sea lamprey	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.

2.76 Stage 1 Matrix: River Wensum SAC (Annex I habitat)

Name of European site: The River Wensum SAC												
Distance to array area: not relevant												
Distance to cable route: 0 km (cable route crosses site)												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Release of contaminants			Invasive species			In combination effects		
	C	O	D	C	C	C	C	O	D	C	O	D
Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation; Rivers with floating vegetation often dominated by water-crowfoot	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a,b,c	✓a,c	✓a,b,c

Evidence supporting conclusion

- a. With regard to habitat change there is potential for LSE in terms of temporary habitat loss/disturbance during the construction / decommissioning and operation and maintenance phases. Construction works associated with the onshore cable route may result in temporary disturbance/damage to Annex I habitat qualifying features. Operation and maintenance works may also result in temporary habitat disturbance/damage. The onshore Hornsea Three offshore cable corridor overlaps with a section of the River Wensum SAC (see Figure 5.16, HRA Screening Report).
- b. With regard to habitat change there is potential for LSE in terms of permanent habitat loss during the construction phase. Where the construction of the Hornsea Three onshore substation and HVAC booster station coincides with the distribution of Annex I habitat qualifying feature for this SAC there will be a permanent habitat loss. The onshore Hornsea Three offshore cable corridor overlaps with a section of the River Wensum SAC (see Figure 5.16, HRA Screening Report).
- c. No LSE for release of contaminants was identified during HRA Screening (see section 6.2 of the HRA Screening Report), however following consultation with the EWG (Evidence Plan process) it was agreed that accidental pollution would be considered in the RIAA (see section 3.4.5 of the RIAA).
- d. No LSE for INNS was identified during HRA Screening (see section 6.2 of the HRA Screening Report), however following consultation with the EWG (Evidence Plan process) it was agreed that INNS would be considered within the RIAA (see paragraph 3.5.4.1 of the RIAA)

## 2.77 Stage 1 Matrix: River Wensum SAC (Annex II species)

Name of European site: The River Wensum SAC												
Distance to array area: not relevant												
Distance to cable route: 0 km (cable route crosses site)												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Release of contaminants			Invasive species			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Desmoulin's whorl snail <i>Vertigo moulinsiana</i>	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a, b,c	✓a, c	✓a, c
White-clawed crayfish <i>Austropotamobius pallipes</i>	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a, b,c	✓a, c	✓a, c
Brock lamprey <i>Lampetra planeri</i>	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a, b,c	✓a, c	✓a, c
Bullhead Cottus <i>gobio</i>	✓a,b	✓a	✓a	✓c	✓c	✓c	✓d	✓d	✓d	✓a, b,c	✓a, c	✓a, c

### Evidence supporting conclusion

- With regard to habitat change there is potential for LSE in terms of temporary habitat loss/disturbance during the construction / decommissioning and operation and maintenance phases. Construction works associated with the onshore elements of Hornsea Three may result in temporary disturbance/damage to Annex II species qualifying features. Operation and maintenance works may also result in temporary habitat disturbance/damage. The onshore ECR corridor search area overlaps with a section of the River Wensum SAC (see Figure 5.16, HRA Screening Report).
- With regard to habitat change there is potential for LSE in terms of permanent habitat loss during the construction phase. The construction of the Hornsea Three onshore substation and HVAC booster station will result in a permanent habitat loss, potentially affecting qualifying Annex II species. Given that the onshore Hornsea Three offshore cable corridor overlaps with a section of the River Wensum SAC (see Figure 5.16, HRA Screening Report) a potential LSE cannot be excluded.
- No LSE for release of contaminants was identified during HRA Screening (see section 6.2 of the HRA Screening Report), however following consultation with the EWG (Evidence Plan process) it was agreed that accidental pollution would be considered in the RIAA (see section 3.4.5 of the RIAA).
- No LSE for INNS was identified during HRA Screening (see section 6.2 of the HRA Screening Report), however following consultation with the EWG (Evidence Plan process) it was agreed that INNS would be considered within the RIAA (see paragraph 3.5.4.1 of the RIAA)

2.78 Stage 1 Matrix: SBZ 1 / ZPS 1 SCI (Annex I habitat features)

Name of European site: SBZ 1 / ZPS 1 SCI												
Distance to array area: 275 km												
Distance to cable route: 158 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

2.79 Stage 1 Matrix: SBZ 1 / ZPS 1 SCI (Migratory fish features)

Name of European site: SBZ 1 / ZPS 1 SCI												
Distance to array area: 275 km												
Distance to cable route: 158 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Twaite shad	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Sea lamprey	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.



2.80 Stage 1 Matrix: SBZ 1 / ZPS 1 SCI (Marine mammal features)

Name of European site: SBZ 1 / ZPS 1 SCI												
Distance to array area: 275 km												
Distance to cable route: 158 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Grey seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.81 Stage 1 Matrix: SBZ 2 / ZPS 2 SCI (Annex I habitat features)

Name of European site: SBZ 2 / ZPS 2 SCI												
Distance to array area: 260 km												
Distance to cable route: 206 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

2.82 Stage 1 Matrix: SBZ 2 / ZPS 2 SCI (Migratory fish features)

Name of European site: SBZ 2 / ZPS 2 SCI												
Distance to array area: 260 km												
Distance to cable route: 206 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Twaite shad	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Sea lamprey	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.

2.83 Stage 1 Matrix: SBZ 2 / ZPS 2 SCI (Marine mammal features)

Name of European site: SBZ 2 / ZPS 2 SCI												
Distance to array area: 260 km												
Distance to cable route: 206 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Grey seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.84 Stage 1 Matrix: SBZ 3 / ZPS 3 SCI (Annex I habitat features)

Name of European site: SBZ 3 / ZPS 3 SCI												
Distance to array area: 257 km												
Distance to cable route: 213 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

2.85 Stage 1 Matrix: SBZ 3 / ZPS 3 SCI (Migratory fish features)

Name of European site: SBZ 3 / ZPS 3 SCI												
Distance to array area: 257 km												
Distance to cable route: 213 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Twaite shad	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Sea lamprey	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.

2.86 Stage 1 Matrix: SBZ 3 / ZPS 3 SCI (Marine mammal features)

Name of European site: SBZ 3 / ZPS 3 SCI												
Distance to array area: 257 km												
Distance to cable route: 213 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Grey seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

## 2.87 Stage 1 Matrix: Southern North Sea cSAC (Marine mammal features)

Name of European site: Southern North Sea cSAC												
Distance to array area: 2 km												
Distance to cable route: 0 km												
European Site Feature	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/ physical injury</i>			<i>Changes to water quality</i>			<i>Changes in prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	✓a,e	Xe,f,h	✓e	✓b Xc	✓b Xc	✓b Xc	Xd	Xd	Xd	✓g	✓g	✓g

### Evidence supporting conclusions:

- It is considered that there is potential for connectivity between underwater-noise during construction of Hornsea Three and harbour porpoise associated with Southern North Sea cSAC. This is due to the close proximity of the array area to the European site (2 km).
- No LSE was predicted for accidental pollution events during the HRA Screening Phase (see Section 6.2 of the HRA Screening Report), however, following consultation with the Marine Mammal EWG it was agreed that potential effects of accidental pollution should be assessed in the RIAA (see Section 3.4.3 of the RIAA).
- Taking into account the localised and intermittent nature of construction activities as well as the relatively wide foraging and distribution range of marine mammal species, no LSE has been identified in relation to increased suspended sediments (see section 6.2 of the HRA Screening Report).
- Potential LSEs on harbour porpoise were identified in relation to changes in prey availability, during construction/decommissioning (see Table 6.13, HRA Screening Report). However through consultation on the Scoping Response and the Evidence Plan it was agreed that this impact would be considered further pending outcomes of investigations into marine processes effects. No significant effect has been identified within the Marine Processes assessment, or in turn within the fish and shellfish ecology assessments (Environmental Statement volume 2, chapters 1 and 3) and as such potential effects on prey availability have been screened out of the RIAA (see section 3.4.3 of the RIAA).
- No LSE was predicted for vessel noise and vessel collision during the HRA Screening Phase (see Section 6.2 of the HRA Screening Report), however, following consultation with the Marine Mammal EWG it was agreed that potential effects of vessel noise and collision should be assessed in the RIAA (see Section 3.4.3 of the RIAA).
- With regard to Electro-magnetic Fields (EMFs) no LSE on marine mammals are anticipated, with any potential effects being very localised and short-term (see paragraphs 6.2.88 – 6.2.90, and Table 6.17, HRA Screening Report).
- An LSE is predicted for these features from the Project alone and therefore further assessment of in-combination impacts is required.
- No LSE has been identified for operation noise as studies have shown to date that significant behavioural responses are unlikely to occur (see section 6.2 of the HRA Screening Report).



2.88 Stage 1 Matrix: Steingrund SAC (Annex I habitat features)

Name of European site: Steingrund SAC												
Distance to array area: 345 km												
Distance to cable route: 345 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

2.89 Stage 1 Matrix: Steingrund SAC (Marine mammal features)

Name of European site: Steingrund SAC												
Distance to array area: 345 km												
Distance to cable route: 345 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Grey seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.90 Stage 1 Matrix: Sydlige Nordsø SAC (Annex 1 habitat features)

Name of European site: Sydlige Nordsø SAC												
Distance to array area: 313 km												
Distance to cable route: 325 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

## 2.91 Stage 1 Matrix: Sydlige Nordsø SAC (Marine mammal features)

Name of European site: Sydlige Nordsø SAC												
Distance to array area: 313 km												
Distance to cable route: 325 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/Physical injury</i>			<i>Changes to water quality</i>			<i>Changes in prey availability</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Grey seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.92 Stage 1 Matrix : Sylter Außenriff SCI (Annex I habitat features)

Name of European site: Sylter Außenriff SCI												
Distance to array area: 259 km												
Distance to cable route: 270 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site is not within the zone of influence of Hornsea Three). No LSE predicted for the Annex 1 habitat feature.

2.93 Stage 1 Matrix: Sylter Außenriff SCI (Migratory fish features)

Name of European site: Sylter Außenriff SCI												
Distance to array area: 259 km												
Distance to cable route: 270 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Twaiite shad	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
River lamprey	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.

2.94 Stage 1 Matrix: Sylter Außenriff SCI (Marine mammal features)

Name of European site: Sylter Außenriff SCI												
Distance to array area: 259 km												
Distance to cable route: 270 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Grey seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

## 2.95 Stage 1 Matrix: The Wash and North Norfolk Coast SAC (Annex I habitat features)

Name of European site: The Wash and North Norfolk Coast SAC												
Distance to array area: 120 km												
Distance to cable route: 0 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	✓a,c	✓a,b,g	✓a	✓d	✓d	✓d	✓e	✓e	✓e	✓a,c,e	✓b,e	✓a,c
Mudflats and sandflats not covered by seawater at low tide	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf
Large shallow inlets and bays	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf
Reefs	✓a,c	✓a,b,g	✓a	✓d	✓d	✓d	✓e	✓e	✓e	✓a,c,e	✓b,e	✓a,c
Salicornia and other annuals colonizing mud and sand	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf
Atlantic salt meadows ( <i>Glaucopuccinellietalia maritima</i> )	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf
Mediterranean and thermo-Atlantic halophilous scrubs ( <i>Sarcocornetea fruticosi</i> )	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf
Coastal lagoons	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf

### Evidence supporting conclusions:

- Potential for LSE in terms of temporary habitat loss/disturbance due to significant overlap between European site (and assumed presence of qualifying features) and Hornsea Three offshore cable corridor. No overlap with the array area (see Tables 5.2 and 6.1, HRA Screening Report).
- Potential LSE in terms of permanent long term habitat loss and colonisation of hard structures during the operation phase (Table 6.1, HRA Screening Report). Significant overlap between European site (and assumed presence of qualifying features) and potential ZOI for suspended sediment in the Hornsea Three offshore cable corridor. No overlap with the array area. (See Tables 5.2 and 6.1, HRA Screening Report).
- With regard to water quality The North Norfolk Sandbanks and Saturn Reef cSAC is located within the zone of influence of increased suspended sediment concentrations and potential sediment re-deposition, therefore potential for LSE is anticipated (Tables 5.2 and 6.1, HRA Screening Report). Partial overlap between European site (and assumed presence of qualifying features) and potential ZOI for suspended sediment in the Hornsea Three offshore cable corridor.
- No LSE was predicted for accidental pollution events during the HRA Screening Phase (see Section 6.2 of the HRA Screening Report), however, following consultation with the EWG it was agreed that potential effects of accidental pollution should be assessed in the RIAA.
- Potential for LSE resulting in changes to hydrodynamic and wave regime to Annex I Habitats during the operation phase (see Tables 5.2 and 6.1, HRA Screening Report). Significant overlap between European site (and assumed presence of qualifying features) and the ECR corridor search area. Minor overlap with the array area.



- f. It was agreed through the Evidence Plan process that there is no impact pathway between Hornsea Three and the following features of the Wash and North Norfolk Coast SAC; coastal lagoons, Mediterranean and thermos-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*), Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*), *Salicornia* and other annuals colonizing mud and sand, Large shallow inlets and bays and Mudflats and sandflats not covered by seawater at low tide. These habitats are not present within the zone of influence of Hornsea Three and therefore no potential LSE has been identified.
- g. Potential for LSE in relation to colonisation of hard structures and INNS due to the partial overlap of the European site (and assumed presence of qualifying features) with the Hornsea Three offshore cable corridor.

## 2.96 Stage 1 Matrix: The Wash and North Norfolk Coast SAC (Marine mammal features)

Name of European site: The Wash and North Norfolk Coast SAC												
Distance to array area: 120 km												
Distance to cable route: 0 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	Behavioural disturbance/physical injury			Changes to water quality			Changes to prey availability			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Harbour Seal	✓a,d	✓d Xb,e	✓d	✓fXe	✓fXe	✓fXe	Xc	Xc	Xc	✓h	✓h	✓h

### Evidence supporting conclusions:

- With regard to behavioural disturbance/physical injury on marine mammal features with regard to underwater noise in relation to the construction of Hornsea Three, there is potential for LSEs due to the proximity of the site to the array area (120km) and coincident with the Hornsea Three offshore cable corridor (see Table 5.10 & 6.5, HRA Screening Report). Injury could be caused as a result of piling and construction activity (see paragraphs 6.2.35 – 6.2.39, HRA Screening Report).
- No LSE on marine mammal features is anticipated in relation to behavioural disturbance/physical injury associated with underwater noise (Table 6.14) during operation of Hornsea Three. Given the low level and limited spatial extent of the radiated noise, the risk of behavioural impacts on marine mammals would be limited to the immediate vicinity of the turbines (see paragraph 6.2.73 – 6.2.77, HRA Screening Report).
- Potential LSEs on grey seals, harbour seals and harbour porpoise were identified in relation to changes in prey availability, during construction/decommissioning (see Table 6.13, **HRA Screening Report**). However through consultation on the Scoping Response and the Evidence Plan it was agreed that this impact would be considered further pending outcomes of investigations into marine processes effects. No significant effect has been identified within the Marine Processes assessment, or in turn within the fish and shellfish ecology assessments (Environmental Statement volume 2, chapters 1 and 3) and as such potential effects on prey availability have been screened out of the RIAA (see section 3.4.3 of the RIAA).
- No LSE was predicted for vessel noise and vessel collision during the HRA Screening Phase (see Section 6.2 of the HRA Screening Report), however, following consultation with the Marine Mammal EWG it was agreed that potential effects of vessel noise and collision should be assessed in the RIAA (see Section 3.4.3 of the RIAA).
- With regard to Electro-magnetic Fields (EMFs) No LSE on marine mammals are anticipated, with effects being very localised and short-term (see paragraphs 6.2.88 – 6.2.90, and Table 6.17, HRA Screening Report).
- No LSE was predicted for accidental pollution events during the HRA Screening Phase (see Section 6.2 of the HRA Screening Report), however, following consultation with the Marine Mammal EWG it was agreed that potential effects of accidental pollution should be assessed in the RIAA (see Section 3.4.3 of the RIAA).
- Taking into account the localised and intermittent nature of construction activities as well as the relatively wide foraging and distribution range of marine mammal species, no LSE has been identified in relation to increased suspended sediments (see section 6.2 of the HRA Screening Report).
- An LSE is predicted for these features from the Project alone and therefore further assessment of in-combination impacts is required.

## 2.97 Stage 1 Matrix: Unterelbe SCI (Migratory fish features)

Name of European site: Unterelbe SCI												
Distance to array area: 390 km												
Distance to cable route: 404 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Twite shad	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
River lamprey	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Sea lamprey	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salmon	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes to habitat (temporary/permanent loss etc.), as site is not located within 100km of the Hornsea Three array area or Hornsea Three offshore cable corridor (See paragraphs 5.3.8 to 5.3.13 of HRA Screening Report). No LSE predicted for the migratory fish feature.

2.98 Stage 1 Matrix: Unterelbe SCI (Marine mammal features)

Name of European site: Unterelbe SCI												
Distance to array area: 390 km												
Distance to cable route: 404 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Harbour seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.99 Stage 1 Matrix: Vadehavet med Ribe Å, Tved Å og Varde Å vest for Varde SAC (Annex 1 habitat features)

Name of European site: Vadehavet med Ribe Å, Tved Å og Varde Å vest for Varde SAC												
Distance to array area: 383 km												
Distance to cable route: 391 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Estuaries	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Mudflats and sandflats not covered by seawater at low tide	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Coastal lagoons	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Large shallow inlets and bays	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Salicornia and other annuals colonizing mud and sand	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Spartina swards (Spartinion maritimae)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Embryonic shifting dunes	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Fixed coastal dunes with herbaceous vegetation ("grey dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Decalcified fixed dunes with Empetrum nigrum	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Dunes with Hippophaë rhamnoides	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Dunes with Salix repens ssp. argentea (Salicion arenariae)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

Evidence supporting conclusions:

- 
- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report). No LSE predicted for the Annex 1 habitat feature.

## 2.100 Stage 1 Matrix: Vadehavet med Ribe Å, Tved Å og Varde Å vest for Varde SAC (Migratory fish features)

Name of European site: Vadehavet med Ribe Å, Tved Å og Varde Å vest for Varde SAC												
Distance to array area: 383 km												
Distance to cable route: 391 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
River lamprey	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Sea lamprey	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Twaite shad	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Atlantic salmon.	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

## 2.101 Stage 1 Matrix: Vadehavet med Ribe Å, Tved Å og Varde Å vest for Varde SAC (Marine mammal features)

Name of European site: Vadehavet med Ribe Å, Tved Å og Varde Å vest for Varde SAC												
Distance to array area: 383 km												
Distance to cable route: 391 km												
European site features	Likely Effects of Hornsea Three											
	Behavioural disturbance/Physical injury			Changes to water quality			Changes in prey availability			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	Xa	Xa	Xa	Xb	Xb	Xb	Xc	Xc	Xc	Xa, b, c	Xa, b, c	Xa, b, c
Harbour seal	Xa	Xa	Xa	Xb	Xb	Xb	Xc	Xc	Xc	Xa, b, c	Xa, b, c	Xa, b, c
Harbour porpoise	Xa	Xa	Xa	Xb	Xb	Xb	Xc	Xc	Xc	Xa, b, c	Xa, b, c	Xa, b, c

### Evidence supporting conclusions

- Vadehavet med Ribe Å, Tved Å og Varde Å vest for Varde SAC is located a considerable distance from the array area (383 km) and offshore Hornsea Three offshore cable corridor (391 km) (see Table 5.10 of **HRA Screening Report**) therefore, no potential LSEs are anticipated concerning any marine mammal at this site, regarding underwater noise associated with Hornsea Three during construction (see Tables 6.4 – 6.6, HRA Screening Report). Notably due to being located beyond the various boundaries establishing potential LSEs, such as the JNCC agreed 26km safety boundary used for harbour porpoises (see paragraphs 6.2. 41 – 6. 2. 42, and Table 6.4. of **HRA Screening Report** ). No LSEs on marine mammals, regarding behavioural disturbance/physical injury, are anticipated during the operational phase either, given the low level and limited spatial extent of the radiated noise, the risk of behavioural impacts on marine mammals would be limited to the immediate vicinity of the turbines (see paragraphs 6.2.74 – 6.2.77, & Table 6.14, **HRA Screening Report** ). With regard to additional vessel noise affecting behavioural disturbance marine mammals No LSEs are expected as construction/decommissioning and operational/maintenance works would be relatively small in the context of baseline shipping activity in the area (Table 6.7 & 6.15, **HRA Screening Report**). This European site experiences high levels of commercial shipping and fishing vessel activity therefore marine mammals have become habituated to vessel noise. No LSE are anticipated in terms of vessel collision risk for marine mammals, as a relatively small increase in vessel traffic is associated with the construction/decommissioning and operation works of Hornsea Three (Table 6.8 & 6.16 of **HRA Screening Report**).With regard to Electro-magnetic Fields (EMFs) No LSE on marine mammals are anticipated, with effects being very localised and short-term (see paragraphs 6.2.88 – 6.2.90, and Table 6.17, HRA Screening Report).
- No LSEs on marine mammals are anticipated in relation to changes in water quality associated with suspended sediment and accidental pollution, during any stage of development; construction, decommissioning (Table 6.9 & 6.10, HRA Screening Report), and operation (Table 6.18, HRA Screening Report), of Hornsea Three.
- No LSE on marine mammals is anticipated in relation to changes in prey availability associated with the construction/decommissioning (Table 6.11 & 6.12, **HRA Screening Report**), or operation (Table 6.19, **HRA Screening Report**) of Hornsea Three.



2.102 Stage 1 Matrix: Venø, Venø Sund SAC (Annex 1 habitat features)

Name of European site: Venø, Venø Sund SAC												
Distance to array area: 469 km												
Distance to cable route: 487 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Coastal lagoons	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Large shallow inlets and bays	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Reefs	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Annual vegetation of drift lines	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Perennial vegetation of stony banks	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Salicornia and other annuals colonizing mud and sand	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Embryonic shifting dunes	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Fixed coastal dunes with herbaceous vegetation ("grey dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Decalcified fixed dunes with Empetrum nigrum	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
European dry heaths	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Species-rich Nardus grasslands, on silicious substrates in mountain areas (and submountain areas in Continental Europe)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions**

- b. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

2.103 Stage 1 Matrix: Venø, Venø Sund SAC (Migratory fish features)

Name of European site: Venø, Venø Sund SAC												
Distance to array area: 469 km												
Distance to cable route: 487 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Twaite shad	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.104 Stage 1 Matrix: Venø, Venø Sund SAC (Marine mammal features)

Name of European site: Venø, Venø Sund SAC												
Distance to array area: 469 km												
Distance to cable route: 487 km												
European site features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/Physical injury</i>			<i>Changes to water quality</i>			<i>Changes in prey availability</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Harbour seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions**

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.105 Stage 1 Matrix: Vlakte van de Raan pSCI (Annex I habitat features)

Name of European site: Vlakte van de Raan pSCI												
Distance to array area: 239 km												
Distance to cable route: 201 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the pSCI with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report). No LSE predicted for the Annex 1 habitat feature.

## 2.106 Stage 1 Matrix: Vlakte van de Raan pSCI (Migratory fish features)

Name of European site: Vlakte van de Raan pSCI												
Distance to array area: 239 km												
Distance to cable route: 201 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Twaite shad	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Sea lamprey	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the pSCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.107 Stage 1 Matrix: Vlakte van de Raan pSCI (Marine mammal features)

Name of European site: Vlakte van de Raan pSCI												
Distance to array area: 239 km												
Distance to cable route: 201 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>
Grey seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour seal	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>
Harbour porpoise	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>	<b>Xa</b>

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the pSCI with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.108 Stage 1 Matrix: Vlakte van de Raan SAC (Annex I habitat features)

Name of European site: Vlakte van de Raan SAC												
Distance to array area: 251 km												
Distance to cable route: 209 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report). No LSE predicted for the Annex 1 habitat feature.

2.109 Stage 1 Matrix: Vlakte van de Raan SAC (Migratory fish features)

Name of European site: Vlakte van de Raan SAC												
Distance to array area: 251 km												
Distance to cable route: 209 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	Behavioural disturbance/physical injury			Changes to water quality			Changes to habitat			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Twaiite shad	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
River lamprey	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Sea lamprey	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.



2.110 Stage 1 Matrix: Vlakte van de Raan SAC (Marine mammal features)

Name of European site: Vlakte van de Raan SAC												
Distance to array area: 251 km												
Distance to cable route: 209 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	Behavioural disturbance/physical injury			Changes to water quality			Changes to prey availability			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour porpoise	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

## 2.111 Stage 1 Matrix: Waddenzee SAC (Annex I habitat features)

Name of European site: Waddenzee SAC												
Distance to array area: 146 km												
Distance to cable route: 146 km												
SAC Annex I habitat features	Likely Effects of Hornsea Three											
	Changes to habitat			Changes to water quality			Changes to physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Mudflats and sandflats not covered by seawater at low tide	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Salicornia and other annuals colonizing mud and sand	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Spartina swards (Spartinion maritima)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Atlantic salt meadows (Glauco-Puccinellietalia maritima)	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Embryonic shifting dunes	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Shifting dunes along the shoreline with Ammophila arenaria ("white dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Fixed coastal dunes with herbaceous vegetation ("grey dunes")	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Dunes with Hippophaë rhamnoides	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Humid dune slacks	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SAC with regard to temporary or permanent loss of habitat, changes in the hydrodynamic regime or increased suspended sediment concentrations (See paragraphs 5.3.4 to 5.3.7 of HRA Screening Report) as the site is not within the zone of influence of Hornsea Three. No LSE predicted for the Annex 1 habitat feature.

2.112 Stage 1 Matrix: Waddenzee SAC (Migratory fish features)

Name of European site: Waddenzee SAC												
Distance to array area: 146 km												
Distance to cable route: 146 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to habitat</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Twaiite shad	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
River lamprey	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Sea lamprey	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.113 Stage 1 Matrix: Waddenzee SAC (Marine mammal features)

Name of European site: Waddenzee SAC												
Distance to array area: 146 km												
Distance to cable route: 146 km												
SAC marine mammal features	Likely Effects of Hornsea Three											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Harbour seal	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SAC with regard to disturbance effects or injury (noise/vessel traffic), changes to water quality (e.g. increased suspended sediment concentrations) or changes in prey availability, as site is not located within the regional marine mammal study area, as defined in the Hornsea Three Scoping Report (See paragraphs 5.3.14 to 5.3.17 of HRA Screening Report). No LSE predicted for the marine mammal feature.

2.114 Stage 1 Matrix: Abberton Reservoir SPA

Name of European site: Abberton Reservoir SPA												
Distance to array area: 241 km												
Distance to cable route: 125 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
<u>Article 4.1 – Winter</u>	C	O	D	C	O	D	C	O	D	C	O	D
Golden Plover <i>Pluvialis apricaria</i>		Xa			Xa			Xa			Xa	
<u>Article 4.2 – Migratory (Breeding)</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Cormorant <i>Phalacrocorax carbo</i>		Xb			Xa			Xa			Xa, b	
<u>Article 4.2 – Migratory (Winter)</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Gadwall <i>Anas strepera</i> ,		Xc			Xa			Xa			Xa, c	
Shoveler <i>Anas clypeata</i> ,		Xc			Xa			Xa			Xa, c	
Teal <i>Anas crecca</i>		Xc			Xa			Xa			Xa, c	
Mute Swan <i>Cygnus olor</i>		Xc			Xa			Xa			Xa, c	
<u>Article 4.2 – Assemblage (Winter)</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Black-tailed Godwit <i>Limosa limosa islandica</i>		Xa			Xa			Xa			Xa	
Lapwing <i>Vanellus vanellus</i>		Xa			Xa			Xa			Xa	
Coot <i>Fulica atra</i>		Xa			Xa			Xa			Xa	
Goldeneye <i>Bucephala clangula</i>		Xa			Xa			Xa			Xa	

Name of European site: Abberton Reservoir SPA												
Tufted Duck <i>Aythya fuligula</i>		Xa			Xa			Xa			Xa	
Pochard <i>Aythya farina</i>		Xa			Xa			Xa			Xa	
Pintail <i>Anas acuta</i>		Xa			Xa			Xa			Xa	
Wigeon <i>Anas Penelope</i>		Xa			Xa			Xa			Xa	
Cormorant <i>Phalacrocorax carbo</i>		Xa			Xa			Xa			Xa	
Great Crested Grebe <i>Podiceps cristatus</i>		Xa			Xa			Xa			Xa	
Shoveler <i>Anas clypeata</i>		Xa			Xa			Xa			Xa	
Teal <i>Anas crecca</i>		Xa			Xa			Xa			Xa	
Gadwall <i>Anas strepera</i>		Xa			Xa			Xa			Xa	
Golden Plover <i>Pluvialis apricaria</i>		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.
- b. No potential for collision risk as species will not migrate through Hornsea Three in numbers that may result in a significant effect (See B.2.1.2 Appendix B Environmental Statement: Volume 5, Annex 5.3 - Collision Risk Modelling). No LSE predicted for the bird feature.
- c. No potential for collision risk as species not recorded during boat-based surveys at Hornsea Project One, nor selected for inclusion based on proportion of birds occurring within the SPAs close to the former Hornsea Zone (as agreed in consultation with Natural England and JNCC) (see C.2.1.1 Appendix C, Environmental Statement: Volume 5, Annex 5.3 - Collision Risk Modelling). No LSE predicted for the bird feature.

## 2.115 Stage 1 Matrix: Abberton Reservoir Ramsar

Name of European site: Abberton Reservoir Ramsar												
Distance to array area: 241 km												
Distance to cable route: 125 km												
European site features	Likely Effects of Hornsea Three											
<u>Ramsar criterion 6 - species/populations occurring at levels of international importance</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Gadwall <i>Anas strepera</i> ,		Xa			Xa			Xa			Xa	
Shoveler <i>Anas clypeata</i> ,		Xa			Xa			Xa			Xa	
Wigeon <i>Anas Penelope</i>		Xa			Xa			Xa			Xa	
<u>Ramsar criterion 6 - species/populations identified subsequent to designation for possible future consideration under criterion 6.</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Pochard <i>Aythya farina</i>		Xa			Xa			Xa			Xa	
Mute swan <i>Cygnus olor</i>		Xa			Xa			Xa			Xa	
<u>Ramsar criterion 5</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
The site supports an assemblage of international importance of waterfowl with peak counts in winter.		Xa			Xa			Xa			Xa	

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

2.116 Stage 1 Matrix: Agrarraum und Bergbaufolgelandschaft bei Delitzsch SPA

Name of European site: Agrarraum und Bergbaufolgelandschaft bei Delitzsch SPA												
Distance to array area: 684 km												
Distance to cable route: 684 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Eurasian hobby ( <i>Falco subbuteo</i> )		Xa			Xa			Xa			Xa	
Bluethroat ( <i>Luscinia svecica</i> )		Xa			Xa			Xa			Xa	
Pygmy pipit ( <i>Anthus campestris</i> )		Xa			Xa			Xa			Xa	
Kingfisher ( <i>Alcedo atthis</i> )		Xa			Xa			Xa			Xa	
Corn bunting ( <i>Miliaria calandra</i> )		Xa			Xa			Xa			Xa	
Woodlark ( <i>Lullula arborea</i> )		Xa			Xa			Xa			Xa	
Lapwing ( <i>Vanellus vanellus</i> )		Xa			Xa			Xa			Xa	
Garganey ( <i>Anas querquedula</i> )		Xa			Xa			Xa			Xa	
Shoveler ( <i>Anas clypeata</i> )		Xa			Xa			Xa			Xa	
Red- backed Shrike ( <i>Lanius collurio</i> )		Xa			Xa			Xa			Xa	
Ortolan bunting ( <i>Emberiza hortulana</i> )		Xa			Xa			Xa			Xa	
Great grey shrike ( <i>Lanius excubitor</i> )		Xa			Xa			Xa			Xa	
Bittern ( <i>Botaurus stellaris</i> )		Xa			Xa			Xa			Xa	
Marsh harrier ( <i>Circus aeruginosus</i> )		Xa			Xa			Xa			Xa	
Red-necked Grebe ( <i>Podiceps grisegena</i> )		Xa			Xa			Xa			Xa	
Red kite ( <i>Milvus milvus</i> )		Xa			Xa			Xa			Xa	
Black-necked Grebe ( <i>Podiceps nigricollis</i> )		Xa			Xa			Xa			Xa	
Black- headed Gull ( <i>Larus melanocephalus</i> )		Xa			Xa			Xa			Xa	



Name of European site: Agrarraum und Bergbaufolgelandschaft bei Delitzsch SPA												
Black Kite ( <i>Milvus migrans</i> )		Xa			Xa			Xa			Xa	
Black Woodpecker ( <i>Dryocopus martius</i> )		Xa			Xa			Xa			Xa	
White-tailed Eagle ( <i>Haliaeetus albicilla</i> )		Xa			Xa			Xa			Xa	
Barred Warbler ( <i>Sylvia nisoria</i> )		Xa			Xa			Xa			Xa	
Wheatear ( <i>Oenanthe oenanthe</i> )		Xa			Xa			Xa			Xa	
Wryneck ( <i>Jynx torquilla</i> )		Xa			Xa			Xa			Xa	
Honey Buzzard ( <i>Pernis apivorus</i> )		Xa			Xa			Xa			Xa	
Hoopoe ( <i>Upupa epops</i> )		Xa			Xa			Xa			Xa	

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

2.117 Stage 1 Matrix: Ailsa Craig

Name of European site: Ailsa Craig SPA												
Distance to array area: 490 km (across land)												
Distance to cable route: 502 km (across land)												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
<u>Article 4.2 – Migratory (breeding)</u>	C	O	D	C	O	D	C	O	D	C	O	D
Gannet <i>Morus bassanus</i>		Xb			Xa			Xb			Xa,b	
Lesser Black-backed Gull <i>Larus fuscus</i>		Xb			Xa			Xb			Xa,b	
<u>Article 4.2 – Assemblage (breeding)</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Guillemot <i>Uria aalge</i>		Xa			Xa			Xa			Xa	
Herring Gull <i>Larus argentatus</i>		Xa			Xa			Xa			Xa	
Lesser Black-backed Gull <i>Larus fuscus</i>		Xa			Xa			Xa			Xa	
Gannet <i>Morus bassanus</i>		Xa			Xa			Xa			Xa	
Kittiwake <i>Rissa tridactyla</i>		Xa			Xa			Xa			Xa	

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.118 Stage 1 Matrix: Alde-Ore Estuary

Name of European site: Alde-Ore Estuary SPA												
Distance to array area: 43												
Distance to cable route: 43												
European site features	Likely Effects of Hornsea Three											
Article 4.2 – Breeding	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Lesser Black-backed Gull <i>Larus fuscus</i>		Xa			Xa			Xa			Xa	

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.119 Stage 1 Matrix: Benfleet and Southend Marshes SPA

Name of European site: Benfleet and Southend Marshes SPA												
Distance to array area: 277 km												
Distance to cable route: 160 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
<u>Article 4.2 – Migratory (Passage)</u>	C	O	D	C	O	D	C	O	D	C	O	D
Ringed Plover <i>Charadrius hiaticula</i>		Xb			Xa			Xa			Xa,b	
<u>Article 4.2 – Migratory (Winter)</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		Xb			Xa			Xa			Xa,b	
Knot <i>Calidris canutus</i>		Xb			Xa			Xa			Xa,b	
Grey Plover <i>Pluvialis squatarola</i>		Xb			Xa			Xa			Xa,b	
<u>Article 4.2 – Assemblage (Winter)</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Dunlin <i>Calidris alpina alpina</i>		Xa			Xa			Xa			Xa	
Ringed Plover <i>Charadrius hiaticula</i>		Xa			Xa			Xa			Xa	
Oystercatcher <i>Haematopus ostralegus</i>		Xa			Xa			Xa			Xa	
Knot <i>Calidris canutus</i>		Xa			Xa			Xa			Xa	
Grey Plover <i>Pluvialis squatarola</i>		Xa			Xa			Xa			Xa	
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.
- b. Potential for collision risk is negligible (see Section C.2 , Appendix C: Environmental Statement: Volume 5, Annex 5.3 - Collision Risk Modelling). No LSE predicted for the bird feature.

## 2.120 Stage 1 Matrix: Bergbaufolgelandschaft Bockwitz SPA

Name of European site: Bergbaufolgelandschaft Bockwitz SPA												
Distance to array area: 724 km												
Distance to cable route: 724 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Bluethroat ( <i>Luscinia svecica</i> )		Xa			Xa			Xa			Xa	
Pygmy pipit ( <i>Anthus campestris</i> )		Xa			Xa			Xa			Xa	
Corn bunting ( <i>Miliaria calandra</i> )		Xa			Xa			Xa			Xa	
Gray-headed Woodpecker ( <i>Picus canus</i> )		Xa			Xa			Xa			Xa	
Woodlark ( <i>Lullula arborea</i> )		Xa			Xa			Xa			Xa	
Lapwing ( <i>Vanellus vanellus</i> )		Xa			Xa			Xa			Xa	
Red- backed Shrike ( <i>Lanius collurio</i> )		Xa			Xa			Xa			Xa	
Great grey shrike ( <i>Lanius excubitor</i> )		Xa			Xa			Xa			Xa	
Bittern ( <i>Botaurus stellaris</i> )		Xa			Xa			Xa			Xa	
Marsh harrier ( <i>Circus aeruginosus</i> )		Xa			Xa			Xa			Xa	
Barred Warbler ( <i>Sylvia nisoria</i> )		Xa			Xa			Xa			Xa	
Wheatear ( <i>Oenanthe oenanthe</i> )		Xa			Xa			Xa			Xa	
Wryneck ( <i>Jynx torquilla</i> )		Xa			Xa			Xa			Xa	
Little bittern ( <i>Ixobrychus minutus</i> )		Xa			Xa			Xa			Xa	

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

## 2.121 Stage 1 Matrix: Bergbaufolgelandschaft Werben SPA

Name of European site: Bergbaufolgelandschaft Werben SPA												
Distance to array area: 700 km												
Distance to cable route: 700 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Pygmy pipit ( <i>Anthus campestris</i> )		Xa			Xa			Xa			Xa	
Kingfisher ( <i>Alcedo atthis</i> )		Xa			Xa			Xa			Xa	
Corn bunting ( <i>Miliaria calandra</i> )		Xa			Xa			Xa			Xa	
Red- backed Shrike ( <i>Lanius collurio</i> )		Xa			Xa			Xa			Xa	
Ortolan bunting ( <i>Emberiza hortulana</i> )		Xa			Xa			Xa			Xa	
Great grey shrike ( <i>Lanius excubitor</i> )		Xa			Xa			Xa			Xa	
Marsh harrier ( <i>Circus aeruginosus</i> )		Xa			Xa			Xa			Xa	
Barred Warbler ( <i>Sylvia nisoria</i> )		Xa			Xa			Xa			Xa	
Wheatear ( <i>Oenanthe oenanthe</i> )		Xa			Xa			Xa			Xa	
Wryneck ( <i>Jynx torquilla</i> )		Xa			Xa			Xa			Xa	

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

## 2.122 Stage 1 Matrix: Binnenbodden von Rügen SPA

Name of European site: Binnenbodden von Rügen SPA												
Distance to array area: 686 km												
Distance to cable route: 686 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Common Sandpiper ( <i>Actitis hypoleucos</i> )		Xa			Xa			Xa			Xa	
Kingfisher ( <i>Alcedo atthis</i> )		Xa			Xa			Xa			Xa	
Pintail ( <i>Anas acuta</i> )		Xa			Xa			Xa			Xa	
Shoveler ( <i>Anas clypeata</i> )		Xa			Xa			Xa			Xa	
Wigeon ( <i>Anas penelope</i> )		Xa			Xa			Xa			Xa	
Garganey ( <i>Anas querquedula</i> )		Xa			Xa			Xa			Xa	
Greater white-fronted goose ( <i>Anser albifrons albifrons</i> )		Xa			Xa			Xa			Xa	
Greylag goose ( <i>Anser anser</i> )		Xa			Xa			Xa			Xa	
Pochard ( <i>Aythya ferina</i> )		Xa			Xa			Xa			Xa	
Tufted duck ( <i>Aythya fuligula</i> )		Xa			Xa			Xa			Xa	
Scaup ( <i>Aythya marila</i> )		Xa			Xa			Xa			Xa	
Barnacle goose ( <i>Branta leucopsis</i> )		Xa			Xa			Xa			Xa	
Goldeneye ( <i>Bucephala clangula</i> )		Xa			Xa			Xa			Xa	
Dunlin ( <i>Calidris alpina</i> )		Xa			Xa			Xa			Xa	
Ringed plover ( <i>Charadrius hiaticula</i> )		Xa			Xa			Xa			Xa	
Black tern ( <i>Chlidonias niger</i> )		Xa			Xa			Xa			Xa	
Marsh harrier ( <i>Circus aeruginosus</i> )		Xa			Xa			Xa			Xa	



Name of European site: Binnenbodden von Rügen SPA												
Montagu's harrier ( <i>Circus pygargus</i> )		Xa			Xa			Xa			Xa	
Long tailed duck ( <i>Clangula hyemalis</i> )		Xa			Xa			Xa			Xa	
Quail ( <i>Coturnix coturnix</i> )		Xa			Xa			Xa			Xa	
Corncrake ( <i>Crex crex</i> )		Xa			Xa			Xa			Xa	
Bewick's swan ( <i>Cygnus columbianus bewickii</i> )		Xa			Xa			Xa			Xa	
Whooper swan ( <i>Cygnus cygnus</i> )		Xa			Xa			Xa			Xa	
Mute swan ( <i>Cygnus olor</i> )		Xa			Xa			Xa			Xa	
Black woodpecker ( <i>Dryocopus martius</i> )		Xa			Xa			Xa			Xa	
Great white egret ( <i>Egretta alba</i> )		Xa			Xa			Xa			Xa	
Kestrel ( <i>Falco tinnunculus</i> )		Xa			Xa			Xa			Xa	
Eurasian coot ( <i>Fulica atra atra</i> )		Xa			Xa			Xa			Xa	
Oystercatcher ( <i>Haematopus ostralegus</i> )		Xa			Xa			Xa			Xa	
White-tailed eagle ( <i>Haliaeetus albicilla</i> )		Xa			Xa			Xa			Xa	
Red-backed shrike ( <i>Lanius collurio</i> )		Xa			Xa			Xa			Xa	
Common gull ( <i>Larus canus</i> )		Xa			Xa			Xa			Xa	
Great black-backed gull ( <i>Larus marinus</i> )		Xa			Xa			Xa			Xa	
Mediterranean gull ( <i>Larus melanocephalus</i> )		Xa			Xa			Xa			Xa	
Little gull ( <i>Larus minutus</i> )		Xa			Xa			Xa			Xa	
Black-headed gull ( <i>Larus ridibundus</i> )		Xa			Xa			Xa			Xa	
Woodlark ( <i>Lullula arborea</i> )		Xa			Xa			Xa			Xa	
Smew ( <i>Mergus albellus</i> )		Xa			Xa			Xa			Xa	
Red-breasted merganser ( <i>Mergus serrator</i> )		Xa			Xa			Xa			Xa	
Red kite ( <i>Milvus milvus</i> )		Xa			Xa			Xa			Xa	

Name of European site: Binnenbodden von Rügen SPA												
Spotted flycatcher ( <i>Muscicapa striata</i> )		Xa			Xa			Xa			Xa	
Wheatear ( <i>Oenanthe oenanthe</i> )		Xa			Xa			Xa			Xa	
Osprey ( <i>Pandion haliaetus</i> )		Xa			Xa			Xa			Xa	
Cormorant ( <i>Phalacrocorax carbo sinensis</i> )		Xa			Xa			Xa			Xa	
Red-necked phalarope ( <i>Phalaropus lobatus</i> )		Xa			Xa			Xa			Xa	
Ruff ( <i>Philomachus pugnax</i> )		Xa			Xa			Xa			Xa	
Redstart ( <i>Phoenicurus phoenicurus</i> )		Xa			Xa			Xa			Xa	
Spotted crane ( <i>Porzana porzana</i> )		Xa			Xa			Xa			Xa	
Avocet ( <i>Recurvirostra avosetta</i> )		Xa			Xa			Xa			Xa	
Sand martin ( <i>Riparia riparia</i> )		Xa			Xa			Xa			Xa	
Woodcock ( <i>Scolopax rusticola</i> )		Xa			Xa			Xa			Xa	
Eider ( <i>Somateria mollissima</i> )		Xa			Xa			Xa			Xa	
Little tern ( <i>Sterna albifrons</i> )		Xa			Xa			Xa			Xa	
Caspian tern ( <i>Sterna caspia</i> )		Xa			Xa			Xa			Xa	
Common tern ( <i>Sterna hirundo</i> )		Xa			Xa			Xa			Xa	
Sandwich tern ( <i>Sterna sandvicensis</i> )		Xa			Xa			Xa			Xa	
Turtle dove ( <i>Streptopelia turtur</i> )		Xa			Xa			Xa			Xa	
Barred warbler ( <i>Sylvia nisoria</i> )		Xa			Xa			Xa			Xa	
Shelduck ( <i>Tadorna tadorna</i> )		Xa			Xa			Xa			Xa	
Wood sandpiper ( <i>Tringa glareola</i> )		Xa			Xa			Xa			Xa	
Redshank ( <i>Tringa totanus</i> )		Xa			Xa			Xa			Xa	
Lapwing ( <i>Vanellus vanellus</i> )		Xa			Xa			Xa			Xa	

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

## 2.123 Stage 1 Matrix: Bowland Fells

Name of European site: Bowland Fells SPA												
Distance to array area: 306 km												
Distance to cable route: 315 km												
	Likely Effects of Hornsea Three											
Article 4.1 – Breeding	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Hen Harrier <i>Circus cyaneus</i>		Xa			Xa			Xa			Xa	
Merlin <i>Falco columbarius</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Migratory (breeding)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Lesser Black-backed Gull <i>Larus fuscus</i>		Xa			Xa			Xa			Xa	

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.124 Stage 1 Matrix: Blackwater Estuary (Mid-Essex Coast Phase 4) SPA

Name of European site: Blackwater Estuary SPA												
Distance to array area: 244 km												
Distance to cable route: 128 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 – Breeding	C	O	D	C	O	D	C	O	D	C	O	D
Little tern <i>Sterna albifrons</i>		Xa			Xa			Xa			Xa	
Pochard <i>Aythya farina</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Winter	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Avocet <i>Recurvirostra avosetta</i>		Xa			Xa			Xa			Xa	
Golden Plover <i>Pluvialis apricaria</i>		Xa			Xa			Xa			Xa	
Hen Harrier <i>Circus cyaneus</i>		Xa			Xa			Xa			Xa	
Ruff <i>Philomachus pugnax</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Migratory (On passage)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Ringed Plover <i>Charadrius hiaticula</i>		Xb			Xa			Xa			Xa	
Article 4.2 – Migratory (Winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Black-tailed Godwit <i>Limosa limosa islandica</i>		Xc			Xa			Xb			Xa,b, c	
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		Xc			Xa			Xb			Xa,b, c	
Dunlin <i>Calidris alpina alpina</i>		Xc			Xa			Xb			Xa,b, c	

Name of European site: Blackwater Estuary SPA												
Grey Plover <i>Pluvialis squatarola</i>		Xc			Xa			Xb			Xa,b, c	
Redshank <i>Tringa totanus</i>		Xb			Xa			Xb			Xa,b	
Ringed Plover <i>Charadrius hiaticula</i>		Xb			Xa			Xb			Xa,b	
Shelduck <i>Tadorna tadorna</i>		Xc			Xa			Xb			Xa,b, c	
Article 4.2 – Assemblage (Winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Great Crested Grebe <i>Podiceps cristatus</i>		Xa			Xa			Xa			Xa	
Golden Plover <i>Pluvialis apricaria</i>		Xa			Xa			Xa			Xa	
Ruff <i>Philomachus pugnax</i>		Xa			Xa			Xa			Xa	
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		Xa			Xa			Xa			Xa	
Shelduck <i>Tadorna tadorna</i>		Xa			Xa			Xa			Xa	
Ringed Plover <i>Charadrius hiaticula</i>		Xa			Xa			Xa			Xa	
Grey Plover <i>Pluvialis squatarola</i>		Xa			Xa			Xa			Xa	
Dunlin <i>Calidris alpina alpina</i>		Xa			Xa			Xa			Xa	
Avocet <i>Recurvirostra avosetta</i>		Xa			Xa			Xa			Xa	
Redshank <i>Tringa totanus</i>		Xa			Xa			Xa			Xa	
Curlew <i>Numenius arquata</i>		Xa			Xa			Xa			Xa	
Cormorant <i>Phalacrocorax carbo</i>		Xa			Xa			Xa			Xa	
Wigeon <i>Anas penelope</i>		Xa			Xa			Xa			Xa	
Teal <i>Anas crecca</i>		Xa			Xa			Xa			Xa	
Pintail <i>Anas acuta</i>		Xa			Xa			Xa			Xa	
Shoveler <i>Anas clypeata</i>		Xa			Xa			Xa			Xa	
Goldeneye <i>Bucephala clangula</i>		Xa			Xa			Xa			Xa	

Name of European site: Blackwater Estuary SPA												
Red-breasted Merganser <i>Mergus serrator</i>		Xa			Xa			Xa			Xa	
Lapwing <i>Vanellus vanellus</i>		Xa			Xa			Xa			Xa	
Black-tailed Godwit <i>Limosa limosa islandica</i>		Xa			Xa			Xa			Xa	

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.
- b. No potential for collision risk as species not recorded during boat-based surveys at Hornsea Project One, nor selected for inclusion based on proportion of birds occurring within the SPAs close to the former Hornsea Zone (as agreed in consultation with Natural England and JNCC) (see C.2.1.1 Appendix C, Environmental Statement: Volume 5, Annex 5.3 - Collision Risk Modelling). No LSE predicted for the bird feature.
- c. Potential for collision risk is negligible (see Section C.2 , Appendix C: Environmental Statement: Volume 5, Annex 5.3 - Collision Risk Modelling). No LSE predicted for the bird feature.

## 2.125 Stage 1 Matrix: Blackwater Estuary Ramsar

Name of European site: Blackwater Estuary Ramsar												
Distance to array area: 244 km												
Distance to cable route: 128 km												
European site features	Likely Effects of Hornsea Three											
<u>Ramsar criterion 6 - species/populations occurring at levels of international importance</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		Xa			Xb			Xb			Xa,b	
Grey Plover <i>Pluvialis squatarola</i>		Xa			Xb			Xb			Xa,b	
Black-tailed Godwit <i>Limosa limosa islandica</i>		Xa			Xb			Xb			Xa,b	
Dunlin <i>Calidris alpina alpina</i>		Xa			Xb			Xb			Xa,b	
<u>Ramsar criterion 6 - species/populations identified subsequent to designation for possible future consideration under criterion 6.</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Shelduck <i>Tadorna tadorna</i>		Xa			Xb			Xb			Xa,b	
Golden Plover <i>Pluvialis apricaria</i>		Xa			Xb			Xb			Xa,b	
<u>Ramsar criterion 5</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
The site supports an assemblage of international importance of waterfowl with peak counts in winter.		Xb			Xb			Xb			Xb	

### Evidence to support conclusions

- Potential for collision risk is negligible (see Section C.2 , Appendix C: Environmental Statement: Volume 5, Annex 5.3 - Collision Risk Modelling). No LSE predicted for the bird feature.
- No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.



2.126 Stage 1 Matrix: Breydon Water SPA

Name of European site: Breydon Water SPA												
Distance to array area: 139 km												
Distance to cable route: 45 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 – Breeding	C	O	D	C	O	D	C	O	D	C	O	D
Common Tern <i>Sterna hirundo</i>		Xa			Xa			Xa			Xa	
Article 4.1 – Over winter	C	O	D	C	O	D	C	O	D	C	O	D
Avocet <i>Recurvirostra avosetta</i>		Xa			Xa			Xa			Xa	
Bewick's Swan <i>Cygnus columbianus bewickii</i>		Xa			Xa			Xa			Xa	
Golden Plover <i>Pluvialis apricaria</i>		Xa			Xa			Xa			Xa	
Ruff <i>Philomachus pugnax</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Assemblage (Waterfowl)	C	O	D	C	O	D	C	O	D	C	O	D
Black-tailed Godwit <i>Limosa limosa islandica</i>		Xa			Xa			Xa			Xa	
Dunlin <i>Calidris alpina alpina</i>		Xa			Xa			Xa			Xa	
Lapwing <i>Vanellus vanellus</i>		Xa			Xa			Xa			Xa	
Shoveler <i>Anas clypeata</i>		Xa			Xa			Xa			Xa	
Wigeon <i>Anas penelope</i>		Xa			Xa			Xa			Xa	
White-fronted Goose <i>Anser albifrons albifrons</i>		Xa			Xa			Xa			Xa	
Cormorant <i>Phalacrocorax carbo</i>		Xa			Xa			Xa			Xa	



Name of European site: Breydon Water SPA												
Golden Plover <i>Pluvialis apricaria</i>		Xa			Xa			Xa			Xa	
Avocet <i>Recurvirostra avosetta</i>		Xa			Xa			Xa			Xa	
Bewick's Swan <i>Cygnus columbianus bewickii</i>		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

2.127 Stage 1 Matrix: Broadland SPA

Name of European site: Broadland SPA												
Distance to array area: 127 km												
Distance to cable route: 24 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 – Breeding	C	O	D	C	O	D	C	O	D	C	O	D
Bittern <i>Botaurus stellaris</i>		Xa			Xa			Xa			Xa	
Marsh Harrier <i>Circus aeruginosus</i>		Xa			Xa			Xa			Xa	
Article 4.1 – Over winter	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Bewick's Swan <i>Cygnus columbianus bewickii</i>		Xa			Xa			Xa			Xa	
Bittern <i>Botaurus stellaris</i>		Xa			Xa			Xa			Xa	
Hen Harrier <i>Circus cyaneus</i>		Xa			Xa			Xa			Xa	
Ruff <i>Philomachus pugnax</i>		Xa			Xa			Xa			Xa	
Whooper Swan <i>Cygnus cygnus</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Migratory (Over winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Gadwall <i>Anas strepera</i>		Xb			Xa			Xb			Xa,b	
Pink-footed Goose <i>Anser brachyrhynchus</i>		Xb			Xa			Xb			Xa,b	
Shoveler <i>Anas clypeata</i>		Xb			Xa			Xb			Xa,b	
Article 4.2 – Assemblage (Waterfowl)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D

Name of European site: Broadland SPA												
Cormorant <i>Phalacrocorax carbo</i>		Xa			Xa			Xa			Xa	
Bewick's Swan <i>Cygnus columbianus bewickii</i>		Xa			Xa			Xa			Xa	
Whooper Swan <i>Cygnus cygnus</i>		Xa			Xa			Xa			Xa	
Ruff <i>Philomachus pugnax</i>		Xa			Xa			Xa			Xa	
Pink-footed Goose <i>Anser brachyrhynchus</i>		Xa			Xa			Xa			Xa	
Bittern <i>Botaurus stellaris</i>		Xa			Xa			Xa			Xa	
Great Crested Grebe <i>Podiceps cristatus</i>		Xa			Xa			Xa			Xa	
Coot <i>Fulica atra</i>		Xa			Xa			Xa			Xa	
Bean Goose <i>Anser fabalis</i>		Xa			Xa			Xa			Xa	
White-fronted Goose <i>Anser albifrons albifrons</i>		Xa			Xa			Xa			Xa	
Wigeon <i>Anas penelope</i>		Xa			Xa			Xa			Xa	
Teal <i>Anas crecca</i>		Xa			Xa			Xa			Xa	
Pochard <i>Aythya ferina</i>		Xa			Xa			Xa			Xa	
Tufted Duck <i>Aythya fuligula</i>		Xa			Xa			Xa			Xa	
Shoveler <i>Anas clypeata</i>		Xa			Xa			Xa			Xa	
Gadwall <i>Anas strepera</i>		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.
- b. No potential for collision risk as species not recorded during boat-based surveys at Hornsea Project One, nor selected for inclusion based on proportion of birds occurring within the SPAs close to the former Hornsea Zone (as agreed in consultation with Natural England and JNCC) (see C.2.1.1 Appendix C, Environmental Statement: Volume 5, Annex 5.3 - Collision Risk Modelling). No LSE predicted for the bird feature.

2.128 Stage 1 Matrix: Buchan Ness to Collieston Coast SPA

Name of European site: Buchan Ness to Collieston Coast SPA												
Distance to array area: 453 km												
Distance to cable route: 457 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.2 – Assemblage	C	O	D	C	O	D	C	O	D	C	O	D
Guillemot <i>Uria aalge</i>		Xa			Xa			Xa			Xa	
Kittiwake <i>Rissa tridactyla</i>		Xa			Xa			Xa			Xa	
Herring Gull <i>Larus argentatus</i>		Xa			Xa			Xa			Xa	
Shag <i>Phalacrocorax aristotelis</i>		Xa			Xa			Xa			Xa	
Fulmar <i>Fulmarus glacialis</i>		Xa			Xa			Xa			Xa	

Evidence to support conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

## 2.129 Stage 1 Matrix: Calf of Eday SPA

Name of European site: Calf of Eday SPA												
Distance to array area: 654 km												
Distance to cable route: 659 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Guillemot		Xa			Xa			Xa			Xa	
Kittwake		Xa			Xa			Xa			Xa	
Great black-backed gull		Xa			Xa			Xa			Xa	
Cormorant		Xa			Xa			Xa			Xa	
Fulmar		Xa			Xa			Xa			Xa	

### Evidence to support conclusions:

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.131 Stage 1 Matrix: Canna and Sanday

Name of European site: Canna and Sanday SPA												
Distance to array area: 654 km												
Distance to cable route: 659 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Guillemot		Xa			Xa			Xa			Xa	
Kittwake		Xa			Xa			Xa			Xa	
Herring gull		Xa			Xa			Xa			Xa	
Shag		Xa			Xa			Xa			Xa	
Puffin		Xa			Xa			Xa			Xa	

Evidence to support conclusions:

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.132 Stage 1 Matrix: Cape Wrath SPA

Name of European site: Cape Wrath SPA												
Distance to array area: 669 km												
Distance to cable route: 674 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Puffin		Xa			Xa			Xa			Xa	
Razorbill		Xa			Xa			Xa			Xa	
Guillemot		Xa			Xa			Xa			Xa	
Kittiwake		Xa			Xa			Xa			Xa	
Fulmar		Xa			Xa			Xa			Xa	

Evidence to support conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.133 Stage 1 Matrix: Colne Estuary SPA and Ramsar

Name of European site: Colne Estuary SPA												
Distance to array area: 238 km												
Distance to cable route: 123 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 – Breeding	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Little Tern <i>Sterna albifrons</i>		Xa			Xa			Xa			Xa	
Article 4.1 – Winter	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Avocet <i>Recurvirostra avosetta</i>		Xa			Xa			Xa			Xa	
Golden Plover <i>Pluvialis apricaria</i>		Xa			Xa			Xa			Xa	
Hen Harrier <i>Circus cyaneus</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Migratory (Winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		Xa			Xa			Xa			Xa	
Redshank <i>Tringa totanus</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Assemblage (Winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Black-tailed Godwit <i>Limosa limosa islandica</i>		Xa			Xa			Xa			Xa	
Dunlin <i>Calidris alpina alpina</i>		Xa			Xa			Xa			Xa	
Lapwing <i>Vanellus vanellus</i>		Xa			Xa			Xa			Xa	
Grey Plover <i>Pluvialis squatarola</i>		Xa			Xa			Xa			Xa	
Ringed Plover <i>Charadrius hiaticula</i>		Xa			Xa			Xa			Xa	



Name of European site: Colne Estuary SPA												
Shelduck <i>Tadorna tadorna</i>		Xa			Xa			Xa			Xa	
Cormorant <i>Phalacrocorax carbo</i>		Xa			Xa			Xa			Xa	
Great Crested Grebe <i>Podiceps cristatus</i>		Xa			Xa			Xa			Xa	
Redshank <i>Tringa totanus</i>		Xa			Xa			Xa			Xa	
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		Xa			Xa			Xa			Xa	
Golden Plover <i>Pluvialis apricaria</i>		Xa			Xa			Xa			Xa	
Avocet <i>Recurvirostra avosetta</i>		Xa			Xa			Xa			Xa	
<u>Article 4.2 – Migratory (Breeding)</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Ringed Plover <i>Charadrius hiaticula</i>		Xa			Xa			Xa			Xa	
Pochard <i>Aythya ferina</i>		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- c. No direct or indirect effects are predicted in the breeding season as Hornsea Three is not within the mean-max foraging range of breeding bird features from the SPA. No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See paragraph 5.3.18 of HRA Screening Report). No LSE predicted for the bird feature.

2.134 Stage 1 Matrix: Copinsay SPA

Name of European site: Copinsay SPA												
Distance to array area: 619 km												
Distance to cable route: 624 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Guillemot		Xa			Xa			Xa			Xa	
Kittiwake		Xa			Xa			Xa			Xa	
Great black-backed gull		Xa			Xa			Xa			Xa	
Fulmar		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.135 Stage 1 Matrix: Coquet Island SPA

Name of European site: Coquet Island SPA												
Distance to array area: 283 km												
Distance to cable route: 288 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 – Breeding	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Arctic Tern <i>Sterna paradisaea</i>		Xa			Xa			Xa			Xa	
Common Tern <i>Sterna hirundo</i>		Xa			Xa			Xa			Xa	
Roseate Tern <i>Sterna dougallii</i>		Xa			Xa			Xa			Xa	
Sandwich Tern <i>Sterna sandvicensis</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Migratory (Breeding)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Puffin <i>Fratercula arctica</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Assemblage (Breeding)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Black-headed Gull <i>Larus ridibundus</i>		Xa			Xa			Xa			Xa	
Puffin <i>Fratercula arctica</i>		Xa			Xa			Xa			Xa	
Arctic Tern <i>Sterna paradisaea</i>		Xa			Xa			Xa			Xa	
Common Tern <i>Sterna hirundo</i>		Xa			Xa			Xa			Xa	
Roseate Tern <i>Sterna dougallii</i>		Xa			Xa			Xa			Xa	
Sandwich Tern <i>Sterna sandvicensis</i>		Xa			Xa			Xa			Xa	
Non-listed	Collision			Barrier			Displacement			In-combination		

Name of European site: Coquet Island SPA												
	C	O	D	C	O	D	C	O	D	C	O	D
Fulmar <i>Fulmarus glacialis</i>		Xc			Xc			✓b			✓b	

**Evidence to support conclusions:**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.
- b. Hornsea Three lies within the mean maximum foraging range of fulmar ( $400 \pm 245.8$  km; Thaxter *et al.*, 2012). Fulmar is not a qualifying feature in its own right but is a non-listed assemblage feature. LSE cannot be discounted for potential impact of displacement.
- c. No direct or indirect effects are predicted due to impacts associated with Hornsea Three, due to lack of pathway for effect. (See section 7.5.3, RIAA) No LSE predicted for the bird feature.

2.136 Stage 1 Matrix: Cromarty Firth SPA

Name of European site: Cromarty Firth SPA												
Distance to array area: 566 km												
Distance to cable route: 571 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 – Breeding	C	O	D	C	O	D	C	O	D	C	O	D
Common Tern <i>Sterna hirundo</i>		Xa			Xa			Xa			Xa	
Osprey <i>Pandion haliaetus</i>		Xa			Xa			Xa			Xa	
Article 4.1 – Winter	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Bar-tailed Godwit <i>Limosa lapponica</i>		Xa			Xa			Xa			Xa	
Whooper Swan <i>Cygnus cygnus</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Migratory Species (Over winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Greylag Goose		Xa			Xa			Xa			Xa	
Article 4.2 – Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Redshank <i>Tringa totanus</i>		Xa			Xa			Xa			Xa	
Curlew <i>Numenius arquata</i>		Xa			Xa			Xa			Xa	
Dunlin <i>Calidris alpina alpina</i>		Xa			Xa			Xa			Xa	
Knot <i>Calidris canutus</i>		Xa			Xa			Xa			Xa	
Oystercatcher <i>Haematopus ostralegus</i>		Xa			Xa			Xa			Xa	
Red-breasted Merganser <i>Mergus serrator</i>		Xa			Xa			Xa			Xa	

Name of European site: Cromarty Firth SPA												
Scaup <i>Aythya marila</i>		Xa			Xa			Xa			Xa	
Pintail <i>Anas acuta</i>		Xa			Xa			Xa			Xa	
Wigeon <i>Anas penelope</i>		Xa			Xa			Xa			Xa	
Greylag Goose <i>Anser anser</i>		Xa			Xa			Xa			Xa	
Bar-tailed Godwit <i>Limosa lapponica</i>		Xa			Xa			Xa			Xa	
Whooper Swan <i>Cygnus cygnus</i>		Xa			Xa			Xa			Xa	

**Evidence supporting conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.137 Stage 1 Matrix: Crouch and Roach Estuaries SPA and Ramsar

Name of European site: Crouch and Roach Estuaries SPA and Ramsar												
Distance to array area: 262 km												
Distance to cable route: 148 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Common tern		Xa			Xa			Xa			Xa	
Osprey		Xa			Xa			Xa			Xa	
Bar-tailed godwit		Xa			Xa			Xa			Xa	
Whooper swan		Xa			Xa			Xa			Xa	
Greylag goose		Xa			Xa			Xa			Xa	
Redshank		Xa			Xa			Xa			Xa	
Curlew		Xa			Xa			Xa			Xa	
Dunlin		Xa			Xa			Xa			Xa	
Knot		Xa			Xa			Xa			Xa	
Oystercatcher		Xa			Xa			Xa			Xa	
Red breasted merganser		Xa			Xa			Xa			Xa	
Scaup		Xa			Xa			Xa			Xa	
Pintail		Xa			Xa			Xa			Xa	
Wigeon		Xa			Xa			Xa			Xa	
Greylag goose		Xa			Xa			Xa			Xa	
Barttailed godwit		Xa			Xa			Xa			Xa	
Whooper swan		Xa			Xa			Xa			Xa	

**Evidence supporting conclusions**

- a. No direct or indirect effects are predicted in the breeding season as Hornsea Three is not within the mean-max foraging range of breeding bird features from the SPA (see paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See paragraph 5.3.18 of HRA Screening Report and section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.



2.138 Stage 1 Matrix: Deben Estuary SPA

Name of European site: Denden Estuary SPA												
Distance to array area: 201 km												
Distance to cable route: 94 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Common tern		Xa			Xa			Xa			Xa	
Osprey		Xa			Xa			Xa			Xa	
Bar-tailed godwit		Xa			Xa			Xa			Xa	
Whooper swan		Xa			Xa			Xa			Xa	
Greylag goose		Xa			Xa			Xa			Xa	
Redshank		Xa			Xa			Xa			Xa	
Curlew		Xa			Xa			Xa			Xa	
Dunlin		Xa			Xa			Xa			Xa	
Knot		Xa			Xa			Xa			Xa	
Oystercatcher		Xa			Xa			Xa			Xa	
Red breasted merganser		Xa			Xa			Xa			Xa	
Scaup		Xa			Xa			Xa			Xa	
Pintail		Xa			Xa			Xa			Xa	
Wigeon		Xa			Xa			Xa			Xa	
Greylag goose		Xa			Xa			Xa			Xa	
Bar-tailed godwit		Xa			Xa			Xa			Xa	

Name of European site: Denden Estuary SPA											
Whooper swan		Xa			Xa			Xa			Xa

**Evidence supporting conclusions**

- a. No direct or indirect effects are predicted in the breeding season as Hornsea Three is not within the mean-max foraging range of breeding bird features from the SPA (see paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See paragraph 5.3.18 of HRA Screening Report and section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.139 Stage 1 Matrix: Dengie Marshes SPA and Ramsar

Name of European site: Dengie Marshes SPA												
Distance to array area: 249 km												
Distance to cable route: 135 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 – Winter	C	O	D	C	O	D	C	O	D	C	O	D
Bar-tailed Godwit <i>Limosa lapponica</i>		Xa			Xa			Xa			Xa	
Hen Harrier <i>Circus cyaneus</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Migratory (Winter)	C	O	D	C	O	D	C	O	D	C	O	D
Grey Plover <i>Pluvialis squatarola</i>		Xa			Xa			Xa			Xa	
Knot <i>Calidris canutus</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Assemblage (Winter)	C	O	D	C	O	D	C	O	D	C	O	D
Black-tailed Godwit <i>Limosa limosa islandica</i>		Xa			Xa			Xa			Xa	
Dunlin <i>Calidris alpina alpina</i>		Xa			Xa			Xa			Xa	
Lapwing <i>Vanellus vanellus</i>		Xa			Xa			Xa			Xa	
Oystercatcher <i>Haematopus ostralegus</i>		Xa			Xa			Xa			Xa	
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		Xa			Xa			Xa			Xa	
Cormorant <i>Phalacrocorax carbo</i>		Xa			Xa			Xa			Xa	
Great Crested Grebe <i>Podiceps cristatus</i>		Xa			Xa			Xa			Xa	
Knot <i>Calidris canutus</i>		Xa			Xa			Xa			Xa	

Name of European site: Dengie Marshes SPA												
Grey Plover <i>Pluvialis squatarola</i>		Xa			Xa			Xa			Xa	
Bar-tailed Godwit <i>Limosa lapponica</i>		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effects are predicted in the breeding season as Hornsea Three is not within the mean-max foraging range of breeding bird features from the SPA (see paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See paragraph 5.3.18 of HRA Screening Report and section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.140 Stage 1 Matrix: Diepholzer Moorniederung SPA

Name of European site: Diepholzer Moorniederung SPA												
Distance to array area: 400 km												
Distance to cable route: 400 km												
Likely Effects of Hornsea Three												
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Shoveler		Xa			Xa			Xa			Xa	
Garganey		Xa			Xa			Xa			Xa	
Greylag goose		Xa			Xa			Xa			Xa	
Short-eared owl		Xa			Xa			Xa			Xa	
Tufted duck		Xa			Xa			Xa			Xa	
Nightjar		Xa			Xa			Xa			Xa	
Black tern		Xa			Xa			Xa			Xa	
Hen harrier		Xa			Xa			Xa			Xa	
Montagu's harrier		Xa			Xa			Xa			Xa	
Quail		Xa			Xa			Xa			Xa	
Black woodpecker		Xa			Xa			Xa			Xa	
Ortolan bunting		Xa			Xa			Xa			Xa	
Hobby		Xa			Xa			Xa			Xa	
Snipe		Xa			Xa			Xa			Xa	
Oystercatcher		Xa			Xa			Xa			Xa	
Red-backed shrike		Xa			Xa			Xa			Xa	
Common gull		Xa			Xa			Xa			Xa	
Black-headed gull		Xa			Xa			Xa			Xa	
Woodlark		Xa			Xa			Xa			Xa	
Red kite		Xa			Xa			Xa			Xa	

Name of European site: Diepholzer Moorniederung SPA												
Yellow wagtail		Xa			Xa			Xa			Xa	
Wheatear		Xa			Xa			Xa			Xa	
Golden oriole		Xa			Xa			Xa			Xa	
Redstart		Xa			Xa			Xa			Xa	
Golden plover		Xa			Xa			Xa			Xa	
Winchat		Xa			Xa			Xa			Xa	
Stonechat		Xa			Xa			Xa			Xa	
Black grouse		Xa			Xa			Xa			Xa	
Spotted redshank		Xa			Xa			Xa			Xa	
Wood sandpiper		Xa			Xa			Xa			Xa	
Greenshank		Xa			Xa			Xa			Xa	
Redshank		Xa			Xa			Xa			Xa	
Lapwing		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effects are predicted in the breeding season as Hornsea Three is not within the mean-max foraging range of breeding bird features from the SPA (see paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See paragraph 5.3.18 of HRA Screening Report and section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.141 Stage 1 Matrix: Dornoch Firth and Loch Fleet SPA

Name of European site: Dornoch Firth & Loch Fleet SPA												
Distance to array area: 569 km												
Distance to cable route: 574 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 – Breeding	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Osprey <i>Pandion haliaetus</i>		Xa			Xa			Xa			Xa	
Article 4.1 – Winter	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Bar-tailed Godwit <i>Limosa lapponica</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Migratory Species (Over winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Greylag Goose		Xa			Xa			Xa			Xa	
Wigeon <i>Anas penelope</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Curlew <i>Numenius arquata</i>		Xa			Xa			Xa			Xa	
Dunlin <i>Calidris alpina alpina</i>		Xa			Xa			Xa			Xa	
Oystercatcher <i>Haematopus ostralegus</i>		Xa			Xa			Xa			Xa	
Teal <i>Anas crecca</i>		Xa			Xa			Xa			Xa	
Wigeon <i>Anas penelope</i>		Xa			Xa			Xa			Xa	
Greylag Goose <i>Anser anser</i>		Xa			Xa			Xa			Xa	

Name of European site: Dornoch Firth & Loch Fleet SPA											
Bar-tailed Godwit <i>Limosa lapponica</i>		Xa			Xa			Xa			Xa

**Evidence to support conclusions**

- a. No direct or indirect effects are predicted in the breeding season as Hornsea Three is not within the mean-max foraging range of breeding bird features from the SPA (see paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See paragraph 5.3.18 of HRA Screening Report and section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.



2.142 Stage 1 Matrix: Dümmer SPA

Name of European site: Dümmer SPA												
Distance to array area: 391 km												
Distance to cable route: 391 km												
Likely Effects of Hornsea Three												
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Great reed warbler		Xa			Xa			Xa			Xa	
Sedge warbler		Xa			Xa			Xa			Xa	
Pintail		Xa			Xa			Xa			Xa	
Shoveler		Xa			Xa			Xa			Xa	
Wigeon		Xa			Xa			Xa			Xa	
Garganey		Xa			Xa			Xa			Xa	
Greater white-fronted goose		Xa			Xa			Xa			Xa	
Greylag goose		Xa			Xa			Xa			Xa	
Short-eared owl		Xa			Xa			Xa			Xa	
Tufted duck		Xa			Xa			Xa			Xa	
Eurasian bittern		Xa			Xa			Xa			Xa	
Goldeneye		Xa			Xa			Xa			Xa	
Black tern		Xa			Xa			Xa			Xa	
Marsh harrier		Xa			Xa			Xa			Xa	
Hen harrier		Xa			Xa			Xa			Xa	
Quail		Xa			Xa			Xa			Xa	
Corncrake		Xa			Xa			Xa			Xa	
Bewick's swan		Xa			Xa			Xa			Xa	
Whooper swan		Xa			Xa			Xa			Xa	
Mute swan		Xa			Xa			Xa			Xa	

Name of European site: Dümmer SPA												
Coot		Xa			Xa			Xa			Xa	
Snipe		Xa			Xa			Xa			Xa	
Oystercatcher		Xa			Xa			Xa			Xa	
Red-backed shrike		Xa			Xa			Xa			Xa	
Herring gull		Xa			Xa			Xa			Xa	
Common gull		Xa			Xa			Xa			Xa	
Mediterranean Gull		Xa			Xa			Xa			Xa	
Little gull		Xa			Xa			Xa			Xa	
Black-headed gull		Xa			Xa			Xa			Xa	
Savi's warbler		Xa			Xa			Xa			Xa	
Nightingale		Xa			Xa			Xa			Xa	
Smew		Xa			Xa			Xa			Xa	
Yellow wagtail		Xa			Xa			Xa			Xa	
Red-crested pochard		Xa			Xa			Xa			Xa	
Golden oriole		Xa			Xa			Xa			Xa	
Cormorant		Xa			Xa			Xa			Xa	
Ruff		Xa			Xa			Xa			Xa	
Red-necked grebe		Xa			Xa			Xa			Xa	
Golden plover		Xa			Xa			Xa			Xa	
Winchat		Xa			Xa			Xa			Xa	
Shelduck		Xa			Xa			Xa			Xa	
Black grouse		Xa			Xa			Xa			Xa	
Greenshank		Xa			Xa			Xa			Xa	
Redshank		Xa			Xa			Xa			Xa	
Lapwing		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature..

2.143 Stage 1 Matrix: East Caithness Cliffs SPA

Name of European site: East Caithness Cliffs SPA												
Distance to array area: 583 km												
Distance to cable route: 587 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 – Breeding	C	O	D	C	O	D	C	O	D	C	O	D
Peregrine <i>Falco peregrinus</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Migratory Species (breeding)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Guillemot <i>Uria aalge</i>		Xa			Xa			Xa			X	
Herring Gull <i>Larus argentatus</i>		Xa			Xa			Xa			Xa	
Kittiwake <i>Rissa tridactyla</i>		Xa			Xa			Xa			Xa	
Razorbill <i>Alca torda</i>		Xa			Xa			Xa			Xa	
Shag <i>Phalacrocorax aristotelis</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Puffin <i>Fratercula arctica</i>		Xa			Xa			Xa			Xa	
Great Black-backed Gull <i>Larus marinus</i>		Xa			Xa			Xa			Xa	
Cormorant <i>Phalacrocorax carbo</i>		Xa			Xa			Xa			Xa	
Fulmar <i>Fulmarus glacialis</i>		Xa			Xa			Xa			Xa	
Razorbill <i>Alca torda</i>		Xa			Xa			Xa			Xa	
Guillemot <i>Uria aalge</i>		Xa			Xa			Xa			Xa	
Kittiwake <i>Rissa tridactyla</i>		Xa			Xa			Xa			Xa	

Name of European site: East Caithness Cliffs SPA												
Herring Gull <i>Larus argentatus</i>		Xa			Xa			Xa			Xa	
Shag <i>Phalacrocorax aristotelis</i>		Xa			Xa			Xa			Xa	

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

## 2.144 Stage 1 Matrix: East Sanday Coast SPA

Name of European site: East Sanday Coast SPA												
Distance to array area: 650 km												
Distance to cable route: 654 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 Breeding birds	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Bar-tailed godwit		Xa			Xa			Xa			Xa	
Article 4.2 Migratory Species	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Turnstone		Xa			Xa			Xa			Xa	
Purple Sandpiper		Xa			Xa			Xa			Xa	

### Evidence to support conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature..

2.145 Stage 1 Matrix: Emsmarsch von Leer bis Emden SPA

Name of European site: Emsmarsch von Leer bis Emden SPA												
Distance to array area: 287 km												
Distance to cable route: 287 km												
Likely Effects of Hornsea Three												
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Sedge warbler		Xa			Xa			Xa			Xa	
Common sandpiper		Xa			Xa			Xa			Xa	
Skylark		Xa			Xa			Xa			Xa	
Pintail		Xa			Xa			Xa			Xa	
Shoveler		Xa			Xa			Xa			Xa	
Wigeon		Xa			Xa			Xa			Xa	
Garganey		Xa			Xa			Xa			Xa	
Greater white-fronted goose		Xa			Xa			Xa			Xa	
Greylag goose		Xa			Xa			Xa			Xa	
Pink-footed goose		Xa			Xa			Xa			Xa	
Short-eared owl		Xa			Xa			Xa			Xa	
Pochard		Xa			Xa			Xa			Xa	
Eurasian bittern		Xa			Xa			Xa			Xa	
Brent goose		Xa			Xa			Xa			Xa	
Canada goose		Xa			Xa			Xa			Xa	
Barnacle goose		Xa			Xa			Xa			Xa	
Goldeneye		Xa			Xa			Xa			Xa	
Ringed plover		Xa			Xa			Xa			Xa	
Marsh harrier		Xa			Xa			Xa			Xa	
Hen harrier		Xa			Xa			Xa			Xa	

Name of European site: Emsmarsch von Leer bis Emden SPA												
Montagu's harrier		Xa			Xa			Xa			Xa	
Quail		Xa			Xa			Xa			Xa	
Corncrake		Xa			Xa			Xa			Xa	
Bewick's swan		Xa			Xa			Xa			Xa	
Whooper swan		Xa			Xa			Xa			Xa	
Mute swan		Xa			Xa			Xa			Xa	
Coot		Xa			Xa			Xa			Xa	
Snipe		Xa			Xa			Xa			Xa	
Oystercatcher		Xa			Xa			Xa			Xa	
Herring gull		Xa			Xa			Xa			Xa	
Common gull		Xa			Xa			Xa			Xa	
Great black-backed gull		Xa			Xa			Xa			Xa	
Mediterranean Gull		Xa			Xa			Xa			Xa	
Black-headed gull		Xa			Xa			Xa			Xa	
Savi's warbler		Xa			Xa			Xa			Xa	
Smew		Xa			Xa			Xa			Xa	
Whimbrel		Xa			Xa			Xa			Xa	
Bearded tit		Xa			Xa			Xa			Xa	
Cormorant		Xa			Xa			Xa			Xa	
Ruff		Xa			Xa			Xa			Xa	
Redstart		Xa			Xa			Xa			Xa	
Golden plover		Xa			Xa			Xa			Xa	
Spotted crane		Xa			Xa			Xa			Xa	
Avocet		Xa			Xa			Xa			Xa	
Whinchat		Xa			Xa			Xa			Xa	
Shelduck		Xa			Xa			Xa			Xa	
Greenshank		Xa			Xa			Xa			Xa	
Green sandpiper		Xa			Xa			Xa			Xa	

Name of European site: Emsmarsch von Leer bis Emden SPA												
Redshank		Xa			Xa			Xa			Xa	
Lapwing		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.



2.146 Stage 1 Matrix: Engerser Feld SPA

Name of European site: Engerser Feld SPA												
Distance to array area: 486 km												
Distance to cable route: 486 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Common sandpiper ( <i>Actitis hypoleucos</i> )		Xa			Xa			Xa			Xa	
Kingfisher ( <i>Alcedo atthis</i> )		Xa			Xa			Xa			Xa	
Pintail ( <i>Anas acuta</i> )		Xa			Xa			Xa			Xa	
Shoveler ( <i>Anas clypeata</i> )		Xa			Xa			Xa			Xa	
Wigeon ( <i>Anas penelope</i> )		Xa			Xa			Xa			Xa	
Garganey ( <i>Anas querquedula</i> )		Xa			Xa			Xa			Xa	
Greater white-fronted goose ( <i>Anser albifrons albifrons</i> )		Xa			Xa			Xa			Xa	
Greylag goose ( <i>Anser anser</i> )		Xa			Xa			Xa			Xa	
Pochard ( <i>Aythya ferina</i> )		Xa			Xa			Xa			Xa	
Tufted duck ( <i>Aythya fuligula</i> )		Xa			Xa			Xa			Xa	
Scaup ( <i>Aythya marila</i> )		Xa			Xa			Xa			Xa	
Ferruginous Duck ( <i>Aythya nyroca</i> )		Xa			Xa			Xa			Xa	
Goldeneye ( <i>Bucephala clangula</i> )		Xa			Xa			Xa			Xa	
Sanderling ( <i>Calidris alba</i> )		Xa			Xa			Xa			Xa	
Dunlin ( <i>Calidris alpina</i> )		Xa			Xa			Xa			Xa	
Knot ( <i>Calidris canutus</i> )		Xa			Xa			Xa			Xa	
Curlew sandpiper ( <i>Calidris ferruginea</i> )		Xa			Xa			Xa			Xa	
Little stint ( <i>Calidris minuta</i> )		Xa			Xa			Xa			Xa	

Name of European site: Engerser Feld SPA												
Temminck's stint ( <i>Calidris temminckii</i> )		Xa			Xa			Xa			Xa	
Ringed plover ( <i>Charadrius hiaticula</i> )		Xa			Xa			Xa			Xa	
Black tern ( <i>Chlidonias niger</i> )		Xa			Xa			Xa			Xa	
Marsh harrier ( <i>Circus aeruginosus</i> )		Xa			Xa			Xa			Xa	
Long tailed duck ( <i>Clangula hyemalis</i> )		Xa			Xa			Xa			Xa	
Corncrake ( <i>Crex crex</i> )		Xa			Xa			Xa			Xa	
Eurasian coot ( <i>Fulica atra atra</i> )		Xa			Xa			Xa			Xa	
Snipe ( <i>Gallinago gallinago</i> )		Xa			Xa			Xa			Xa	
Black-throated Diver ( <i>Gavia arctica arctica</i> )		Xa			Xa			Xa			Xa	
Icterine warbler ( <i>Hippolais icterina</i> )		Xa			Xa			Xa			Xa	
Herring gull ( <i>Larus argentatus</i> )		Xa			Xa			Xa			Xa	
Yellow-legged gull ( <i>Larus cachinnans</i> )		Xa			Xa			Xa			Xa	
Common gull ( <i>Larus canus</i> )		Xa			Xa			Xa			Xa	
Mediterranean gull ( <i>Larus melanocephalus</i> )		Xa			Xa			Xa			Xa	
Little gull ( <i>Larus minutus</i> )		Xa			Xa			Xa			Xa	
Black-headed gull ( <i>Larus ridibundus</i> )		Xa			Xa			Xa			Xa	
Bar-tailed godwit ( <i>Limosa lapponica</i> )		Xa			Xa			Xa			Xa	
Smew ( <i>Mergus albellus</i> )		Xa			Xa			Xa			Xa	
Black kite ( <i>Milvus migrans</i> )		Xa			Xa			Xa			Xa	
Red kite ( <i>Milvus milvus</i> )		Xa			Xa			Xa			Xa	
Yellow wagtail ( <i>Motacilla flava</i> )		Xa			Xa			Xa			Xa	
Red-crested Pochard ( <i>Netta rufina</i> )		Xa			Xa			Xa			Xa	
Whimbrel ( <i>Numenius phaeopus</i> )		Xa			Xa			Xa			Xa	
Osprey ( <i>Pandion haliaetus</i> )		Xa			Xa			Xa			Xa	
Ruff ( <i>Philomachus pugnax</i> )		Xa			Xa			Xa			Xa	
Golden plover ( <i>Pluvialis apricaria</i> )		Xa			Xa			Xa			Xa	

Name of European site: Engerser Feld SPA												
Red-necked grebe ( <i>Podiceps grisegena grisegena</i> )		Xa			Xa			Xa			Xa	
Avocet ( <i>Recurvirostra avosetta</i> )		Xa			Xa			Xa			Xa	
Penduline tit ( <i>Remiz pendulinus</i> )		Xa			Xa			Xa			Xa	
Sand martin ( <i>Riparia riparia</i> )		Xa			Xa			Xa			Xa	
Eider ( <i>Somateria mollissima</i> )		Xa			Xa			Xa			Xa	
Little tern ( <i>Sterna albifrons</i> )		Xa			Xa			Xa			Xa	
Caspian tern ( <i>Sterna caspia</i> )		Xa			Xa			Xa			Xa	
Common tern ( <i>Sterna hirundo</i> )		Xa			Xa			Xa			Xa	
Arctic tern ( <i>Sterna paradisaea</i> )		Xa			Xa			Xa			Xa	
Shelduck ( <i>Tadorna tadorna</i> )		Xa			Xa			Xa			Xa	
Spotted redshank ( <i>Tringa erythropus</i> )		Xa			Xa			Xa			Xa	
Wood sandpiper ( <i>Tringa glareola</i> )		Xa			Xa			Xa			Xa	
Greenshank ( <i>Tringa nebularia</i> )		Xa			Xa			Xa			Xa	
Green sandpiper ( <i>Tringa ochropus</i> )		Xa			Xa			Xa			Xa	
Redshank ( <i>Tringa totanus</i> )		Xa			Xa			Xa			Xa	
Lapwing ( <i>Vanellus vanellus</i> )		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

2.147 Stage 1 Matrix: Esterweger Dose SPA

Name of European site: Esterweger Dose SPA												
Distance to array area: 325 km												
Distance to cable route: 325 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Skylark		Xa			Xa			Xa			Xa	
Shoveler		Xa			Xa			Xa			Xa	
Short-eared owl		Xa			Xa			Xa			Xa	
Hen harrier		Xa			Xa			Xa			Xa	
Montagu's harrier		Xa			Xa			Xa			Xa	
Hobby		Xa			Xa			Xa			Xa	
Snipe		Xa			Xa			Xa			Xa	
Oystercatcher		Xa			Xa			Xa			Xa	
Red-backed shrike		Xa			Xa			Xa			Xa	
Common gull		Xa			Xa			Xa			Xa	
Black-headed gull		Xa			Xa			Xa			Xa	
Woodlark		Xa			Xa			Xa			Xa	
Yellow wagtail		Xa			Xa			Xa			Xa	
Wheatear		Xa			Xa			Xa			Xa	
Ruff		Xa			Xa			Xa			Xa	
Golden plover		Xa			Xa			Xa			Xa	
Whinchat		Xa			Xa			Xa			Xa	
Stonechat		Xa			Xa			Xa			Xa	
Shelduck		Xa			Xa			Xa			Xa	
Redshank		Xa			Xa			Xa			Xa	

Name of European site: Esterweger Dose SPA											
Lapwing		Xa			Xa			Xa			Xa

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

## 2.148 Stage 1 Matrix: Fair Isle SPA

Name of European site: Fair Isle SPA												
Distance to array area: 654 km												
Distance to cable route: 658 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 Breeding birds	C	O	D	C	O	D	C	O	D	C	O	D
Arctic Tern		✗a			✗a			✗a			✗a	
Fair Isle Wren		✗a			✗a			✗a			✗a	
Article 4.2 Migratory Species	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Guillemot		✗a			✗a			✗a			✗a	
Article 4.2 Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Puffin		✗a			✗a			✗a			✗a	
Razorbill		✗a			✗a			✗a			✗a	
Kittiwake		✗a			✗a			✗a			✗a	
Great Skua		✗a			✗a			✗a			✗a	
Arctic Skua		✗a			✗a			✗a			✗a	
Shag		✗a			✗a			✗a			✗a	
Gannet		✗a			✗a			✗a			✗a	
Fulmar		✗a			✗a			✗a			✗a	
Guillemot		✗a			✗a			✗a			✗a	
Arctic Tern		✗a			✗a			✗a			✗a	

### Evidence to support the conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.149 Stage 1 Matrix: Farne Islands SPA

Name of European site: Farne Islands SPA																					
Distance to array area: 304 km																					
Distance to cable route: 308 km																					
European site features			Likely Effects of Hornsea Three																		
Article 4.1 – Breeding Article 4.2 - Assemblage	Habitat extent			Disturbance and displacement			Indirect effects			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Arctic Tern <i>Sterna paradisaea</i>											Xa			Xa			Xa			Xa	
Roseate Tern <i>Sterna dougallii</i>											Xa			Xa			Xa			Xa	
Sandwich Tern <i>Sterna sandvicensis</i>											Xa			Xa			Xa			Xa	
Puffin <i>Fratercula arctica</i>											Xa			Xa			Xa			Xa	
Guillemot <i>Uria aalge</i>											Xa			Xa			Xa			Xa	
Article 4.2 - Assemblage	Habitat extent			Disturbance and displacement			Indirect effects			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Arctic Tern <i>Sterna paradisaea</i>											Xa			Xa			Xa			Xa	
Roseate Tern <i>Sterna dougallii</i>											Xa			Xa			Xa			Xa	
Sandwich Tern <i>Sterna sandvicensis</i>											Xa			Xa			Xa			Xa	
Puffin <i>Fratercula arctica</i>											Xa			Xa			Xa			Xa	
Guillemot <i>Uria aalge</i>											Xa			Xa			Xa			Xa	
Kittiwake <i>Rissa tridactyla</i>											Xa			Xa			Xa			Xa	
Shag <i>Phalacrocorax aristotelis</i>											Xa			Xa			Xa			Xa	
Cormorant <i>Phalacrocorax carbo</i>											Xa			Xa			Xa			Xa	
Fulmar											Xa			Xa			✓b			✓b	

Evidence to support conclusions:

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.
- b. Hornsea Three lies within the mean maximum foraging range of fulmar (400 ± 245.8 km; Thaxter *et al.*, 2012). LSE cannot be discounted for potential impact of displacement.

2.150 Stage 1 Matrix: Fetlar SPA

Name of European site: Fetlar SPA												
Distance to array area: 750 km												
Distance to cable route: 755 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 Breeding birds	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Arctic Tern		✗a			✗a			✗a			✗a	
Red-necked Phalarope		✗a			✗a			✗a			✗a	
Article 4.2 Migratory Species	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Dunlin		✗a			✗a			✗a			✗a	
Great Skua		✗a			✗a			✗a			✗a	
Whimbrel		✗a			✗a			✗a			✗a	
Article 4.2 Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Arctic Skua		✗a			✗a			✗a			✗a	
Fulmar		✗a			✗a			✗a			✗a	
Great Skua		✗a			✗a			✗a			✗a	
Arctic Tern		✗a			✗a			✗a			✗a	
Red-necked Phalarope		✗a			✗a			✗a			✗a	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.



## 2.151 Stage 1 Matrix: Firth of Forth SPA

Name of European site: Firth of Forth SPA												
Distance to array area: 376 km												
Distance to cable route: 380 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 – Breeding (Passage)	C	O	D	C	O	D	C	O	D	C	O	D
Sandwich Tern <i>Sterna sandvicensis</i>		✗a			✗a			✗a			✗a	
Article 4.1 – Breeding (Winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Bar-tailed Godwit <i>Limosa lapponica</i>		✗a			✗a			✗a			✗a	
Golden Plover <i>Pluvialis apricaria</i>		✗a			✗a			✗a			✗a	
Red-throated Diver <i>Gavia stellata</i>		✗a			✗a			✗a			✗a	
Slavonian Grebe <i>Podiceps auritus</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Migratory (Winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Knot <i>Calidris canutus</i>		✗a			✗a			✗a			✗a	
Pink-footed Goose <i>Anser brachyrhynchus</i>		✗a			✗a			✗a			✗a	
Redshank <i>Tringa totanus</i>		✗a			✗a			✗a			✗a	
Shelduck <i>Tadorna tadorna</i>		✗a			✗a			✗a			✗a	
Turnstone <i>Arenaria interpres</i>		✗a			✗a			✗a			✗a	

### Evidence to support conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.152 Stage 1 Matrix: Firth Tay & Eden Estuary SPA

Name of European site: Firth Tay & Eden Estuary SPA												
Distance to array area: 412 km												
Distance to cable route: 417 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 – Breeding	C	O	D	C	O	D	C	O	D	C	O	D
Little Tern <i>Sterna albifrons</i>		✗a			✗a			✗a			✗a	
Marsh Harrier <i>Circus aeruginosus</i>		✗a			✗a			✗a			✗a	
Article 4.1 – Winter	C	O	D	C	O	D	C	O	D	C	O	D
Bar-tailed Godwit <i>Limosa lapponica</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Migratory Species (Winter)	C	O	D	C	O	D	C	O	D	C	O	D
Greylag Goose <i>Anser anser</i>		✗a			✗a			✗a			✗a	
Pink-footed Goose <i>Anser brachyrhynchus</i>		✗a			✗a			✗a			✗a	
Redshank <i>Tringa totanus</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Assemblage	C	O	D	C	O	D	C	O	D	C	O	D
Velvet Scoter <i>Melanitta fusca</i>		✗a			✗a			✗a			✗a	
Pink-footed Goose <i>Anser brachyrhynchus</i>		✗a			✗a			✗a			✗a	
Greylag Goose <i>Anser anser</i>		✗a			✗a			✗a			✗a	
Redshank <i>Tringa totanus</i>		✗a			✗a			✗a			✗a	
Cormorant <i>Phalacrocorax carbo</i>		✗a			✗a			✗a			✗a	
Shelduck <i>Tadorna tadorna</i>		✗a			✗a			✗a			✗a	

Name of European site: Firth Tay & Eden Estuary SPA												
Eider <i>Somateria mollissima</i>		Xa			Xa			Xa			Xa	
Bar-tailed Godwit <i>Limosa lapponica</i>		Xa			Xa			Xa			Xa	
Common Scoter <i>Melanitta nigra</i>		Xa			Xa			Xa			Xa	
Black-tailed Godwit <i>Limosa limosa islandica</i>		Xa			Xa			Xa			Xa	
Goldeneye <i>Bucephala clangula</i>		Xa			Xa			Xa			Xa	
Red-breasted Merganser <i>Mergus serrator</i>		Xa			Xa			Xa			Xa	
Goosander <i>Mergus merganser</i>		Xa			Xa			Xa			Xa	
Oystercatcher <i>Haematopus ostralegus</i>		Xa			Xa			Xa			Xa	
Grey Plover <i>Pluvialis squatarola</i>		Xa			Xa			Xa			Xa	
Sanderling <i>Calidris alba</i>		Xa			Xa			Xa			Xa	
Dunlin <i>Calidris alpina alpina</i>		Xa			Xa			Xa			Xa	
Long-tailed duck <i>Clangula hyemalis</i>		Xa			Xa			Xa			Xa	

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

## 2.153 Stage 1 Matrix: Flamborough and Filey Coast pSPA/Flamborough Head and Bempton Cliffs SPA

Name of European site: Flamborough and Filey Coast pSPA																		
Distance to array area: 149 km																		
Distance to cable route: 152 km																		
European site features	Likely Effects of Hornsea Three																	
	Changes to prey availability			Disturbance			Collision			Barrier			Displacement			In-combination		
Article 4.2 – Migratory (Breeding)	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Kittiwake <i>Rissa tridactyla</i>	Xa		Xa	Xb		Xb		✓d			Xi			Xb			✓l	
Razorbill <i>Alca torda</i>	Xa		Xa	✓c		✓c		Xe			Xi			✓j			✓l	
Guillemot <i>Uria aalge</i>	Xa		Xa	✓c		✓c		Xe			Xi			✓j			✓l	
Gannet <i>Morus bassanus</i>	Xa		Xa	Xb		Xb		✓f			Xi			Xb			✓l	
Article 4.2 – Assemblage	Changes to prey availability			Disturbance			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	Xi	D	C	o	D	C	O	D
Puffin <i>Fratercula arctica</i>	Xa		Xa	✓c		✓c		Xe			Xi			✓j			✓l	
Razorbill <i>Alca torda</i>	Xa		Xa	✓c		✓c		Xe			Xi			✓j			✓l	
Guillemot <i>Uria aalge</i>	Xa		Xa	✓c		✓c		Xe			Xi			✓j			✓l	
Herring Gull <i>Larus argentatus</i>	Xa		Xa	Xb		Xb		✓g			Xi			Xb			✓l	
Gannet <i>Morus bassanus</i>	Xa		Xa	Xb		Xb		✓f			Xi			✓k			✓l	
Kittiwake <i>Rissa tridactyla</i>	Xa		Xa	Xb		Xb		✓d			Xi			Xb			✓l	
Fulmar <i>Fulmaris glacialis</i>	Xa		Xa	Xb		Xb		Xh			Xi			Xb			✓l	

### Evidence to support conclusions:

- Changes to prey availability during construction and decommissioning is likely to have a minimal impacts on these features as they are likely to be near the limit of their foraging ranges during the breeding season. The distribution of seabirds across the wider area indicate that those that are displaced due to indirect impacts will be able to relocate to other suitable foraging areas in response to any changes in local prey distribution (HRA Screening Report)
- These features have a low sensitivity to disturbance (Wade et al, 2016) and therefore no LSE is predicted (See Section 6 of the HRA Screening Report).
- Auks (Guillemot Razorbill and puffin) are considered to be sensitivity to disturbance effects ( Wade et al, 2016) and as such there is potential for a LSE on the features

- d. Kittiwake was rated as being relatively high vulnerability to collision impacts by Wade *et al.* (2016), due to the proportion of flights likely to occur at potential risk height and percentage of time in flight, including at night. Figure 5.11 of the HRA Screening Report shows limited connectivity between the FFC pSPA colony and Hornsea Three, however given the high vulnerability of kittiwake to collision impacts, there is potential for a LSE on the kittiwake feature of the FFC pSPA.
- e. Auks are not vulnerable to collision and therefore no LSE is predicted on this feature (see Section 6 of the HRA Screening Report)
- f. Gannet was ranked high in terms of vulnerability to collisions by Wade *et al.* (2016) although moderate vulnerability by Langston (2010). Figure 5.9 of the HRA Screening report shows the foraging range for gannet and limited connectivity from the FFC pSPA colony with the Hornsea Three array area. Given the vulnerability of gannet to collision impacts and the overlap of foraging range with the array area a potential for a LSE on this species is identified.
- g. Herring gull is considered to be of high vulnerability to collision impacts due its prevailing flight height and flight agility (Wade *et al.*, 2016). Figure 5.15 presents the mean-maximum and maximum foraging ranges and there is no prospect of interaction with Hornsea Three in the breeding season. Herring gull has not been found to occur in notable numbers in the Hornsea Zone in the non-breeding season (see Annex 5.1: Baseline Characterisation Report). No LSE predicted for this feature.
- h. Fulmar is considered to of particular low risk to collision; with for example Wade *et al.* (2016) detailing that 0% of fulmar would be expected to fly between 20 and 150 m (representing a risk window for collision with turbine blades). Therefore, no LSE is predicted with respect to operational collision.
- i. The duration, magnitude and extent of impact resulting from barrier effects on SPA qualifying species are assessed as being unlikely to compromise the conservation objectives of any designated SPA. Whilst, therefore, there is no indication that barrier effects could lead to a LSE on any feature
- j. Auks are deemed to be of medium vulnerability to displacement (Wade *et al.*, 2016), due to connectivity with the Project Three site there is potential for a LSE on these features
- k. Despite the wide foraging range of the species, Krijgsveld *et al.* (2010; 2011) have shown that gannets in flight strongly avoid wind farms, albeit relatively close to turbines (within 500 m). JNCC and Natural England guidance suggests using a range of displacement values for this species from 0 to 100% when assessing displacement effects (JNCC and Natural England, 2012). Gannet is considered by Wade *et al.*, (2016) to be highly sensitive to displacement and although there is considered to be limited connectivity with gannets from the pSPA with Hornsea Three, a LSE cannot be discounted.
- l. A LSE has been identified for Project Three alone and therefore there is potential for in-combination operational effects to occur.

2.154 Stage 1 Matrix: Forth Islands SPA

Name of European site: Forth Islands SPA																		
Distance to array area: 384 km																		
Distance to cable route: 388 km																		
European site features	Likely Effects of Hornsea Three																	
Article 4.1 – Breeding	Changes in prey availability			Disturbance			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Arctic Tern <i>Sterna paradisaea</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa	
Common Tern <i>Sterna hirundo</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa	
Roseate Tern <i>Sterna dougallii</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa	
Sandwich Tern <i>Sterna sandvicensis</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa	
Article 4.2 – Migratory Species	Changes in prey availability			Disturbance			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Gannet <i>Morus bassanus</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa	
Lesser Black-backed Gull <i>Larus fuscus</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa	
Puffin <i>Fratercula arctica</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa	
Shag <i>Phalacrocorax aristotelis</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa	
Article 4.2 – Assemblage	Changes in prey availability			Disturbance			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Razorbill <i>Alca torda</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa	
Guillemot <i>Uria aalge</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa	
Kittiwake <i>Rissa tridactyla</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa	
Herring Gull <i>Larus argentatus</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa	
Cormorant <i>Phalacrocorax carbo</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa	

Name of European site: Forth Islands SPA																	
Fulmar <i>Fulmarus glacialis</i>	Xb		Xb	Xb		Xb		Xb			Xb			✓d			✓d
Puffin <i>Fratercula arctica</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa
Lesser Black-backed Gull <i>Larus fuscus</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa
Shag <i>Phalacrocorax aristotelis</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa
Gannet <i>Morus bassanus</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa
Arctic Tern <i>Sterna paradisaea</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa
Common Tern <i>Sterna hirundo</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa
Roseate Tern <i>Sterna dougallii</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa
Sandwich Tern <i>Sterna sandvicensis</i>	Xa		Xa	Xa		Xa		Xa			Xa			Xa			Xa

**Evidence to support conclusions:**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.
- b. No direct or indirect effect is anticipated on this feature with regard to construction effect, or collision or barrier effects from Hornsea Three See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.
- c. The mean maximum foraging range for the species overlaps with the HOW03 site, see paragraph 5.3.26 of the HRA Screening Report
- d. Hornsea Three lies within the mean maximum foraging range of fulmar ( $400 \pm 245.8$  km; Thaxter *et al.*, 2012). LSE cannot be discounted for potential impact of displacement.



2.155 Stage 1 Matrix: Foula SPA

Name of European site: Foula SPA												
Distance to array area: 725 km												
Distance to cable route: 730 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 Breeding birds	C	O	D	C	O	D	C	O	D	C	O	D
Arctic Tern		Xa			Xa			Xa			Xa	
Leach's Storm-petrel		Xa			Xa			Xa			Xa	
Red-throated Diver		Xa			Xa			Xa			Xa	
Article 4.2 Migratory Species	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Great Skua		Xa			Xa			Xa			Xa	
Guillemot		Xa			Xa			Xa			Xa	
Puffin		Xa			Xa			Xa			Xa	
Shag		Xa			Xa			Xa			Xa	
Article 4.2 Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Leach's Storm-petrel		Xa			Xa			Xa			Xa	
Razorbill		Xa			Xa			Xa			Xa	
Kittiwake		Xa			Xa			Xa			Xa	
Arctic Skua		Xa			Xa			Xa			Xa	
Fulmar		Xa			Xa			Xa			Xa	
Puffin		Xa			Xa			Xa			Xa	



Name of European site: Foula SPA												
Guillemot		Xa			Xa			Xa			Xa	
Great Skua		Xa			Xa			Xa			Xa	
Shag		Xa			Xa			Xa			Xa	
Arctic Tern		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.156 Stage 1 Matrix: Foulness (Mid-Essex Coast Phase 5) SPA

Name of European site: Foulness SPA												
Distance to array area: 254 km												
Distance to cable route: 144 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 – Breeding	C	O	D	C	O	D	C	O	D	C	O	D
Avocet <i>Recurvirostra avosetta</i>		Xa			Xa			Xa			Xa	
Common Tern <i>Sterna hirundo</i>		Xa			Xa			Xa			Xa	
Little Tern <i>Sterna albifrons</i>		Xa			Xa			Xa			Xa	
Sandwich Tern <i>Sterna sandvicensis</i>		Xa			Xa			Xa			Xa	
Ringed Plover <i>Charadrius hiaticula</i>		Xa			Xa			Xa			Xa	
Article 4.1 – Winter	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Avocet <i>Recurvirostra avosetta</i>		Xa			Xa			Xa			Xa	
Bar-tailed Godwit <i>Limosa lapponica</i>		Xa			Xa			Xa			Xa	
Golden Plover <i>Pluvialis apricaria</i>		Xa			Xa			Xa			Xa	
Hen Harrier <i>Circus cyaneus</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Migratory (Winter on passage)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Redshank <i>Tringa totanus</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Migratory (Over winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D

Name of European site: Foulness SPA												
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i> ,		Xa			Xa			Xa			Xa	
Grey Plover <i>Pluvialis squatarola</i> ,		Xa			Xa			Xa			Xa	
Knot <i>Calidris canutus</i> ,		Xa			Xa			Xa			Xa	
Oystercatcher <i>Haematopus ostralegus</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Assemblage (Winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Redshank <i>Tringa totanus</i>		Xa			Xa			Xa			Xa	
Curlew <i>Numenius arquata</i>		Xa			Xa			Xa			Xa	
Black-tailed Godwit <i>Limosa limosa islandica</i>		Xa			Xa			Xa			Xa	
Dunlin <i>Calidris alpina alpina</i>		Xa			Xa			Xa			Xa	
Lapwing <i>Vanellus vanellus</i>		Xa			Xa			Xa			Xa	
Wigeon <i>Anas penelope</i>		Xa			Xa			Xa			Xa	
Shelduck <i>Tadorna tadorna</i>		Xa			Xa			Xa			Xa	
Little Grebe <i>Tachybaptus ruficollis</i>		Xa			Xa			Xa			Xa	
Knot <i>Calidris canutus</i>		Xa			Xa			Xa			Xa	
Grey Plover <i>Pluvialis squatarola</i>		Xa			Xa			Xa			Xa	
Oystercatcher <i>Haematopus ostralegus</i>		Xa			Xa			Xa			Xa	
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		Xa			Xa			Xa			Xa	
Bar-tailed Godwit <i>Limosa lapponica</i>		Xa			Xa			Xa			Xa	
Golden Plover <i>Pluvialis apricaria</i>		Xa			Xa			Xa			Xa	
Avocet <i>Recurvirostra avosetta</i>		Xa			Xa			Xa			Xa	

Evidence to support conclusions

- 
- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

## 2.157 Stage 1 Matrix: Fowlsheugh SPA

Name of European site: Fowlsheugh SPA												
Distance to array area: 425 km												
Distance to cable route: 429 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.2 – Migratory Species (Breeding)	C	O	D	C	O	D	C	O	D	C	O	D
Guillemot <i>Uria aalge</i>		Xa			Xa			Xa			Xa	
Kittiwake <i>Rissa tridactyla</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Razorbill <i>Alca torda</i>		Xa			Xa			Xa			Xa	
Herring Gull <i>Larus argentatus</i>		Xa			Xa			Xa			Xa	
Fulmar <i>Fulmarus glacialis</i>		Xa			Xa			Xa			Xa	
Guillemot <i>Uria aalge</i>		Xa			Xa			Xa			Xa	
Kittiwake <i>Rissa tridactyla</i>		Xa			Xa			Xa			Xa	

### Evidence to support conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

## 2.158 Stage 1 Matrix: Gibraltar Point SPA

Name of European site: Gibraltar Point SPA												
Distance to array area: 155 km												
Distance to cable route: 50 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 Annex I species	C	O	D	C	O	D	C	O	D	C	O	D
Little tern		Xa			Xa			Xa			Xa	
Bar-tailed godwit		Xa			Xa			Xa			Xa	
Article 4.2 Migratory species												
Grey plover		Xa			Xa			Xa			Xa	
Knot		Xa			Xa			Xa			Xa	
Article 4.2 Assemblage features												
Oystercatcher		Xa			Xa			Xa			Xa	
Knot		Xa			Xa			Xa			Xa	
Grey Plover		Xa			Xa			Xa			Xa	
Bar-tailed godwit		Xa			Xa			Xa			Xa	

### Evidence to support conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report and Annex 2 of the RIAA) . No LSE predicted for the bird feature.

2.159 Stage 1 Matrix: Greifswalder Bodden und südlicher Strelasund SPA

Name of European site: Greifswalder Bodden und südlicher Strelasund SPA												
Distance to array area: 682 km												
Distance to cable route: 682 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Aquatic warbler ( <i>Acrocephalus paludicola</i> )		Xa			Xa			Xa			Xa	
Kingfisher ( <i>Alcedo atthis</i> )		Xa			Xa			Xa			Xa	
Pintail ( <i>Anas acuta</i> )		Xa			Xa			Xa			Xa	
Shoveler ( <i>Anas clypeata</i> )		Xa			Xa			Xa			Xa	
Wigeon ( <i>Anas penelope</i> )		Xa			Xa			Xa			Xa	
Garganey ( <i>Anas querquedula</i> )		Xa			Xa			Xa			Xa	
Greater white-fronted goose ( <i>Anser albifrons albifrons</i> )		Xa			Xa			Xa			Xa	
Greylag goose ( <i>Anser anser</i> )		Xa			Xa			Xa			Xa	
Short-eared owl ( <i>Asio flammeus</i> )		Xa			Xa			Xa			Xa	
Pochard ( <i>Aythya ferina</i> )		Xa			Xa			Xa			Xa	
Tufted duck ( <i>Aythya fuligula</i> )		Xa			Xa			Xa			Xa	
Scaup ( <i>Aythya marila</i> )		Xa			Xa			Xa			Xa	
Bittern ( <i>Botaurus stellaris stellaris</i> )		Xa			Xa			Xa			Xa	
Barnacle goose ( <i>Branta leucopsis</i> )		Xa			Xa			Xa			Xa	
Goldeneye ( <i>Bucephala clangula</i> )		Xa			Xa			Xa			Xa	
Dunlin ( <i>Calidris alpina</i> )		Xa			Xa			Xa			Xa	
Short-billed dunlin ( <i>Calidris alpina schinzii</i> )		Xa			Xa			Xa			Xa	
Ringed plover ( <i>Charadrius hiaticula</i> )		Xa			Xa			Xa			Xa	

Name of European site: Greifswalder Bodden und südlicher Strelasund SPA												
Black tern ( <i>Chlidonias niger</i> )		Xa			Xa			Xa			Xa	
Marsh harrier ( <i>Circus aeruginosus</i> )		Xa			Xa			Xa			Xa	
Montagu's harrier ( <i>Circus pygargus</i> )		Xa			Xa			Xa			Xa	
Long tailed duck ( <i>Clangula hyemalis</i> )		Xa			Xa			Xa			Xa	
Jackdaw ( <i>Corvus monedula</i> )		Xa			Xa			Xa			Xa	
Quail ( <i>Coturnix coturnix</i> )		Xa			Xa			Xa			Xa	
Corncrake ( <i>Crex crex</i> )		Xa			Xa			Xa			Xa	
Bewick's swan ( <i>Cygnus columbianus bewickii</i> )		Xa			Xa			Xa			Xa	
Whooper swan ( <i>Cygnus cygnus</i> )		Xa			Xa			Xa			Xa	
Mute swan ( <i>Cygnus olor</i> )		Xa			Xa			Xa			Xa	
Merlin ( <i>Falco columbarius</i> )		Xa			Xa			Xa			Xa	
Kestrel ( <i>Falco tinnunculus</i> )		Xa			Xa			Xa			Xa	
Eurasian coot ( <i>Fulica atra atra</i> )		Xa			Xa			Xa			Xa	
Snipe ( <i>Gallinago gallinago</i> )		Xa			Xa			Xa			Xa	
Black-throated Diver ( <i>Gavia arctica arctica</i> )		Xa			Xa			Xa			Xa	
Red-throated Diver ( <i>Gavia stellata</i> )		Xa			Xa			Xa			Xa	
Oystercatcher ( <i>Haematopus ostralegus</i> )		Xa			Xa			Xa			Xa	
White-tailed eagle ( <i>Haliaeetus albicilla</i> )		Xa			Xa			Xa			Xa	
Wryneck ( <i>Jynx torquilla</i> )		Xa			Xa			Xa			Xa	
Red-backed shrike ( <i>Lanius collurio</i> )		Xa			Xa			Xa			Xa	
Common gull ( <i>Larus canus</i> )		Xa			Xa			Xa			Xa	
Mediterranean gull ( <i>Larus melanocephalus</i> )		Xa			Xa			Xa			Xa	
Little gull ( <i>Larus minutus</i> )		Xa			Xa			Xa			Xa	
Black-headed gull ( <i>Larus ridibundus</i> )		Xa			Xa			Xa			Xa	
Bar-tailed godwit ( <i>Limosa lapponica</i> )		Xa			Xa			Xa			Xa	



Name of European site: Greifswalder Bodden und südlicher Strelasund SPA												
Woodlark ( <i>Lullula arborea</i> )		Xa			Xa			Xa			Xa	
Smew ( <i>Mergus albellus</i> )		Xa			Xa			Xa			Xa	
Red-breasted merganser ( <i>Mergus serrator</i> )		Xa			Xa			Xa			Xa	
Black kite ( <i>Milvus migrans</i> )		Xa			Xa			Xa			Xa	
Red kite ( <i>Milvus milvus</i> )		Xa			Xa			Xa			Xa	
Spotted flycatcher ( <i>Muscicapa striata</i> )		Xa			Xa			Xa			Xa	
Wheatear ( <i>Oenanthe oenanthe</i> )		Xa			Xa			Xa			Xa	
Honey buzzard ( <i>Pernis apivorus</i> )		Xa			Xa			Xa			Xa	
Cormorant ( <i>Phalacrocorax carbo sinensis</i> )		Xa			Xa			Xa			Xa	
Red-necked phalarope ( <i>Phalaropus lobatus</i> )		Xa			Xa			Xa			Xa	
Ruff ( <i>Philomachus pugnax</i> )		Xa			Xa			Xa			Xa	
Redstart ( <i>Phoenicurus phoenicurus</i> )		Xa			Xa			Xa			Xa	
Golden plover ( <i>Pluvialis apricaria</i> )		Xa			Xa			Xa			Xa	
Avocet ( <i>Recurvirostra avosetta</i> )		Xa			Xa			Xa			Xa	
Sand martin ( <i>Riparia riparia</i> )		Xa			Xa			Xa			Xa	
Eider ( <i>Somateria mollissima</i> )		Xa			Xa			Xa			Xa	
Little tern ( <i>Sterna albifrons</i> )		Xa			Xa			Xa			Xa	
Caspian tern ( <i>Sterna caspia</i> )		Xa			Xa			Xa			Xa	
Common tern ( <i>Sterna hirundo</i> )		Xa			Xa			Xa			Xa	
Arctic tern ( <i>Sterna paradisaea</i> )		Xa			Xa			Xa			Xa	
Sandwich tern ( <i>Sterna sandvicensis</i> )		Xa			Xa			Xa			Xa	
Turtle dove ( <i>Streptopelia turtur</i> )		Xa			Xa			Xa			Xa	
Barred warbler ( <i>Sylvia nisoria</i> )		Xa			Xa			Xa			Xa	
Shelduck ( <i>Tadorna tadorna</i> )		Xa			Xa			Xa			Xa	
Wood sandpiper ( <i>Tringa glareola</i> )		Xa			Xa			Xa			Xa	
Redshank ( <i>Tringa totanus</i> )		Xa			Xa			Xa			Xa	

Name of European site: Greifswalder Bodden und südlicher Strelasund SPA											
Lapwing ( <i>Vanellus vanellus</i> )		Xa			Xa			Xa			Xa

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

2.160 Stage 1 Matrix: Hamford Water SPA

Name of European site: Hamford Water SPA												
Distance to array area: 222 km												
Distance to cable route: 114 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 – Breeding	C	O	D	C	O	D	C	O	D	C	O	D
Little Tern <i>Sterna albifrons</i>		Xa			Xa			Xa			Xa	
Article 4.1 – Winter	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Avocet <i>Recurvirostra avosetta</i>		Xa			Xa			Xa			Xa	
Golden Plover <i>Pluvialis apricaria</i>		Xa			Xa			Xa			Xa	
Ruff <i>Philomachus pugnax</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Migratory (On passage)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Ringed Plover <i>Charadrius hiaticula</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Migratory (Over winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Black-tailed Godwit <i>Limosa limosa islandica</i>		Xa			Xa			Xa			Xa	
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		Xa			Xa			Xa			Xa	
Grey Plover <i>Pluvialis squatarola</i>		Xa			Xa			Xa			Xa	
Ringed Plover <i>Charadrius hiaticula</i>		Xa			Xa			Xa			Xa	
Teal <i>Anas crecca</i>		Xa			Xa			Xa			Xa	

Name of European site: Hamford Water SPA												
Article 4.2 – Assemblage (Winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Redshank <i>Tringa totanus</i>		Xa			Xa			Xa			Xa	
Dunlin <i>Calidris alpina alpina</i>		Xa			Xa			Xa			Xa	
Lapwing <i>Vanellus vanellus</i>		Xa			Xa			Xa			Xa	
Wigeon <i>Anas penelope</i>		Xa			Xa			Xa			Xa	
Shelduck <i>Tadorna tadorna</i>		Xa			Xa			Xa			Xa	
Black-tailed Godwit <i>Limosa limosa islandica</i>		Xa			Xa			Xa			Xa	
Grey Plover <i>Pluvialis squatarola</i>		Xa			Xa			Xa			Xa	
Ringed Plover <i>Charadrius hiaticula</i>		Xa			Xa			Xa			Xa	
Teal <i>Anas crecca</i>		Xa			Xa			Xa			Xa	
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		Xa			Xa			Xa			Xa	
Ruff <i>Philomachus pugnax</i>		Xa			Xa			Xa			Xa	
Golden Plover <i>Pluvialis apricaria</i>		Xa			Xa			Xa			Xa	
Avocet <i>Recurvirostra avosetta</i>		Xa			Xa			Xa			Xa	

**Evidence to support conclusions:**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

## 2.161 Stage 1 Matrix: Handa SPA

Name of European site: Handa SPA												
Distance to array area: 665 km												
Distance to cable route: 670 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Razorbill ( <i>Alca torda</i> )		Xa			Xa			Xa			Xa	
Fulmar ( <i>Fulmarus glacialis</i> )		Xa			Xa			Xa			Xa	
Kittiwake ( <i>Rissa tridactyla</i> )		Xa			Xa			Xa			Xa	
Arctic skua ( <i>Stercorarius parasiticus</i> )		Xa			Xa			Xa			Xa	
Great skua ( <i>Stercorarius skua</i> )		Xa			Xa			Xa			Xa	
Guillemot ( <i>Uria aalge</i> )		Xa			Xa			Xa			Xa	

### Evidence to support conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

## 2.162 Stage 1 Matrix: Hermaness, Saxa Vord and Valla Field SPA

Name of European site: Hermaness Saxa Vord & Valla Field SPA												
Distance to array area: 772 km												
Distance to cable route: 777 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 Breeding birds	Collision			Barrier			Displacement			In-combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Red-throated diver		Xa			Xa			Xa			Xa	
Article 4.2 Migratory Species	Collision			Barrier			Displacement			In-combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Gannet		Xa			Xa			Xa			Xa	
Great skua		Xa			Xa			Xa			Xa	
Puffin		Xa			Xa			Xa			Xa	
Article 4.2 Assemblage	Collision			Barrier			Displacement			In-combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Guillemot		Xa			Xa			Xa			Xa	
Kittiwake		Xa			Xa			Xa			Xa	
Shag		Xa			Xa			Xa			Xa	
Fulmar		Xa			Xa			Xa			Xa	
Gannet		Xa			Xa			Xa			Xa	
Great skua		Xa			Xa			Xa			Xa	
Puffin		Xa			Xa			Xa			Xa	

### Evidence to support conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.163 Stage 1 Matrix: Hornsea Mere SPA

Name of European site: Hornsea Mere SPA												
Distance to array area: 156 km												
Distance to cable route: 130 km												
European site features	Likely Effects of Hornsea Three											
Article 4.2 – Migratory	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Gadwall		×a			×a			×a			×a	
Mute swan		×a			×a			×a			×a	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

## 2.164 Stage 1 Matrix: Hoy SPA

Name of European site: Hoy SPA												
Distance to array area: 628 km												
Distance to cable route: 633 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 Breeding	C	O	D	C	O	D	C	O	D	C	O	D
Peregrine <i>Falco peregrinus</i>		✗a			✗a			✗a			✗a	
Red-throated Diver <i>Gavia stellata</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Migratory Species (br)	C	O	D	C	O	D	C	O	D	C	O	D
Great Skua <i>Catharacta skua</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Assemblage	C	O	D	C	O	D	C	O	D	C	O	D
Puffin <i>Fratercula arctica</i>		✗a			✗a			✗a			✗a	
Guillemot <i>Uria aalge</i>		✗a			✗a			✗a			✗a	
Kittiwake <i>Rissa tridactyla</i>		✗a			✗a			✗a			✗a	
Great Black-backed Gull <i>Larus marinus</i>		✗a			✗a			✗a			✗a	
Arctic Skua <i>Stercorarius parasiticus</i>		✗a			✗a			✗a			✗a	
Fulmar <i>Fulmarus glacialis</i>		✗a			✗a			✗a			✗a	
Great Skua <i>Catharacta skua</i>		✗a			✗a			✗a			✗a	

### Evidence to support conclusions:

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.



2.165 Stage 1 Matrix: Humber Estuary SPA

Name of European site: Humber Estuary SPA																					
Distance to array area: 141 km																					
Distance to cable route: 67 km																					
European site features			Likely Effects of Hornsea Three																		
Article 4.1 - Breeding	Habitat extent			Disturbance and displacement			Indirect effects			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Bittern <i>Botaurus stellaris</i>	Xa		Xaa	Xa		Xa	Xa		Xa		Xa		Xa		Xa		Xa		Xa	Xa	Xa
Marsh harrier <i>Circus aeruginosus</i>	Xa		Xaa	Xa		Xa	Xa		Xa		Xa		Xa		Xa		Xa		Xa	Xa	Xa
Avocet <i>Recurvirostra avosetta</i>	Xa		Xaa	Xa		Xa	Xa		Xa		Xa		Xa		Xa		Xa		Xa	Xa	Xa
Little tern <i>Sterna albifrons</i>	Xa		Xaa	Xa		Xa	Xa		Xa		Xa		Xa		Xa		Xa		Xa	Xa	Xa
Article 4.1 – Winter	Habitat extent			Disturbance and displacement			Indirect effects			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Bittern <i>Botaurus stellaris</i>	Xa		Xaa	Xa		Xa	Xa		Xa		Xa		Xa		Xa		Xa		Xa	Xa	Xa
Hen harrier <i>Circus cyaneus</i>	Xa		Xaa	Xa		Xa	Xa		Xa		Xa		Xa		Xa		Xa		Xa	Xa	Xa
Bar-tailed godwit <i>Limosa lapponica</i>	Xa		Xaa	Xa		Xa	Xa		Xa		Xa		Xa		Xa		Xa		Xa	Xa	Xa
Golden plover <i>Pluvialis apricaria</i>	Xa		Xaa	Xa		Xa	Xa		Xa		Xa		Xa		Xa		Xa		Xa	Xa	Xa
Avocet <i>Recurvirostra avosetta</i>	Xa		Xaa	Xa		Xa	Xa		Xa		Xa		Xa		Xa		Xa		Xa	Xa	Xa
Article 4.1 – On passage	Habitat extent			Disturbance and displacement			Indirect effects			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Ruff <i>Philomachus pugnax</i>	Xa		Xaa	Xa		Xa	Xa		Xa		Xa		Xa		Xa		Xa		Xa	Xa	Xa
Article 4.2 – Migratory (over winter)	Habitat extent			Disturbance and displacement			Indirect effects			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Dunlin <i>Calidris alpina alpina</i>	Xa		Xaa	Xa		Xa	Xa		Xa		Xa		Xa		Xa		Xa		Xa	Xa	Xa
Knot <i>Calidris canutus</i>	Xa		Xaa	Xa		Xa	Xa		Xa		Xa		Xa		Xa		Xa		Xa	Xa	Xa
Black-tailed godwit <i>Limosa limosa islandica</i>	Xa		Xaa	Xa		Xa	Xa		Xa		Xa		Xa		Xa		Xa		Xa	Xa	Xa

Name of European site: Humber Estuary SPA																					
Shelduck <i>Tadorna tadorna</i>	Xa		Xaa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Redshank <i>Tringa totanus</i>	Xa		Xaa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Article 4.2 – Migratory (on passage)	Habitat extent			Disturbance and displacement			Indirect effects			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Dunlin <i>Calidris alpina alpina</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Knot <i>Calidris canutus</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Black-tailed godwit <i>Limosa limosa islandica</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Redshank <i>Tringa totanus</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Article 4.2 – Assemblage	Habitat extent			Disturbance and displacement			Indirect effects			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Teal <i>Anas crecca</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Wigeon <i>Anas penelope</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Mallard <i>Anas platyrhynchos</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Turnstone <i>Arenaria interpres</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Pochard <i>Aythya ferina</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Greater scaup <i>Aythya marila</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Bittern <i>Botaurus stellaris</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Dark-bellied brent goose <i>Branta bernicla bernicla</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Goldeneye <i>Bucephala clangula</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Sanderling <i>Calidris alba</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Dunlin <i>Calidris alpina alpina</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Knot <i>Calidris canutus</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Ringed plover <i>Charadrius hiaticula</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Oystercatcher <i>Haematopus ostralegus</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Bar-tailed godwit <i>Limosa lapponica</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Black-tailed godwit <i>Limosa limosa islandica</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Curlew <i>Numenius arquata</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Whimbrel <i>Numenius phaeopus</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Ruff <i>Philomachus pugnax</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa

Name of European site: Humber Estuary SPA																					
Golden plover <i>Pluvialis apricaria</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Grey plover <i>Pluvialis squatarola</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Avocet <i>Recurvirostra avosetta</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Shelduck <i>Tadorna tadorna</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Greenshank <i>Tringa nebularia</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Redshank <i>Tringa totanus</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa
Lapwing <i>Vanellus vanellus</i>	Xa		Xa	Xa		Xa	Xa		Xa		Xa			Xa			Xa		Xa	Xa	Xa

**Evidence to support conclusions:**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

2.166 Stage 1 Matrix: Inner Moray Firth SPA

Name of European site: Inner Moray Firth SPA												
Distance to array area: 555 km												
Distance to cable route: 559 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 – Breeding	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Common Tern <i>Sterna hirundo</i>		✗a			✗a			✗a			✗a	
Osprey <i>Pandion haliaetus</i>		✗a			✗a			✗a			✗a	
Article 4.1 – Over winter	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Bar-tailed Godwit <i>Limosa lapponica</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Migratory Species (Over winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Greylag Goose <i>Anser anser</i>		✗a			✗a			✗a			✗a	
Red-breasted Merganser <i>Mergus serrator</i>		✗a			✗a			✗a			✗a	
Redshank <i>Tringa totanus</i>		✗a			✗a			✗a			✗a	
Scaup <i>Aythya marila</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Scaup <i>Aythya marila</i>		✗a			✗a			✗a			✗a	

Name of European site: Inner Moray Firth SPA												
Curlew <i>Numenius arquata</i>		Xa			Xa			Xa			Xa	
Oystercatcher <i>Haematopus ostralegus</i>		Xa			Xa			Xa			Xa	
Goosander <i>Mergus merganser</i>		Xa			Xa			Xa			Xa	
Goldeneye <i>Bucephala clangula</i>		Xa			Xa			Xa			Xa	
Teal <i>Anas crecca</i>		Xa			Xa			Xa			Xa	
Wigeon <i>Anas penelope</i>		Xa			Xa			Xa			Xa	
Cormorant <i>Phalacrocorax carbo</i>		Xa			Xa			Xa			Xa	
Redshank <i>Tringa totanus</i>		Xa			Xa			Xa			Xa	
Red-breasted Merganser <i>Mergus serrator</i>		Xa			Xa			Xa			Xa	
Greylag Goose <i>Anser anser</i>		Xa			Xa			Xa			Xa	
Bar-tailed Godwit <i>Limosa lapponica</i>		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

2.167 Stage 1 Matrix: Krammer-Volkerak SPA

Name of European site: Krammer-Volkerak SPA												
Distance to array area: 241 km												
Distance to cable route: 241 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Pintail ( <i>Anas acuta</i> )		Xa			Xa			Xa			Xa	
Shoveler ( <i>Anas clypeata</i> )		Xa			Xa			Xa			Xa	
Teal ( <i>Anas crecca</i> )		Xa			Xa			Xa			Xa	
Wigeon ( <i>Anas penelope</i> )		Xa			Xa			Xa			Xa	
Mallard ( <i>Anas platyrhynchos</i> )		Xa			Xa			Xa			Xa	
Gadwall ( <i>Anas strepera</i> )		Xa			Xa			Xa			Xa	
Greylag goose ( <i>Anser anser</i> )		Xa			Xa			Xa			Xa	
Pochard ( <i>Aythya ferina</i> )		Xa			Xa			Xa			Xa	
Tufted duck ( <i>Aythya fuligula</i> )		Xa			Xa			Xa			Xa	
Brent goose ( <i>Branta bernicla</i> )		Xa			Xa			Xa			Xa	
Barnacle goose ( <i>Branta leucopsis</i> )		Xa			Xa			Xa			Xa	
Goldeneye ( <i>Bucephala clangula</i> )		Xa			Xa			Xa			Xa	
Kentish plover ( <i>Charadrius alexandrinus</i> )		Xa			Xa			Xa			Xa	
Ringed plover ( <i>Charadrius hiaticula</i> )		Xa			Xa			Xa			Xa	
Marsh harrier ( <i>Circus aeruginosus</i> )		Xa			Xa			Xa			Xa	
Bewick's swan ( <i>Cygnus columbianus bewickii</i> )		Xa			Xa			Xa			Xa	

Name of European site: Krammer-Volkerak SPA												
Peregrine ( <i>Falco peregrinus</i> )		Xa			Xa			Xa			Xa	
Eurasian coot ( <i>Fulica atra atra</i> )		Xa			Xa			Xa			Xa	
Lesser black-backed gull ( <i>Larus fuscus</i> )		Xa			Xa			Xa			Xa	
Mediterranean gull ( <i>Larus melanocephalus</i> )		Xa			Xa			Xa			Xa	
Black-tailed godwit ( <i>Limosa limosa</i> )		Xa			Xa			Xa			Xa	
Red-breasted merganser ( <i>Mergus serrator</i> )		Xa			Xa			Xa			Xa	
Osprey ( <i>Pandion haliaetus</i> )		Xa			Xa			Xa			Xa	
Cormorant ( <i>Phalacrocorax carbo sinensis</i> )		Xa			Xa			Xa			Xa	
Spoonbill ( <i>Platalea leucorodia</i> )												
Slavonian grebe ( <i>Podiceps auritus</i> )												
Great crested grebe ( <i>Podiceps cristatus</i> )		Xa			Xa			Xa			Xa	
Avocet ( <i>Recurvirostra avosetta</i> )		Xa			Xa			Xa			Xa	
Little tern ( <i>Sterna albifrons</i> )		Xa			Xa			Xa			Xa	
Common tern ( <i>Sterna hirundo</i> )		Xa			Xa			Xa			Xa	
Shelduck ( <i>Tadorna tadorna</i> )		Xa			Xa			Xa			Xa	
Redshank ( <i>Tringa totanus</i> )		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.



2.168 Stage 1 Matrix: Lausitzer Bergbaufolgelandschaft SPA

Name of European site: Lausitzer Bergbaufolgelandschaft SPA												
Distance to array area: 778 km												
Distance to cable route: 778 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Reed warbler ( <i>Acrocephalus scirpaceus</i> )		Xa			Xa			Xa			Xa	
Common sandpiper ( <i>Actitis hypoleucos</i> )		Xa			Xa			Xa			Xa	
Kingfisher ( <i>Alcedo atthis</i> )		Xa			Xa			Xa			Xa	
Pintail ( <i>Anas acuta</i> )		Xa			Xa			Xa			Xa	
Shoveler ( <i>Anas clypeata</i> )		Xa			Xa			Xa			Xa	
Wigeon ( <i>Anas penelope</i> )		Xa			Xa			Xa			Xa	
Garganey ( <i>Anas querquedula</i> )		Xa			Xa			Xa			Xa	
Greater white-fronted goose ( <i>Anser albifrons albifrons</i> )		Xa			Xa			Xa			Xa	
Pink-footed goose ( <i>Anser brachyrhynchus</i> )		Xa			Xa			Xa			Xa	
Greylag goose ( <i>Anser anser</i> )		Xa			Xa			Xa			Xa	
Lesser White-fronted Goose ( <i>Anser erythropus</i> )		Xa			Xa			Xa			Xa	
Taiga bean Goose ( <i>Anser fabalis fabalis</i> )		Xa			Xa			Xa			Xa	
Tawny pipit ( <i>Anthus campestris</i> )		Xa			Xa			Xa			Xa	
Pochard ( <i>Aythya ferina</i> )		Xa			Xa			Xa			Xa	



Name of European site: Lausitzer Bergbaufolgelandschaft SPA												
Tufted duck ( <i>Aythya fuligula</i> )		Xa			Xa			Xa			Xa	
Bittern ( <i>Botaurus stellaris stellaris</i> )		Xa			Xa			Xa			Xa	
Barnacle goose ( <i>Branta leucopsis</i> )		Xa			Xa			Xa			Xa	
Red-breasted goose ( <i>Branta ruficollis</i> )		Xa			Xa			Xa			Xa	
Goldeneye ( <i>Bucephala clangula</i> )		Xa			Xa			Xa			Xa	
Dunlin ( <i>Calidris alpina</i> )		Xa			Xa			Xa			Xa	
Curlew sandpiper ( <i>Calidris ferruginea</i> )		Xa			Xa			Xa			Xa	
Little stint ( <i>Calidris minuta</i> )		Xa			Xa			Xa			Xa	
Nightjar ( <i>Caprimulgus europaeus</i> )		Xa			Xa			Xa			Xa	
Black tern ( <i>Chlidonias niger</i> )		Xa			Xa			Xa			Xa	
Black stork ( <i>Ciconia nigra</i> )		Xa			Xa			Xa			Xa	
Marsh harrier ( <i>Circus aeruginosus</i> )		Xa			Xa			Xa			Xa	
Hen harrier ( <i>Circus cyaneus</i> )		Xa			Xa			Xa			Xa	
Montagu's harrier ( <i>Circus pygargus</i> )		Xa			Xa			Xa			Xa	
Bewick's swan ( <i>Cygnus columbianus bewickii</i> )		Xa			Xa			Xa			Xa	
Whooper swan ( <i>Cygnus cygnus</i> )		Xa			Xa			Xa			Xa	
Mute swan ( <i>Cygnus olor</i> )		Xa			Xa			Xa			Xa	
Middle spotted woodpecker ( <i>Dendrocopos medius</i> )		Xa			Xa			Xa			Xa	
Black woodpecker ( <i>Dryocopus martius</i> )		Xa			Xa			Xa			Xa	
Great white egret ( <i>Egretta alba</i> )		Xa			Xa			Xa			Xa	
Ortolan bunting ( <i>Emberiza hortulana</i> )		Xa			Xa			Xa			Xa	
Merlin ( <i>Falco columbarius</i> )		Xa			Xa			Xa			Xa	

Name of European site: Lausitzer Bergbaufolgelandschaft SPA												
Hobby ( <i>Falco subbuteo</i> )		Xa			Xa			Xa			Xa	
Coot ( <i>Fulica atra atra</i> )		Xa			Xa			Xa			Xa	
Snipe ( <i>Gallinago gallinago</i> )		Xa			Xa			Xa			Xa	
White-tailed eagle ( <i>Haliaeetus albicilla</i> )		Xa			Xa			Xa			Xa	
Red backed shrike ( <i>Lanius collurio</i> )		Xa			Xa			Xa			Xa	
Common gull ( <i>Larus canus</i> )		Xa			Xa			Xa			Xa	
Mediterranean gull ( <i>Larus melanocephalus</i> )		Xa			Xa			Xa			Xa	
Black-headed gull ( <i>Larus ridibundus</i> )		Xa			Xa			Xa			Xa	
Savi's warbler ( <i>Locustella luscinioides</i> )		Xa			Xa			Xa			Xa	
Woodlark ( <i>Lullula arborea</i> )		Xa			Xa			Xa			Xa	
Nightingale ( <i>Luscinia megarhynchos</i> )		Xa			Xa			Xa			Xa	
Bluethroat ( <i>Luscinia svecica cyanecula</i> )		Xa			Xa			Xa			Xa	
Jack snipe ( <i>Lymnocyptes minimus</i> )		Xa			Xa			Xa			Xa	
Smew ( <i>Mergus albellus</i> )		Xa			Xa			Xa			Xa	
Black kite ( <i>Milvus migrans</i> )		Xa			Xa			Xa			Xa	
Red kite ( <i>Milvus milvus</i> )		Xa			Xa			Xa			Xa	
Osprey ( <i>Pandion haliaetus</i> )		Xa			Xa			Xa			Xa	
Honey buzzard ( <i>Pernis apivorus</i> )		Xa			Xa			Xa			Xa	
Cormorant ( <i>Phalacrocorax carbo sinensis</i> )		Xa			Xa			Xa			Xa	
Golden plover ( <i>Pluvialis apricaria</i> )		Xa			Xa			Xa			Xa	
Sand martin ( <i>Riparia riparia</i> )		Xa			Xa			Xa			Xa	
Whinchat ( <i>Saxicola rubetra</i> )		Xa			Xa			Xa			Xa	

Name of European site: Lausitzer Bergbaufolgelandschaft SPA												
Woodcock ( <i>Scolopax rusticola</i> )		Xa			Xa			Xa			Xa	
Common tern ( <i>Sterna hirundo</i> )		Xa			Xa			Xa			Xa	
Barred warbler ( <i>Sylvia nisoria</i> )		Xa			Xa			Xa			Xa	
Wood sandpiper ( <i>Tringa glareola</i> )		Xa			Xa			Xa			Xa	
Redshank ( <i>Tringa totanus</i> )		Xa			Xa			Xa			Xa	
Hoopoe ( <i>Upupa epops</i> )		Xa			Xa			Xa			Xa	
Lapwing ( <i>Vanellus vanellus</i> )		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

2.169 Stage 1 Matrix: Lindisfarne SPA

Name of European site: Lindisfarne SPA												
Distance to array area: 311 km												
Distance to cable route: 316 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 – Breeding (Passage)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Little Tern <i>Sterna albifrons</i>		✗a			✗a			✗a			✗a	
Roseate tern <i>Sterna douga</i>		✗a			✗a			✗a			✗a	
Article 4.1 – Breeding (Over Winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Bar-tailed Godwit <i>Limosa lapponica</i>		✗a			✗a			✗a			✗a	
Golden Plover <i>Pluvialis apricaria</i>		✗a			✗a			✗a			✗a	
Whooper Swan <i>Cygnus cygnus</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Migratory (On Passage)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Ringed Plover <i>Charadrius hiaticula</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Migratory (Over Winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey Plover <i>Pluvialis squatarola</i>		✗a			✗a			✗a			✗a	
Greylag Goose <i>Anser anser</i>		✗a			✗a			✗a			✗a	
Knot <i>Calidris canutus</i>		✗a			✗a			✗a			✗a	

Name of European site: Lindisfarne SPA												
Light-bellied Brent Goose <i>Branta bernicla hrota</i>		Xa			Xa			Xa			Xa	
Wigeon <i>Anas penelope</i>		Xa			Xa			Xa			Xa	
Long-tailed duck <i>Clangula hyemalis</i>		Xa			Xa			Xa			Xa	
Sanderling <i>Calidris alba</i>		Xa			Xa			Xa			Xa	
Red-breasted Merganser <i>Mergus serrator</i>		Xa			Xa			Xa			Xa	
Article 4.2 – Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Pink-footed Goose <i>Anser brachyrhynchus</i>		Xa			Xa			Xa			Xa	
Golden Plover <i>Pluvialis apricaria</i>		Xa			Xa			Xa			Xa	
Bar-tailed Godwit <i>Limosa lapponica</i>		Xa			Xa			Xa			Xa	
Greylag Goose <i>Anser anser</i>		Xa			Xa			Xa			Xa	
Light-bellied Brent Goose <i>Branta bernicla hrota</i>		Xa			Xa			Xa			Xa	
Wigeon <i>Anas penelope</i>		Xa			Xa			Xa			Xa	
Whooper Swan <i>Cygnus cygnus</i>		Xa			Xa			Xa			Xa	
Knot <i>Calidris canutus</i>		Xa			Xa			Xa			Xa	
Redshank <i>Tringa totanus</i>		Xa			Xa			Xa			Xa	
Shelduck <i>Tadorna tadorna</i>		Xa			Xa			Xa			Xa	
Eider <i>Somateria mollissima</i>		Xa			Xa			Xa			Xa	
Common Scoter <i>Melanitta nigra</i>		Xa			Xa			Xa			Xa	
Ringed Plover <i>Charadrius hiaticula</i>		Xa			Xa			Xa			Xa	
Lapwing <i>Vanellus vanellus</i>		Xa			Xa			Xa			Xa	
Dunlin <i>Calidris alpina alpina</i>		Xa			Xa			Xa			Xa	

Name of European site: Lindisfarne SPA											
Grey Plover <i>Pluvialis squatarola</i>		Xa			Xa			Xa			Xa

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

2.170 Stage 1 Matrix: Loch of Strathbeg SPA

Name of European site: Loch of Strathbeg SPA												
Distance to array area: 476 km												
Distance to cable route: 481 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 – Breeding	C	O	D	C	O	D	C	O	D	C	O	D
Sandwich Tern <i>Sterna sandvicensis</i>		✘a			✘a			✘a			✘a	
Article 4.1 – Winter	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Barnacle Goose <i>Branta leucopsis</i>		✘a			✘a			✘a			✘a	
Whooper Swan <i>Cygnus cygnus</i>		✘a			✘a			✘a			✘a	
Article 4.2 – Migratory Species (Winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Greylag Goose <i>Anser anser</i>		✘a			✘a			✘a			✘a	
Pink-footed Goose <i>Anser brachyrhynchus</i>		✘a			✘a			✘a			✘a	
Article 4.2 – Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Teal <i>Anas crecca</i>		✘a			✘a			✘a			✘a	
Greylag Goose <i>Anser anser</i>		✘a			✘a			✘a			✘a	
Pink-footed Goose <i>Anser brachyrhynchus</i>		✘a			✘a			✘a			✘a	
Barnacle Goose <i>Branta leucopsis</i>		✘a			✘a			✘a			✘a	

Name of European site: Loch of Strathbeg SPA											
Whooper Swan <i>Cygnus cygnus</i>		Xa			Xa			Xa			Xa

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.



2.171 Stage 1 Matrix: Lough Neagh and Lough Beg

Name of European site: Lough Neagh and Lough Beg												
Distance to array area: 554 km												
Distance to cable route: 563 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 – Breeding	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Common tern		✘a			✘a			✘a			✘a	
Article 4.1 – Winter	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Bewick's swan		✘a			✘a			✘a			✘a	
Whooper Swan <i>Cygnus cygnus</i>		✘a			✘a			✘a			✘a	
Golden Plover												
Article 4.2 – Breeding	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Black-headed Gull <i>Larus ridibundu</i>		✘a			✘a			✘a			✘a	
Great Crested Grebe <i>Podiceps cristatu</i>		✘a			✘a			✘a			✘a	
Article 4.2 – Winter	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Goldeneye <i>Bucephala clangula</i>		✘a			✘a			✘a			✘a	
Great Crested Grebe <i>Podiceps cristatu</i>		✘a			✘a			✘a			✘a	
Pochard <i>Aythya ferina</i>		✘a			✘a			✘a			✘a	

Name of European site: Lough Neagh and Lough Beg											
Scaup <i>Aythya maril</i>		Xa			Xa			Xa			Xa
Tufted Duck <i>Aythya fuligula</i>		Xa			Xa			Xa			Xa

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

2.172 Stage 1 Matrix: Luckauer Becken SPA

Name of European site: Luckauer Becken SPA												
Distance to array area: 767 km												
Distance to cable route: 767 km												
	Likely Effects of Hornsea Three											
	C	O	D	C	O	D	C	O	D	C	O	D
Reed warbler		×a			×a			×a			×a	
Common sandpiper		×a			×a			×a			×a	
Kingfisher		×a			×a			×a			×a	
Pintail		×a			×a			×a			×a	
Shoveler		×a			×a			×a			×a	
Wigeon		×a			×a			×a			×a	
Garganey		×a			×a			×a			×a	
Greylag goose		×a			×a			×a			×a	
Pink-footed goose		×a			×a			×a			×a	
Lesser white-fronted goose		×a			×a			×a			×a	

Evidence to support conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

2.173 Stage 1 Matrix: Marwick Head SPA

Name of European site: Marwick Head SPA												
Distance to array area: 662 km												
Distance to cable route: 667 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 Breeding birds	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Guillemot		✘a			✘a			✘a			✘a	
Article 4.2 Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Guillemot		✘a			✘a			✘a			✘a	
Kittiwake		✘a			✘a			✘a			✘a	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.174 Stage 1 Matrix: Medway Estuary and Marshes SPA

Name of European site: Medway Estuary and Marshes SPA												
Distance to array area: 285 km												
Distance to cable route: 169 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 – Breeding	C	O	D	C	O	D	C	O	D	C	O	D
Little tern <i>Sterna albifrons</i>		✗a			✗a			✗a			✗a	
Avocet <i>Recurvirostra avosetta</i>		✗a			✗a			✗a			✗a	
Article 4.1 – Winter	C	O	D	C	O	D	C	O	D	C	O	D
Avocet <i>Recurvirostra avosetta</i>		✗a			✗a			✗a			✗a	
Golden Plover <i>Pluvialis apricaria</i>		✗a			✗a			✗a			✗a	
Hen Harrier <i>Circus cyaneus</i>		✗a			✗a			✗a			✗a	
Ruff <i>Philomachus pugnax</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Migratory (On passage)	C	O	D	C	O	D	C	O	D	C	O	D
Ringed Plover <i>Charadrius hiaticula</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Migratory (Winter)	C	O	D	C	O	D	C	O	D	C	O	D
Black-tailed Godwit <i>Limosa limosa islandica</i>		✗a			✗a			✗a			✗a	

Name of European site: Medway Estuary and Marshes SPA												
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		Xa			Xa			Xa			Xa	
Dunlin <i>Calidris alpina alpina</i>		Xa			Xa			Xa			Xa	
Grey Plover <i>Pluvialis squatarola</i>		Xa			Xa			Xa			Xa	
Redshank <i>Tringa totanus</i>		Xa			Xa			Xa			Xa	
Ringed Plover <i>Charadrius hiaticula</i>		Xa			Xa			Xa			Xa	
Shelduck <i>Tadorna tadorna</i>		Xa			Xa			Xa			Xa	
Knot <i>Calidris canutus islandica</i>		Xa			Xa			Xa			Xa	
<u>Article 4.2 – Assemblage (Winter)</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Great Crested Grebe <i>Podiceps cristatus</i>		Xa			Xa			Xa			Xa	
Golden Plover <i>Pluvialis apricaria</i>		Xa			Xa			Xa			Xa	
Ruff <i>Philomachus pugnax</i>		Xa			Xa			Xa			Xa	
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		Xa			Xa			Xa			Xa	
Shelduck <i>Tadorna tadorna</i>		Xa			Xa			Xa			Xa	
Ringed Plover <i>Charadrius hiaticula</i>		Xa			Xa			Xa			Xa	
Grey Plover <i>Pluvialis squatarola</i>		Xa			Xa			Xa			Xa	
Dunlin <i>Calidris alpina alpina</i>		Xa			Xa			Xa			Xa	
Avocet <i>Recurvirostra avosetta</i>		Xa			Xa			Xa			Xa	
Redshank <i>Tringa totanus</i>		Xa			Xa			Xa			Xa	
Curlew <i>Numenius arquata</i>		Xa			Xa			Xa			Xa	
Cormorant <i>Phalacrocorax carbo</i>		Xa			Xa			Xa			Xa	
Wigeon <i>Anas penelope</i>		Xa			Xa			Xa			Xa	

Name of European site: Medway Estuary and Marshes SPA												
Teal <i>Anas crecca</i>		Xa			Xa			Xa			Xa	
Pintail <i>Anas acuta</i>		Xa			Xa			Xa			Xa	
Shoveler <i>Anas clypeata</i>		Xa			Xa			Xa			Xa	
Goldeneye <i>Bucephala clangula</i>		Xa			Xa			Xa			Xa	
Red-breasted Merganser <i>Mergus serrator</i>		Xa			Xa			Xa			Xa	
Lapwing <i>Vanellus vanellus</i>		Xa			Xa			Xa			Xa	
Black-tailed Godwit <i>Limosa limosa islandica</i>		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

## 2.175 Stage 1 Matrix: Mingulay and Berneray SPA

Name of European site: Mingulay and Berneray												
Distance to array area: 695 km (across land)												
Distance to cable route: 707 km (across land)												
	Likely Effects of Hornsea Three											
Article 4.2 Migratory	C	O	D	C	O	D	C	O	D	C	O	D
Razorbill		×a			×a			×a			×a	
Article 4.2 Assemblage												
Puffin		×a			×a			×a			×a	
Guillemot		×a			×a			×a			×a	
Kittiwake		×a			×a			×a			×a	
Shag		×a			×a			×a			×a	
Fulmar		×a			×a			×a			×a	
Razorbill		×a			×a			×a			×a	

### Evidence to support conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.



2.176 Stage 1 Matrix: Montrose Basin SPA

Name of European site: Montrose Basin SPA												
Distance to array area: 423 km												
Distance to cable route: 427 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.2 – Migratory Species (Winter)	C	O	D	C	O	D	C	O	D	C	O	D
Greylag Goose <i>Anser anser</i>		✗a			✗a			✗a			✗a	
Knot <i>Calidris canutus</i>		✗a			✗a			✗a			✗a	
Pink-footed Goose <i>Anser brachyrhynchus</i>		✗a			✗a			✗a			✗a	
Redshank <i>Tringa totanus</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Assemblage	C	O	D	C	O	D	C	O	D	C	O	D
Dunlin <i>Calidris alpina alpina</i>		✗a			✗a			✗a			✗a	
Oystercatcher <i>Haematopus ostralegus</i>		✗a			✗a			✗a			✗a	
Eider <i>Somateria mollissima</i>		✗a			✗a			✗a			✗a	
Wigeon <i>Anas penelope</i>		✗a			✗a			✗a			✗a	
Shelduck <i>Tadorna tadorna</i>		✗a			✗a			✗a			✗a	
Redshank <i>Tringa totanus</i>		✗a			✗a			✗a			✗a	
Knot <i>Calidris canutus</i>		✗a			✗a			✗a			✗a	

Name of European site: Montrose Basin SPA												
Greylag Goose <i>Anser anser</i>		Xa			Xa			Xa			Xa	
Pink-footed Goose <i>Anser brachyrhynchus</i>		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

2.177 Stage 1 Matrix: Moray and Nairn Coast SPA

Name of European site: Moray and Nairn Coast SPA												
Distance to array area: 523 km												
Distance to cable route: 528 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 – Breeding	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Osprey <i>Pandion haliaetus</i>		✘a			✘a			✘a			✘a	
Article 4.1 – Over winter	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Bar-tailed Godwit <i>Limosa lapponica</i>		✘a			✘a			✘a			✘a	
Article 4.2 – Migratory Species (Over winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Greylag Goose <i>Anser anser</i>		✘a			✘a			✘a			✘a	
Pink-footed Goose <i>Anser brachyrhynchus</i>		✘a			✘a			✘a			✘a	
Redshank <i>Tringa totanus</i>		✘a			✘a			✘a			✘a	
Article 4.2 – Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Pink-footed Goose <i>Anser brachyrhynchus</i>		✘a			✘a			✘a			✘a	
Dunlin <i>Calidris alpina alpina</i>		✘a			✘a			✘a			✘a	
Oystercatcher <i>Haematopus ostralegus</i>		✘a			✘a			✘a			✘a	
Red-breasted Merganser <i>Mergus serrator</i>		✘a			✘a			✘a			✘a	

Name of European site: Moray and Nairn Coast SPA												
Velvet Scoter <i>Melanitta fusca</i>		Xa			Xa			Xa			Xa	
Common Scoter <i>Melanitta nigra</i>		Xa			Xa			Xa			Xa	
Long-tailed duck <i>Clangula hyemalis</i>		Xa			Xa			Xa			Xa	
Wigeon <i>Anas penelope</i>		Xa			Xa			Xa			Xa	
Redshank <i>Tringa totanus</i>		Xa			Xa			Xa			Xa	
Greylag Goose <i>Anser anser</i>		Xa			Xa			Xa			Xa	
Bar-tailed Godwit <i>Limosa lapponica</i>		Xa			Xa			Xa			Xa	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

2.178 Stage 1 Matrix: Niedersächsisches Wattenmeer und angrenzendes Küstenmeer SPA

Name of European site: Niedersächsisches Wattenmeer und angrenzendes Küstenmeer SPA												
Distance to array area: 237 km												
Distance to cable route: 237 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Sedge Warbler		×a			×a			×a			×a	
Reed warbler		×a			×a			×a			×a	
Skylark		×a			×a			×a			×a	
Razorbill		×a			×a			×a			×a	
Pintail		×a			×a			×a			×a	
Shoveler		×a			×a			×a			×a	
Wigeon		×a			×a			×a			×a	
Garganey		×a			×a			×a			×a	
White fronted goose		×a			×a			×a			×a	
Greylag goose		×a			×a			×a			×a	
Pink-footed goose		×a			×a			×a			×a	
Turnstone		×a			×a			×a			×a	

Evidence to support conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

2.179 Stage 1 Matrix: North Caithness Cliffs SPA

Name of European site: North Caithness Cliffs SPA												
Distance to array area: 604 km												
Distance to cable route: 608 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 Breeding	C	O	D	C	O	D	C	O	D	C	O	D
Peregrine <i>Falco peregrinus</i>		✘a			✘a			✘a			✘a	
Article 4.2 – Migratory Species (breeding)	C	O	D	C	O	D	C	O	D	C	O	D
Guillemot <i>Uria aalge</i>		✘a			✘a			✘a			✘a	
Article 4.2 – Assemblage	C	O	D	C	O	D	C	O	D	C	O	D
Puffin <i>Fratercula arctica</i>		✘a			✘a			✘a			✘a	
Fulmar <i>Fulmarus glacialis</i>		✘a			✘a			✘a			✘a	
Razorbill <i>Alca torda</i>		✘a			✘a			✘a			✘a	
Guillemot <i>Uria aalge</i>		✘a			✘a			✘a			✘a	
Kittiwake <i>Rissa tridactyla</i>		✘a			✘a			✘a			✘a	

**Evidence supporting conclusions:**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

## 2.180 Stage 1 Matrix: North Colonsay and Western Cliffs

Name of European site: North Colonsay and Western Cliffs SPA												
Distance to array area: 302 km												
Distance to cable route: 302 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 Breeding	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Chough <i>Pyrrhocorax pyrrhocorax</i>		✘a			✘a			✘a			✘a	
Article 4.2 – Seabird Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Guillemot <i>Uria aalge</i>		✘a			✘a			✘a			✘a	
Kittiwake <i>Rissa tridactyla</i>		✘a			✘a			✘a			✘a	

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.181 Stage 1 Matrix: North Norfolk Coast SPA

Name of European site: North Norfolk Coast SPA												
Distance to array area: 128 km												
Distance to cable route: 0.3km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Release of contaminants			Invasive species			In-combination		
Article 4.1 – Breeding	C	O	D	C	O	D	C	O	D	C	O	D
Avocet <i>Recurvirostra avosetta</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Bittern <i>Botaurus stellaris</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Common Tern <i>Sterna hirundo</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Little Tern <i>Sterna albifrons</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Marsh Harrier <i>Circus aeruginosus</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Mediterranean Gull <i>Larus melanocephalus</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Roseate Tern <i>Sterna dougallii</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Sandwich Tern <i>Sterna sandvicensis</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Montagu's harrier <i>Circus pygargus</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Article 4.1 – Over winter	Changes to habitat			Release of contaminants			Invasive species			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Avocet <i>Recurvirostra avosetta</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Bar-tailed Godwit <i>Limosa lapponica</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Bittern <i>Botaurus stellaris</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc



Name of European site: North Norfolk Coast SPA												
Golden Plover <i>Pluvialis apricaria</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Hen Harrier <i>Circus cyaneus</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Ruff <i>Philomachus pugnax</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Article 4.2 – Migratory (Breeding)	Changes to habitat			Release of contaminants			Invasive species			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Redshank <i>Tringa totanus</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Ringed Plover <i>Charadrius hiaticula</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Article 4.2 – Migratory (On passage)	Changes to habitat			Release of contaminants			Invasive species			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Ringed Plover <i>Charadrius hiaticula</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Article 4.2 – Migratory (Over winter)	Changes to habitat			Release of contaminants			Invasive species			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Knot <i>Calidris canutus</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Pink-footed Goose <i>Anser brachyrhynchus</i>	✓a	✓a	✓a	✓b	✓b	✓b				✓a,b	✓a,b	✓a,b
Pintail <i>Anas acuta</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Redshank <i>Tringa totanus</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Wigeon <i>Anas penelope</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Article 4.2 – Assemblage (Waterfowl)	Changes to habitat			Release of contaminants			Invasive species			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Shelduck <i>Tadorna tadorna</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc

Name of European site: North Norfolk Coast SPA												
Avocet <i>Recurvirostra avosetta</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Golden Plover <i>Pluvialis apricaria</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Ruff <i>Philomachus pugnax</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Bar-tailed Godwit <i>Limosa lapponica</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Pink-footed Goose <i>Anser brachyrhynchus</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Wigeon <i>Anas penelope</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Pintail <i>Anas acuta</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Knot <i>Calidris canutus</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Redshank <i>Tringa totanus</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Bittern <i>Botaurus stellaris</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
White-fronted Goose <i>Anser albifrons albifrons</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Dunlin <i>Calidris alpina alpina</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Gadwall <i>Anas strepera</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Teal <i>Anas crecca</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Shoveler <i>Anas clypeata</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Common Scoter <i>Melanitta nigra</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Velvet Scoter <i>Melanitta fusca</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Oystercatcher <i>Haematopus ostralegus</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Ringed Plover <i>Charadrius hiaticula</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Grey Plover <i>Pluvialis squatarola</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Lapwing <i>Vanellus vanellus</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc

Name of European site: North Norfolk Coast SPA												
Sanderling <i>Calidris alba</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc
Cormorant <i>Phalacrocorax carbo</i>	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc	Xc

**Evidence supporting conclusions:**

- a. At the time of screening the onshore Hornsea Three offshore cable corridor overlapped with the North Norfolk Coast SPA, therefore the potential for LSE from permanent habitat loss and temporary disturbance could not be excluded.
- b. No LSE for release of contaminants was identified during HRA Screening (see section 6.2 of the HRA Screening Report), however following consultation with the EWG (Evidence Plan process) it was agreed that accidental pollution would be considered in the RIAA (see section 3.4.5 of the RIAA).
- c. No LSE has been identified for this species as no supporting habitat has been identified within the zone of influence of Hornsea Three, as agreed through the Evidence Plan process.

2.182 Stage 1 Matrix: North Rona and Sula Sgeir SPA

Name of European site: North Rona and Sula Sgeir												
Distance to array area: 268 km												
Distance to cable route: 272 km												
	Likely Effects of Hornsea Three											
Article 4.1 Breeding season	C	O	D	C	O	D	C	O	D	C	O	D
Leach's storm petrel <i>Oceanodroma leucorhoa</i>		xa			xa			xa			xa	
Storm Petrel <i>Hydrobates pelagicus</i>		xa			xa			xa			xa	
Article 4.2 Migratory species												
Gannet <i>Morus bassanus</i>		xa			xa			xa			xa	
Guillemot <i>Uria aalge</i>		xa			xa			xa			xa	
Article 4.2 Assemblage												
Gannet <i>Morus bassanus</i>		xa			xa			xa			xa	
Guillemot <i>Uria aalge</i>		xa			xa			xa			xa	
Puffin <i>Fratercula arctica</i>		xa			xa			xa			xa	
Razorbill <i>Alca tord</i>		xa			xa			xa			xa	
Kittiwake <i>Rissa tridactyla</i>		xa			xa			xa			xa	
Great Black-backed Gull <i>Larus marinus</i>		xa			xa			xa			xa	
Fulmar <i>Fulmarus glacialis</i>		xa			xa			xa			xa	

Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

## 2.183 Stage 1 Matrix: Northumberland Marine pSPA

Name of European site: Northumberland Marine pSPA												
Distance to array area: 268 km												
Distance to cable route: 272 km												
Likely Effects of Hornsea Three												
	C	O	D	C	O	D	C	O	D	C	O	D
Sandwich tern <i>Sterna sandvicensis</i>		×a			×a			×a			×a	
Common tern <i>Sterna hirundo</i>		×a			×a			×a			×a	
Arctic tern <i>Sterna paradisaea</i>		×a			×a			×a			×a	
Roseate tern <i>Sterna dougallii</i>		×a			×a			×a			×a	
Little tern <i>Sternula albifrons</i>		×a			×a			×a			×a	
Puffin <i>Fratercula arctica</i>		×a			×a			×a			×a	
Guillemot <i>Uria aalge</i>		×a			×a			×a			×a	

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature

## 2.184 Stage 1 Matrix: Northumbria Coast SPA

Name of European site: Northumbria Coast SPA												
Distance to array area: 239 km												
Distance to cable route: 243 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 – Breeding	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Little Tern <i>Sterna albifrons</i>		✘a			✘a			✘a			✘a	
Article 4.2 – Migratory	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Purple Sandpiper <i>Calidris maritima</i>		✘a			✘a			✘a			✘a	
Turnstone <i>Arenaria interpres</i>		✘a			✘a			✘a			✘a	

### Evidence supporting conclusions:

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No LSE predicted for the bird feature.

2.185 Stage 1 Matrix: Noss SPA

Name of European site: Noss SPA												
Distance to array area: 708 km												
Distance to cable route: 713 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 Breeding birds	C	O	D	C	O	D	C	O	D	C	O	D
Gannet		✘a			✘a			✘a			✘a	
Great Skua		✘a			✘a			✘a			✘a	
Guillemot		✘a			✘a			✘a			✘a	
Article 4.2 Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Gannet		✘a			✘a			✘a			✘a	
Great Skua		✘a			✘a			✘a			✘a	
Guillemot		✘a			✘a			✘a			✘a	
Puffin		✘a			✘a			✘a			✘a	
Kittiwake		✘a			✘a			✘a			✘a	
Fulmar		✘a			✘a			✘a			✘a	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature



2.186 Stage 1 Matrix: Outer Firth of Forth and St Andrews Complex pSPA

Name of European site: Outer Firth of Forth and St Andrews Complex												
Distance to array area: 375 km												
Distance to cable route: 375 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Red-throated diver		xa			xa			xa			xa	
Slavonian grebe		xa			xa			xa			xa	
Common eider		xa			xa			xa			xa	
Long-tailed duck		xa			xa			xa			xa	
Common scoter		xa			xa			xa			xa	
Velvet scoter		xa			xa			xa			xa	
Common goldeneye		xa			xa			xa			xa	
Red-breasted merganser		xa			xa			xa			xa	
Common tern		xa			xa			xa			xa	
Arctic tern		xa			xa			xa			xa	
European shag		xa			xa			xa			xa	
Northern gannet		xa			xa			xa			xa	
Atlantic puffin		xa			xa			xa			xa	
Common guillemot		xa			xa			xa			xa	
Little gull		xa			xa			xa			xa	
Black-legged kittiwake		xa			xa			xa			xa	
Black-headed gull		xa			xa			xa			xa	

Name of European site: Outer Firth of Forth and St Andrews Complex												
Common gull		×a			×a			×a			×a	
Herring gull		×a			×a			×a			×a	
Razorbill		×a			×a			×a			×a	

**Evidence to support conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report). Additional screening for migratory species was also carried out and is detailed in Annex 2 of the RIAA. No LSE predicted for the bird feature.

## 2.187 Stage 1 Matrix: Outer Thames Estuary SPA

Name of European site: Outer Thames Estuary SPA												
Distance to array area: 122 km												
Distance to cable route: 43 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Red-throated diver <i>Gavia stellata</i>		✗a			✗a			✗a			✗a	
Common tern <i>Sterna hirundo</i>		✗a			✗a			✗a			✗a	
Little tern <i>Sternula albifrons</i>		✗a			✗a			✗a			✗a	

### Evidence to support conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No LSE predicted for the bird feature.

## 2.188 Stage 1 Matrix: Papa Stour SPA

Name of European site: Papa Stour SPA												
Distance to array area: 743 km												
Distance to cable route: 748 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 Breeding birds	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Arctic Tern		✘a			✘a			✘a			✘a	
Article 4.2 Migratory Species	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Ringed Plover		✘a			✘a			✘a			✘a	

### Evidence to support conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature

2.189 Stage 1 Matrix: Papa Westray (North Hill and Holm) SPA

Name of European site: Papa Westray SPA												
Distance to array area: 672 km												
Distance to cable route: 676 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 Breeding birds	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Arctic Tern		✘a			✘a			✘a			✘a	
Article 4.2 Migratory Species	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Arctic Skua		✘a			✘a			✘a			✘a	

**Evidence supporting conclusion:**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature

2.190 Stage 1 Matrix: Rathlin Island SPA

Name of European site: Rathlin Island												
Distance to array area: 556 km (across land)												
Distance to cable route: 569 km (across land)												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
<u>Article 4.1 Breeding features</u>												
Peregrine		Xa			Xa			Xa			Xa	
<u>Article 4.2 Migratory features</u>												
Guillemot		Xa			Xa			Xa			Xa	
Razorbill		Xa			Xa			Xa			Xa	
<u>Article 4.2 Seabird assemblage</u>												
Puffin		Xa			Xa			Xa			Xa	
Kittiwake		Xa			Xa			Xa			Xa	
Guillemot		Xa			Xa			Xa			Xa	
Herring gull		Xa			Xa			Xa			Xa	
Lesser black-backed gull		Xa			Xa			Xa			Xa	
Common gull		Xa			Xa			Xa			Xa	
Fulmar		Xa			Xa			Xa			Xa	
Razorbill		Xa			Xa			Xa			Xa	

Evidence supporting conclusion:

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature

2.191 Stage 1 Matrix: Ribble and Alt Estuaries SPA

Name of European site: Ribble and Alt Estuaries												
Distance to array area:												
Distance to cable route:												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Article 4.1 Breeding season												
Common tern <i>Sterna hirundo</i>		xa			xa			xa			xa	
Ruff <i>Philomachus pugnax</i>		xa			xa			xa			xa	
Article 4.1 Wintering												
Bar-tailed Godwit <i>Limosa lapponica</i>		xa			xa			xa			xa	
Bewick's Swan <i>Cygnus columbianus bewickii</i> ,		xa			xa			xa			xa	
Golden Plover <i>Pluvialis apricaria</i>		xa			xa			xa			xa	
Whooper Swan <i>Cygnus cygnus</i>		xa			xa			xa			xa	
Article 4.2 Breeding		xa			xa			xa			xa	
Lesser black-backed gull		xa			xa			xa			xa	
Article 4.2 Passage												
Ringed plover		xa			xa			xa			xa	
Sanderling <i>Calidris alba</i>		xa			xa			xa			xa	
Article 4.2 Wintering												
Black-tailed Godwit <i>Limosa limosa islandica</i>		xa			xa			xa			xa	



Name of European site: Ribble and Alt Estuaries											
Dunlin <i>Calidris alpina alpina</i>		✘a			✘a			✘a			✘a
Grey Plover <i>Pluvialis squatarola</i>		✘a			✘a			✘a			✘a
Knot <i>Calidris canutus</i>		✘a			✘a			✘a			✘a
Oystercatcher <i>Haematopus ostralegus</i>		✘a			✘a			✘a			✘a
Pink-footed Goose <i>Anser brachyrhynchus</i> ,		✘a			✘a			✘a			✘a
Pintail <i>Anas acuta</i>		✘a			✘a			✘a			✘a
Redshank <i>Tringa totanus</i>		✘a			✘a			✘a			✘a
Sanderling <i>Calidris alba</i>		✘a			✘a			✘a			✘a
Shelduck <i>Tadorna tadorna</i> ,		✘a			✘a			✘a			✘a
Teal <i>Anas crecca</i> ,		✘a			✘a			✘a			✘a
Wigeon <i>Anas penelope</i>		✘a			✘a			✘a			✘a

**Evidence supporting conclusion:**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No LSE predicted for the bird feature.

## 2.192 Stage 1 Matrix: Rousay SPA

Name of European site: Rousay SPA												
Distance to array area: 657 km												
Distance to cable route: 662 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 Breeding birds	C	O	D	C	O	D	C	O	D	C	O	D
Arctic Tern		✘a			✘a			✘a			✘a	
Article 4.2 Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Guillemot		✘a			✘a			✘a			✘a	
Kittiwake		✘a			✘a			✘a			✘a	
Arctic Skua		✘a			✘a			✘a			✘a	
Fulmar		✘a			✘a			✘a			✘a	
Arctic Tern		✘a			✘a			✘a			✘a	

### Evidence supporting conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature

2.193 Stage 1 Matrix: Rum SPA

Name of European site: Rum												
Distance to array area: 623 km												
Distance to cable route: 637 km												
Likely Effects of Hornsea Three												
<u>Article 4.1 Breeding season</u>	C	O	D	C	O	D	C	O	D	C	O	D
Golden Eagle <i>Aquila chrysaetos</i>		xa			xa			xa			xa	
Red-throated Diver <i>Gavia stellata</i>		xa			xa			xa			xa	
<u>Article 4.2 Breeding season</u>												
Manx Shearwater <i>Puffinus puffinus</i>		xa			xa			xa			xa	
<u>Article 4.2 Assemblage of international importance</u>												
Guillemot <i>Uria aalge</i>		xa			xa			xa			xa	
Kittiwake <i>Rissa tridactyla</i>		xa			xa			xa			xa	

**Evidence supporting conclusions**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature

## 2.194 Stage 1 Matrix: Seevogelschutzgebiet Helgoland SPA

Name of European site: Seevogelschutzgebiet Helgoland SPA												
Distance to array area: 334 km												
Distance to cable route: 344 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Razorbill		✗a			✗a			✗a			✗a	
Fulmar		✗a			✗a			✗a			✗a	
Red-throated diver		✗a			✗a			✗a			✗a	
Common gull		✗a			✗a			✗a			✗a	
Little gull		✗a			✗a			✗a			✗a	
Gannet		✗a			✗a			✗a			✗a	
Kittiwake		✗a			✗a			✗a			✗a	
Eider		✗a			✗a			✗a			✗a	
Common tern		✗a			✗a			✗a			✗a	
Arctic tern		✗a			✗a			✗a			✗a	

### Evidence supporting conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No LSE predicted for the bird feature.

## 2.195 Stage 1 Matrix: Shiant Isles SPA

Name of European site: Shiant Isles												
Distance to array area: 683 km (across land)												
Distance to cable route: 698 km (across land)												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
<u>Article 4.1 Wintering</u>												
Barnacle goose		✗a			✗a			✗a			✗a	
<u>Article 4.2 Migratory</u>		✗a			✗a			✗a			✗a	
Puffin		✗a			✗a			✗a			✗a	
Razorbill		✗a			✗a			✗a			✗a	
<u>Article 4.2 Assemblage</u>												
Guillemot		✗a			✗a			✗a			✗a	
Kittiwake		✗a			✗a			✗a			✗a	
Fulmar		✗a			✗a			✗a			✗a	
Puffin		✗a			✗a			✗a			✗a	
Razorbill		✗a			✗a			✗a			✗a	
Shags		✗a			✗a			✗a			✗a	

### Evidence supporting conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature

2.196 Stage 1 Matrix: Skokholm and Skomer

Name of European site: Skokholm and Skomer												
Distance to array area: >1000km												
Distance to cable route: >1000km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
<u>Article 4.1 Breeding</u>												
Chough <i>Pyrhocorax pyrrhocorax</i>		×a			×a			×a			×a	
Short-eared Owl <i>Asio flammeus</i>		×a			×a			×a			×a	
Storm Petrel <i>Hydrobates pelagicus</i>		×a			×a			×a			×a	
<u>Article 4.2 migratory</u>												
Lesser Black-backed Gull <i>Larus fuscus</i>		×a			×a			×a			×a	
Manx Shearwater <i>Puffinus puffinus</i>		×a			×a			×a			×a	
Puffin <i>Fratercula arctica</i>		×a			×a			×a			×a	
<u>Article 4.2 Assemblage</u>												
Lesser Black-backed Gull <i>Larus fuscus</i>		×a			×a			×a			×a	
Manx Shearwater <i>Puffinus puffinus</i>		×a			×a			×a			×a	
Puffin <i>Fratercula arctica</i>		×a			×a			×a			×a	
Guillemot <i>Uria aalge</i>		×a			×a			×a			×a	
Kittiwake <i>Rissa tridactyla</i>		×a			×a			×a			×a	
Razorbill <i>Alca torda</i> ,		×a			×a			×a			×a	

Evidence supporting conclusions

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature

## 2.197 Stage 1 Matrix: St Abb's Head to Fast Castle SPA

Name of European site: St Abb's Head to Fast Castle SPA												
Distance to array area: 348 km												
Distance to cable route: 353 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.2 – Assemblage	C	O	D	C	O	D	C	O	D	C	O	D
Razorbill <i>Alca torda</i>		×a			×a			×a			×a	
Guillemot <i>Uria aalge</i>		×a			×a			×a			×a	
Kittiwake <i>Rissa tridactyla</i>		×a			×a			×a			×a	
Herring Gull <i>Larus argentatus</i>		×a			×a			×a			×a	
Shag <i>Phalacrocorax aristotelis</i>		×a			×a			×a			×a	

### Evidence to support conclusions:

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature



2.198 Stage 1 Matrix: St Kilda SPA

Name of European site: St Kilda SPA												
Distance to array area: 785 km (across land)												
Distance to cable route: 801 km (across land)												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Article 4.1 Migratory												
Leach's storm petrel		×a			×a			×a			×a	
Storm Petrel <i>Hydrobates pelagicus</i>		×a			×a			×a			×a	
Article 4.2 Breeding		×a			×a			×a			×a	
Gannet <i>Morus bassanus</i>		×a			×a			×a			×a	
Great Skua <i>Catharacta skua</i>		×a			×a			×a			×a	
Article 4.2 Assemblage		×a			×a			×a			×a	
Razorbill <i>Alca torda</i> ,		×a			×a			×a			×a	
Guillemot <i>Uria aalge</i> ,		×a			×a			×a			×a	
Kittiwake <i>Rissa tridactyla</i> ,		×a			×a			×a			×a	
Manx Shearwater <i>Puffinus puffinus</i> ,		×a			×a			×a			×a	
Fulmar <i>Fulmarus glacialis</i> ,		×a			×a			×a			×a	
Puffin <i>Fratercula arctica</i> ,		×a			×a			×a			×a	
Great Skua <i>Catharacta skua</i> ,		×a			×a			×a			×a	
Gannet <i>Morus bassanus</i> , Leach's		×a			×a			×a			×a	
Storm Petrel <i>Hydrobates pelagicus</i> .		×a			×a			×a			×a	

Evidence to support conclusions:

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature

2.200 Stage 1 Matrix: Stour and Orwell Estuaries SPA

Name of European site: Stour and Orwell Estuaries SPA												
Distance to array area: 214 km												
Distance to cable route: 102 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 – Winter	C	O	D	C	O	D	C	O	D	C	O	D
Hen Harrier <i>Circus cyaneus</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Migratory (Winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Black-tailed Godwit <i>Limosa limosa islandica</i> ,		✗a			✗a			✗a			✗a	
Dunlin <i>Calidris alpina alpina</i> ,		✗a			✗a			✗a			✗a	
Grey Plover <i>Pluvialis squatarola</i> ,		✗a			✗a			✗a			✗a	
Pintail <i>Anas acuta</i> ,		✗a			✗a			✗a			✗a	
Redshank <i>Tringa totanus</i> ,		✗a			✗a			✗a			✗a	
Shelduck <i>Tadorna tadorna</i> ,		✗a			✗a			✗a			✗a	
Turnstone <i>Arenaria interpres</i> ,		✗a			✗a			✗a			✗a	
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		✗a			✗a			✗a			✗a	
Knot <i>Calidris canutus</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Assemblage (Winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D

Name of European site: Stour and Orwell Estuaries SPA												
Cormorant <i>Phalacrocorax carbo</i>		Xa			Xa			Xa			Xa	
Ringed Plover <i>Charadrius hiaticula</i> ,		Xa			Xa			Xa			Xa	
Pintail <i>Anas acuta</i>		Xa			Xa			Xa			Xa	
Grey Plover <i>Pluvialis squatarola</i>		Xa			Xa			Xa			Xa	
Dunlin <i>Calidris alpina alpina</i>		Xa			Xa			Xa			Xa	
Black-tailed Godwit <i>Limosa limosa islandica</i>		Xa			Xa			Xa			Xa	
Redshank <i>Tringa totanus</i>		Xa			Xa			Xa			Xa	
Shelduck <i>Tadorna tadorna</i>		Xa			Xa			Xa			Xa	
Great Crested Grebe <i>Podiceps cristatus</i>		Xa			Xa			Xa			Xa	
Curlew <i>Numenius arquata</i>		Xa			Xa			Xa			Xa	
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		Xa			Xa			Xa			Xa	
Wigeon <i>Anas penelope</i>		Xa			Xa			Xa			Xa	
Goldeneye <i>Bucephala clangula</i>		Xa			Xa			Xa			Xa	
Oystercatcher <i>Haematopus ostralegus</i>		Xa			Xa			Xa			Xa	
Lapwing <i>Vanellus vanellus</i>		Xa			Xa			Xa			Xa	
Knot <i>Calidris canutus</i>		Xa			Xa			Xa			Xa	
Turnstone <i>Arenaria interpres</i>		Xa			Xa			Xa			Xa	
Article 4.1 – Breeding	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Avocet <i>Recurvirostra avosetta</i>		Xa			Xa			Xa			Xa	

Evidence supporting conclusion

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No LSE predicted for the bird feature.

2.201 Stage 1 Matrix: Sule Skerry and Sule Stack SPA

Name of European site: Sule Skerry and Sule Stack SPA												
Distance to array area: 692 km												
Distance to cable route: 697 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Article 4.1 Wintering												
Hen Harrier <i>Circus cyaneus</i> ,		xa			xa			xa			xa	
Article 4.2 Migratory												
Dark-bellied brent goose <i>Branta bernicla bernicla</i>		xa			xa			xa			xa	
Shelduck ( <i>Tadorna tadorna</i> )		xa			xa			xa			xa	
Ringed plover <i>Charadrius hiaticula</i>		xa			xa			xa			xa	
Grey plover <i>Pluvialis squatarola</i>		xa			xa			xa			xa	
Dunlin <i>Calidris alpina</i>		xa			xa			xa			xa	
Black-tailed godwit <i>Limosa limosa</i>		xa			xa			xa			xa	
Redshank <i>Tringa totanus</i>		xa			xa			xa			xa	
Turnstone <i>Arenaria interpres</i>		xa			xa			xa			xa	
		xa			xa			xa			xa	
		xa			xa			xa			xa	
		xa			xa			xa			xa	

Evidence supporting conclusion

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature

## 2.202 Stage 1 Matrix: Sumburgh Head SPA

Name of European site: Sumburgh Head SPA													
Distance to array area: 683 km													
Distance to cable route: 688 km													
European site features		Likely Effects of Hornsea Three											
Article 4.1 Breeding birds		Collision			Barrier			Displacement			In-combination		
		C	O	D	C	O	D	C	O	D	C	O	D
Arctic Tern			✘a			✘a			✘a			✘a	
Article 4.2 Assemblage		Collision			Barrier			Displacement			In-combination		
		C	O	D	C	O	D	C	O	D	C	O	D
Guillemot			✘a			✘a			✘a			✘a	
Kittiwake			✘a			✘a			✘a			✘a	
Fulmar			✘a			✘a			✘a			✘a	
Arctic Tern			✘a			✘a			✘a			✘a	

### Evidence supporting conclusion

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature



2.203 Stage 1 Matrix: Thames Estuary and Marshes SPA

Name of European site: Thames Estuary Marshes SPA												
Distance to array area: 283 km												
Distance to cable route: 166 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
<u>Article 4.1 – Winter</u>	C	O	D	C	O	D	C	O	D	C	O	D
Avocet <i>Recurvirostra avosetta</i>		✗a			✗a			✗a			✗a	
Hen Harrier <i>Circus cyaneus</i>		✗a			✗a			✗a			✗a	
<u>Article 4.2 – Migratory (On passage)</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Ringed Plover <i>Charadrius hiaticula</i>		✗a			✗a			✗a			✗a	
<u>Article 4.2 – Migratory (Winter)</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Ringed Plover <i>Charadrius hiaticula</i>		✗a			✗a			✗a			✗a	
Knot <i>Calidris canutus islandica</i>		✗a			✗a			✗a			✗a	
Redshank <i>Tringa totanus</i>		✗a			✗a			✗a			✗a	
Dunlin <i>Calidris alpina alpina</i>		✗a			✗a			✗a			✗a	
Grey Plover <i>Pluvialis squatarola</i>		✗a			✗a			✗a			✗a	
Black-tailed Godwit <i>Limosa limosa islandica</i>		✗a			✗a			✗a			✗a	
<u>Article 4.2 – Assemblage (Winter)</u>	Collision			Barrier			Displacement			In-combination		

Name of European site: Thames Estuary Marshes SPA												
	C	O	D	C	O	D	C	O	D	C	O	D
Redshank <i>Tringa totanus</i>		×a			×a			×a			×a	
Black-tailed Godwit <i>Limosa limosa islandica</i>		×a			×a			×a			×a	
Dunlin <i>Calidris alpina alpina</i>		×a			×a			×a			×a	
Lapwing <i>Vanellus vanellus</i>		×a			×a			×a			×a	
Grey Plover <i>Pluvialis squatarola</i>		×a			×a			×a			×a	
Shoveler <i>Anas clypeata</i>		×a			×a			×a			×a	
Pintail <i>Anas acuta</i>		×a			×a			×a			×a	
Gadwall <i>Anas strepera</i>		×a			×a			×a			×a	
Shelduck <i>Tadorna tadorna</i>		×a			×a			×a			×a	
White-fronted Goose <i>Anser albifrons albifrons</i>		×a			×a			×a			×a	
Little Grebe <i>Tachybaptus ruficollis</i>		×a			×a			×a			×a	
Ringed Plover <i>Charadrius hiaticula</i>		×a			×a			×a			×a	
Avocet <i>Recurvirostra avosetta</i>		×a			×a			×a			×a	

**Evidence supporting conclusion**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No LSE predicted for the bird feature.

## 2.204 Stage 1 Matrix: Thanet Coast and Sandwich Bay SPA

Name of European site: Thanet Coast and Sandwich Bay SPA												
Distance to array area: 271 km												
Distance to cable route: 173 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.2 – Migratory (Winter)	C	O	D	C	O	D	C	O	D	C	O	D
Turnstone <i>Arenaria interpres</i>		×a			×a			×a			×a	
Little tern <i>Sterna albifrons</i>		×a			×a			×a			×a	
Golden plover <i>Pluvialis apricaria</i>		×a			×a			×a			×a	

### Evidence supporting conclusion

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No LSE predicted for the bird feature.

2.205 Stage 1 Matrix: The Greater Wash pSPA

Name of European site: The Greater Wash pSPA																					
Distance to array area: 106 km																					
Distance to cable route: 0 km																					
European site features			Likely Effects of Hornsea Three																		
Article 4.1 - Breeding	Changes to prey availability			Disturbance			Habitat loss			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Common Tern <i>Sterna hirundo</i>	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Sandwich Tern <i>Sterna sandvicensis</i>	✓c	✓c	✓c	✓c	✓c	✓c	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	✓c	✓c	✓c
Little Tern <i>Sterna albifrons</i>	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Article 4.1 – Breeding (Winter)	Changes to prey availability			Disturbance			Habitat loss			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Red-throated Diver <i>Gavia stellata</i>	Xa		Xa	✓b		✓b													✓b		
Little Gull <i>Hydrocoleus minutus</i>	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa			
Article 4.2 – Assemblage	Changes to prey availability			Disturbance			Habitat loss			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Common Scoter <i>Melanitta nigra</i>	Xa		Xa	✓b		✓b													✓b		

Evidence supporting conclusion:

- a. No LSEs are anticipated with regard to changes to prey availability, disturbance, habitat loss, collision risk, barrier effects or displacement to tern species during construction/decommissioning or operation phases of Hornsea Three (see Table 6.21, HRA Screening Report). The array area is located beyond the pSPA boundary (106km) and beyond the foraging range of any tern species (sandwich, common, little), therefore collision risk is not considered to lead to a LSE on these species (see paragraph 6.2.127, HRA Screening Report). The tern species, in particular Little Tern (see paragraph 6.2.129, HRA Screening Report), are not considered to have a high sensitivity to disturbance or displacement (Wade *et al.*, 2016), (see paragraph 6.2.128, HRA Screening Report). Cable laying activity may result in disturbance regarding seabird prey, particularly concerning Red-throated Diver and Common Scoter, through associated cable laying noise and increased suspended sediment (see paragraph 6.2.133 & 6.2.140, HRA Screening Report). However, these affects will be minimal therefore No LSEs are predicted (see paragraph 6.2.134 & 6.2.41 HRA Screening Report).

- b. Potential LSEs are anticipated concerning disturbance to Red-throated Diver and Common Scoter during construction/decommissioning activity due to the pSPA being located within the boundary of the Hornsea Three offshore cable corridor (see Table 6.21; paragraphs 6.2.132 & 6.2.139, HRA Screening Report). Common Scoter are considered particularly vulnerable to disturbance from ship traffic (see paragraph 6.2.138, HRA Screening Report). As a result of disturbance from construction activity indirect habitat loss may occur to both species (see paragraph 6.2.138, HRA Screening Report). Potential LSEs during operation activity, causing displacement of Red-throated Diver and Common Scoter are anticipated (see Table 6.21, HRA Screening Report). Displacement effects associated with wind farm development are species, season and site-specific. Due to the close proximity of the ECR corridor and the high-sensitivity of Red-throated Diver and Common Scoter there is therefore potential for displacement effects (Wade *et al.*, 2016), (see paragraphs 6.2.135 – 6.2.136, 6.2.142 – 6.2.143, HRA Screening Report).
- c. Potential overlap between foraging areas of Sandwich tern and Hornsea Three export cable route. Potential for LSE

2.206 Stage 1 Matrix: The Swale SPA

Name of European site: The Swale SPA												
Distance to array area: 284 km												
Distance to cable route: 173 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 – Breeding	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Avocet <i>Recurvirostra avosetta</i>		✗a			✗a			✗a			✗a	
Marsh Harrier <i>Circus aeruginosus</i>		✗a			✗a			✗a			✗a	
Mediterranean Gull <i>Larus melanocephalus</i>		✗a			✗a			✗a			✗a	
Article 4.1 – Winter	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Avocet <i>Recurvirostra avosetta</i>		✗a			✗a			✗a			✗a	
Bar-tailed Godwit <i>Limosa lapponica</i>		✗a			✗a			✗a			✗a	
Golden Plover <i>Pluvialis apricaria</i>		✗a			✗a			✗a			✗a	
Hen Harrier <i>Circus cyaneus</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Migratory (On passage)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Ringed Plover <i>Charadrius hiaticula</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Migratory (Winter)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D

Name of European site: The Swale SPA												
Black-tailed Godwit <i>Limosa limosa islandica</i>		Xa			Xa			Xa			Xa	
Grey Plover <i>Pluvialis squatarola</i>		Xa			Xa			Xa			Xa	
Knot <i>Calidris canutus</i>		Xa			Xa			Xa			Xa	
Pintail <i>Anas acuta</i>		Xa			Xa			Xa			Xa	
Redshank <i>Tringa totanus</i>		Xa			Xa			Xa			Xa	
Shoveler <i>Anas clypeata</i>		Xa			Xa			Xa			Xa	
<u>Article 4.2 – Assemblage (Winter)</u>	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
White-fronted Goose <i>Anser albifrons albifrons</i>		Xa			Xa			Xa			Xa	
Golden Plover <i>Pluvialis apricaria</i>		Xa			Xa			Xa			Xa	
Bar-tailed Godwit <i>Limosa lapponica</i>		Xa			Xa			Xa			Xa	
Pintail <i>Anas acuta</i>		Xa			Xa			Xa			Xa	
Shoveler <i>Anas clypeata</i>		Xa			Xa			Xa			Xa	
Grey Plover <i>Pluvialis squatarola</i>		Xa			Xa			Xa			Xa	
Knot <i>Calidris canutus</i>		Xa			Xa			Xa			Xa	
Black-tailed Godwit <i>Limosa limosa islandica</i>		Xa			Xa			Xa			Xa	
Redshank <i>Tringa totanus</i>		Xa			Xa			Xa			Xa	
Avocet <i>Recurvirostra avosetta</i>		Xa			Xa			Xa			Xa	
Cormorant <i>Phalacrocorax carbo</i>		Xa			Xa			Xa			Xa	
Curlew <i>Numenius arquata</i>		Xa			Xa			Xa			Xa	
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		Xa			Xa			Xa			Xa	
Shelduck <i>Tadorna tadorna</i>		Xa			Xa			Xa			Xa	

Name of European site: The Swale SPA												
Wigeon <i>Anas penelope</i>		Xa			Xa			Xa			Xa	
Gadwall <i>Anas strepera</i>		Xa			Xa			Xa			Xa	
Teal <i>Anas crecca</i>		Xa			Xa			Xa			Xa	
Oystercatcher <i>Haematopus ostralegus</i>		Xa			Xa			Xa			Xa	
Lapwing <i>Vanellus vanellus</i>		Xa			Xa			Xa			Xa	
Dunlin <i>Calidris alpina alpina</i>		Xa			Xa			Xa			Xa	
Little Grebe <i>Tachybaptus ruficollis</i>		Xa			Xa			Xa			Xa	

**Evidence supporting conclusion**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report). No LSE predicted for the bird feature.



2.207 Stage 1 Matrix: The Wash SPA

Name of European site: The Wash SPA												
Distance to array area: 156 km												
Distance to cable route: 36 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 – Breeding	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Common Tern <i>Sterna hirundo</i>		✗a			✗a			✗a			✗a	
Little Tern <i>Sterna albifrons</i>		✗a			✗a			✗a			✗a	
Marsh Harrier <i>Circus aeruginosus</i>		✗a			✗a			✗a			✗a	
Article 4.1 – Over winter	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Avocet <i>Recurvirostra avosetta</i>		✗a			✗a			✗a			✗a	
Bar-tailed Godwit <i>Limosa lapponica</i>		✗a			✗a			✗a			✗a	
Golden Plover <i>Pluvialis apricaria</i>		✗a			✗a			✗a			✗a	
Whooper Swan <i>Cygnus cygnus</i>		✗a			✗a			✗a			✗a	
Article 4.2 – Migratory (On passage)	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey Plover <i>Pluvialis squatarola</i>		✗a			✗a			✗a			✗a	
Knot <i>Calidris canutus</i>		✗a			✗a			✗a			✗a	

Evidence supporting conclusion

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report and RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature.

2.208 Stage 1 Matrix: Tips of Corsemaul and Tom Mor SPA

Name of European site: Tips of Corsemaul and Tom Mor SPA												
Distance to array area: 692 km												
Distance to cable route: 697 km												
<b>Likely Effects of Hornsea Three</b>												
	<i>Collision</i>			<i>Barrier</i>			<i>Displacement</i>			<i>In-combination</i>		
Article 4.2 Migratory	C	O	D	C	O	D	C	O	D	C	O	D
Common gull <i>Larus canus</i>		✘a			✘a			✘a			✘a	

**Evidence supporting conclusion**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature

2.209 Stage 1 Matrix: Troup, Pennan and Lion's Heads SPA

Name of European site: Troup Penan and Lion's Heads SPA												
Distance to array area: 503 km												
Distance to cable route: 507 km												
European site features	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
Article 4.1 – Breeding	C	O	D	C	O	D	C	O	D	C	O	D
Guillemot <i>Uria aalge</i>		×a			×a			×a			×a	
Article 4.2 – Assemblage	C	O	D	C	O	D	C	O	D	C	O	D
Razorbill <i>Alca torda</i>		×a			×a			×a			×a	
Kittiwake <i>Rissa tridactyla</i>		×a			×a			×a			×a	
Herring Gull <i>Larus argentatus</i>		×a			×a			×a			×a	
Fulmar <i>Fulmarus glacialis</i>		×a			×a			×a			×a	
Guillemot <i>Uria aalge</i>		×a			×a			×a			×a	

**Evidence supporting conclusion**

No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature

## 2.210 Stage 1 Matrix: Vorpommersche Boddenlandschaft und nördlicher Strelasund SPA

Name of European site: Vorpommersche Boddenlandschaft und nördlicher Strelasund SPA												
Distance to array area: 692 km												
Distance to cable route: 697 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Razorbill		×a			×a			×a			×a	
King fisher		×a			×a			×a			×a	
Pintail		×a			×a			×a			×a	
Shoveler		×a			×a			×a			×a	
Wigeon		×a			×a			×a			×a	
Garangay		×a			×a			×a			×a	
Greylag goose		×a			×a			×a			×a	
Lesser spotted Eagle		×a			×a			×a			×a	
Short eared owl		×a			×a			×a			×a	
Pochard		×a			×a			×a			×a	
Tufted duck		×a			×a			×a			×a	

### Evidence supporting conclusion

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report and RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature

## 2.211 Stage 1 Matrix: Waddenzee SPA

Name of European site: Waddenzee SPA												
Distance to array area: 692 km												
Distance to cable route: 697 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Pintail		×a			×a			×a			×a	
Shoveler		×a			×a			×a			×a	
Teal		×a			×a			×a			×a	
Wigeon		×a			×a			×a			×a	
Mallard		×a			×a			×a			×a	
Gadwall		×a			×a			×a			×a	
Greylag goose		×a			×a			×a			×a	
Bean goose		×a			×a			×a			×a	
Turnstone		×a			×a			×a			×a	
Short eared owl		×a			×a			×a			×a	
Scaup		×a			×a			×a			×a	
Brent goose		×a			×a			×a			×a	

### Evidence supporting conclusion

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report and RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature

## 2.212 Stage 1 Matrix: West Westray SPA

Name of European site: West Westray SPA												
Distance to array area: 667 km												
Distance to cable route: 672 km												
European site features	Likely Effects of Hornsea Three											
Article 4.1 Breeding birds	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Arctic Tern		✘a			✘a			✘a			✘a	
Article 4.2 Migratory Species	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Guillemot		✘a			✘a			✘a			✘a	
Article 4.2 Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Razorbill		✘a			✘a			✘a			✘a	
Kittiwake		✘a			✘a			✘a			✘a	
Arctic Skua		✘a			✘a			✘a			✘a	
Fulmar		✘a			✘a			✘a			✘a	
Guillemot		✘a			✘a			✘a			✘a	
Arctic Tern		✘a			✘a			✘a			✘a	

### Evidence supporting conclusion

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report) . No direct or indirect effects are predicted in the non-breeding season due to impacts associated with the construction, operation or decommissioning of Hornsea Three (See section 1.4.2, RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature

## 2.213 Stage 1 Matrix: Wismarbucht und Salzhaff SPA

Name of European site: Wismarbucht und Salzhaff SPA												
Distance to array area: 692 km												
Distance to cable route: 697 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Kingfisher		✗a			✗a			✗a			✗a	
Greylag goose		✗a			✗a			✗a			✗a	
Tufted duck		✗a			✗a			✗a			✗a	
Scaup		✗a			✗a			✗a			✗a	
Goldeneye		✗a			✗a			✗a			✗a	
Ringed plover		✗a			✗a			✗a			✗a	
Hen harrier		✗a			✗a			✗a			✗a	
Corncrake		✗a			✗a			✗a			✗a	
Whooper swan		✗a			✗a			✗a			✗a	
Bewick swan		✗a			✗a			✗a			✗a	

### Evidence supporting conclusion

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See paragraph 5.3.18 of HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See paragraph 5.3.23 to 5.3.33 of HRA Screening Report and RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature



2.214 Stage 1 Matrix: Zwanenwater & Pettemerduinen SPA

Name of European site: Zwanenwater & Pettemerduinen SPA												
Distance to array area: 692 km												
Distance to cable route: 697 km												
	Likely Effects of Hornsea Three											
	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Shoveler		✗a			✗a			✗a			✗a	
Lesser white-fronted goose		✗a			✗a			✗a			✗a	
Bittern		✗a			✗a			✗a			✗a	
Wheatear		✗a			✗a			✗a			✗a	
Cormorant		✗a			✗a			✗a			✗a	
Spoonbill		✗a			✗a			✗a			✗a	

**Evidence supporting conclusion**

- a. No direct or indirect effect is anticipated on the SPA with regard to collision, displacement or barrier effects, as site is not directly affected by Hornsea Three (See HRA Screening Report), nor is it within mean-max foraging range of breeding bird features (See HRA Screening Report and RIAA Annex 2: Additional SPA Screening Exercise). No LSE predicted for the bird feature

2.215 Stage 1 Matrix: Broadland Ramsar (habitat features)

Name of European site: Broadland Ramsar												
Distance to array area: 127 km												
Distance to cable route: 24 km												
Likely Effects of Hornsea Three												
	Changes to habitat			Release of contaminants			Invasive species			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> Calcium-rich fen dominated by great fen sedge (saw sedge).	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>
Alkaline fens Calcium-rich springwater-fed fens	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, <i>Alnion incanae</i> , <i>Salicion albae</i> ) Alder woodland on floodplains, and the Annex II species	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>	x <sub>a</sub>

Evidence supporting conclusions:

- a. There is no pathway for effect identified between the Broadland Ramsar and Hornsea Three because of the spatial separation of the Hornsea Three onshore cable corridor and associated infrastructure. No potential for LSE identified.

2.216 Stage 1 Matrix: Broadland Ramsar (bird features)

Name of European site: Broadland Ramsar												
Distance to array area: 127 km												
Distance to cable route: 24 km												
Likely Effects of Hornsea Three												
	Changes to habitat			Release of contaminants			Invasive species			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Tundra swan , <i>Cygnus columbianus bewickii</i>	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Eurasian wigeon , <i>Anas penelope</i> ,	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Gadwall , <i>Anas strepera strepera</i>	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Northern shoveler , <i>Anas clypeata</i>	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Pink-footed goose , <i>Anser brachyrhynchus</i>	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa
Greylag goose , <i>Anser anser anser</i> ,	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa	Xa

Evidence supporting conclusions:

- a. There is no pathway for effect identified between the Broadland Ramsar and Hornsea Three because of the spatial separation of the Hornsea Three onshore cable corridor and associated infrastructure. Additionally there is no pathway of effect between Hornsea Three and functionally linked habitat of the site. No potential for LSE identified.

### 3. Integrity Matrices – Stage 2

#### 3.1 Potential Impacts

3.1.1.1 Potential impacts upon the European site(s) which are considered within the submitted Habitats Regulations Assessment Report to inform Appropriate Assessment (RIAA) are provided in the tables below. Impact have been group where appropriate for ease of presentation.

#### 3.1.2 Integrity Matrices - Annex I habitats

Designation	Impacts in submission information	Presented in screening matrices as
European site name/designation SAC/SCI	Construction and Decommissioning <ul style="list-style-type: none"> <li>• Temporary habitat loss/Disturbance</li> <li>• Temporary increase in suspended sediments/smothering</li> </ul> Operation and Maintenance <ul style="list-style-type: none"> <li>• Permanent/long term habitat loss</li> <li>• Colonisation of hard substrate and INNS</li> <li>• Temporary suspended sediment</li> </ul>	<ul style="list-style-type: none"> <li>• Changes to habitat</li> </ul>
	Construction and Decommissioning <ul style="list-style-type: none"> <li>• Accidental pollution</li> </ul> Operation and Maintenance <ul style="list-style-type: none"> <li>• Accidental pollution</li> </ul>	<ul style="list-style-type: none"> <li>• Changes to water quality</li> <li>• Release of contaminants</li> </ul>
	Operation and maintenance <ul style="list-style-type: none"> <li>• Changes in physical processes</li> </ul>	<ul style="list-style-type: none"> <li>• Changes in physical processes</li> </ul>
	<ul style="list-style-type: none"> <li>• In-combination</li> </ul>	<ul style="list-style-type: none"> <li>• In-combination</li> </ul>

### 3.1.3 Integrity Matrices - Annex II species

Designation	Impacts in submission information	Presented in screening matrices as
European site name/designation SAC/SCI	Construction and Decommissioning <ul style="list-style-type: none"> <li>• Permanent habitat loss</li> <li>• Temporary disturbance/damage</li> <li>• Habitat fragmentation</li> </ul> Operation and Maintenance <ul style="list-style-type: none"> <li>• Temporary disturbance/damage</li> </ul>	<ul style="list-style-type: none"> <li>• Changes to habitat</li> </ul>
	Construction / decommissioning, operation and maintenance <ul style="list-style-type: none"> <li>• Accidental pollution</li> </ul>	<ul style="list-style-type: none"> <li>• Changes to water quality</li> <li>• Release of contaminants</li> </ul>
	Construction / decommissioning, operation and maintenance <ul style="list-style-type: none"> <li>• Invasive non-native species</li> </ul>	<ul style="list-style-type: none"> <li>• Invasive species</li> </ul>
	<ul style="list-style-type: none"> <li>• In-combination</li> </ul>	<ul style="list-style-type: none"> <li>• In-combination</li> </ul>

### 3.1.4 Integrity Matrices - Annex II Marine Mammals

Designation	Impacts in submission information	Presented in screening matrices as
European site name/designation SAC/SCI	Construction and Decommissioning <ul style="list-style-type: none"> <li>• Underwater noise</li> <li>• Increased vessel traffic and Collision risk</li> </ul>	<ul style="list-style-type: none"> <li>• Behavioural disturbance/physical injury</li> </ul>
	Construction and Decommissioning <ul style="list-style-type: none"> <li>• Changes to water quality</li> <li>• Accidental pollution</li> </ul> Operation and Maintenance <ul style="list-style-type: none"> <li>• Accidental pollution events</li> </ul>	<ul style="list-style-type: none"> <li>• Changes to water quality</li> </ul>

Designation	Impacts in submission information	Presented in screening matrices as
	<ul style="list-style-type: none"> <li>In-combination</li> </ul>	<ul style="list-style-type: none"> <li>In-combination</li> </ul>

### 3.1.5 Integrity Matrices - Birds

Designation	Impacts in submission information	Presented in integrity matrices as
European site name/designation SPA/pSPA	Construction / decommissioning <ul style="list-style-type: none"> <li>Disturbance</li> </ul>	Disturbance
	Construction / decommissioning <ul style="list-style-type: none"> <li>Changes to prey availability</li> </ul>	Changes to prey availability
	Operation and Maintenance <ul style="list-style-type: none"> <li>Displacement from physical presence of wind turbines</li> </ul>	Displacement
	Operation and Maintenance <ul style="list-style-type: none"> <li>Collision</li> </ul>	Collision
	Operation and Maintenance <ul style="list-style-type: none"> <li>Barrier</li> </ul>	Barrier
	<ul style="list-style-type: none"> <li>In-combination</li> </ul>	In-combination

### 3.2 Stage 2 Matrix: North Norfolk Sandbanks and Saturn Reef SAC (Annex I habitats)

Name of European site: North Norfolk Sandbanks and Saturn Reef cSAC												
Distance to array area: 9 km												
Distance to cable route: 0 km												
European site features	Adverse effect on integrity											
	Changes to habitat			Changes to water quality			Changes in Physical Processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	× a,c	× a,e,g	× a,c	× i	× i	× i		× j		× k	× k	× k
Reefs	× b,d	× b,f,h	× b,d	× i	× i	× i		× j		× k	× k	× k

#### Evidence supporting conclusions:

- For the assessment of temporary habitat loss/disturbance on sandbanks see paragraphs 5.6.1.4 – 5.6.1.9 and 5.6.1.15 – 5.6.1.18 of the RIAA for construction/decommissioning effects and paragraphs 5.6.2.40 – 5.6.2.43 of the RIAA for operation/maintenance effects. There is no indication that temporary habitat loss/disturbance would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the environmental quality, natural environmental processes and extent of sandbanks which are slightly covered by seawater all the time. Additionally, there is no indication that temporary habitat loss/disturbance would lead to an adverse change to the physical structure, biological diversity or community structure of typical species that are representative of Annex I sandbanks which are slightly covered by seawater all the time. Therefore, no adverse effect on the integrity of the North Norfolk Sandbanks and Saturn Reef SAC from this potential impact is concluded.
- For the assessment of temporary habitat loss/disturbance on reefs see paragraphs 5.6.1.10 – 5.6.1.14 and 5.6.1.15 – 5.6.1.18 of the RIAA for construction/decommissioning effects and paragraphs 5.6.2.40 – 5.6.2.43 of the RIAA for operation/maintenance effects. There is no indication that there will be any significant changes to the physical structure or any shift in the biological communities of species that are associated with the qualifying Annex I reef habitats of the North Norfolk Sandbanks and Saturn Reef SAC, particularly when proposed mitigation is taken into consideration. There is no indication that temporary habitat loss/disturbance would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the environmental quality, natural environmental processes and extent of reef habitats. Additionally, there is no indication that temporary habitat loss/disturbance would lead to an adverse change to the physical structure, biological diversity or community structure of typical species that are representative of reef habitats. Therefore, no adverse effect on the integrity of the North Norfolk Sandbanks and Saturn Reef SAC from this potential impact is concluded.
- For the assessment of temporary increases in suspended sediment and smothering on sandbanks which are slightly covered by seawater all the time see paragraphs 5.6.1.19 – 5.6.1.28 of the RIAA. There is no indication that temporary increases in suspended sediments/smothering would adversely affect the environmental quality, natural environmental processes and extent of sandbanks which are slightly covered by seawater all the time. Nor is there any indication that these effects would lead to an adverse change to the physical structure, diversity, community structure or typical species that are representative of sandbanks which are slightly covered by seawater all the time. Therefore, no adverse effect on the integrity of the North Norfolk Sandbanks and Saturn Reef SAC from this potential impact is concluded.
- For the assessment of temporary increases in suspended sediment and smothering on reef see paragraphs 5.6.1.19 – 5.6.1.28 of the RIAA. There is no indication that temporary increases in suspended sediments/smothering would adversely affect the environmental quality, natural environmental processes and extent of reef habitats. Nor is there any indication that these effects would lead to an adverse change to the physical structure, diversity, community structure or typical species that are representative of reef habitats. Therefore, no adverse effect on the integrity of the North Norfolk Sandbanks and Saturn Reef SAC from this potential impact is concluded.



- e. For the assessment of permanent/long-term habitat loss on sandbanks which are slightly covered by seawater all the time see paragraphs 5.6.2.1 – 5.6.2.11 of the RIAA. There is no indication that the predicted localised permanent/long term habitat loss would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the environmental quality, natural environmental processes and extent of sandbanks which are slightly covered by seawater all the time. Additionally, there is no indication that localised permanent/long term habitat loss would lead to any significant adverse change to the physical structure, biological diversity or community structure of typical species that are representative of Annex I sandbanks which are slightly covered by seawater all the time. Therefore, it is concluded that there will be no adverse effect on the integrity of the North Norfolk Sandbanks and Saturn Reef SAC from this potential impact.
- f. For the assessment of permanent/long-term habitat loss on reefs see paragraphs 5.6.2.1 – 5.6.2.11 of the RIAA. There is no indication that the predicted localised permanent/long term habitat loss would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the environmental quality, natural environmental processes and extent of reefs. Additionally, there is no indication that localised permanent/long term habitat loss would lead to any significant adverse change to the physical structure, biological diversity or community structure of typical species that are representative of reefs. Therefore, it is concluded that there will be no adverse effect on the integrity of the North Norfolk Sandbanks and Saturn Reef SAC from this potential impact.
- g. For the assessment of colonisation of hard structures and INNS on sandbanks which are slightly covered by seawater all the time see paragraphs 5.6.2.12 – 5.6.2.23 of the RIAA. Provided the designed in mitigation measures (outline within table 4.6 of the RIAA) are adhered to there is no indication that the colonisation of hard structures would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the environmental quality, natural environmental processes and extent of sandbanks which are slightly covered by seawater all the time. Additionally, there is no indication of a significant risk that of an introduction of INNS leading to an adverse change to the physical structure, biological diversity or community structure of typical species that are representative of Annex I sandbanks which are slightly covered by seawater all the time. Therefore, no adverse effect on the integrity of the North Norfolk Sandbanks and Saturn Reef SAC from this potential impact is concluded.
- h. For the assessment of colonisation of hard structures and INNS on reefs see paragraphs 5.6.2.12 – 5.6.2.23 of the RIAA. Provided the designed in mitigation measures (outline within table 4.6 of the RIAA) are adhered to there is no indication that the colonisation of hard structures would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the environmental quality, natural environmental processes and extent of reef habitats. Additionally, there is no indication of a significant risk that of an introduction of INNS leading to an adverse change to the physical structure, biological diversity or community structure of typical species that are representative of reef habitats. Therefore, no adverse effect on the integrity of the North Norfolk Sandbanks and Saturn Reef SAC from this potential impact is concluded.
- i. For the assessment of accidental pollution on Annex I habitat features see paragraphs 5.6.1.29 – 5.6.1.35 of the RIAA for construction/decommissioning and 5.6.2.44 – 5.6.2.50 of the RIAA for operational/maintenance of the RIAA. Provided published guidelines, best working practices and the mitigation measures outlined in Table 4.5 of the RIAA are adhered to, the likelihood of an accidental spill is extremely low and, in the event of a spill, the volumes of potential contaminants released would be small and rapidly dispersed to concentrations below which deleterious effects would be expected. Consequently, with respect to the Conservation Objectives for the SAC, there is no indication that an accidental pollution event of the type assessed will lead to anything other than a very minor temporary reduction in environmental quality. It is not considered that any accidental pollution events associated with Hornsea Three would inhibit natural environmental processes or lead to a reduction in habitat extent. In terms of the fauna supported by these habitats, there is no indication that accidental pollution would adversely affect the physical structure of the habitats, reduce diversity, community structure or lead to any changes in the typical species that are representative of the Annex I habitats for which the SAC is designated. (See Section 5.6 of the RIAA).
- j. For the assessment of changes in physical processes see paragraphs 5.6.2.24 – 5.6.2.39 of the RIAA. There is no indication that changes in physical processes would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the environmental quality, natural environmental processes and extent of sandbanks which are slightly covered by seawater all the time or reef habitats. Additionally, there is no indication that changes in physical processes would lead to an adverse change to the physical structure, biological diversity or community structure of typical species that are representative of Annex I sandbanks which are slightly covered by seawater all the time or Annex I reef habitats. Impacts associated with cable protection will only exert a highly localised influence, such that the magnitude is considered to be negligible. Therefore, no adverse effect on the integrity of the North Norfolk Sandbanks and Saturn Reef SAC from this potential impact is concluded.
- k. There is no indication that this potential impact in-combination with other plans and projects would lead to an adverse change to the physical structure, diversity, community structure or typical species that are representative of sandbanks which are slightly covered by seawater all the time or reef habitats. Therefore, no adverse effect on the integrity of the North Norfolk Sandbanks and Saturn Reef SAC from this potential impact is concluded (see section 5.9 of the RIAA, paragraphs 5.9.1.1 – 5.9.3.10)



### 3.3 Stage 2 Matrix: The Wash and North Norfolk Coast SAC (Annex I habitats)

Name of European site: The Wash and North Norfolk Coast SAC												
Distance to array area: 120 km												
Distance to cable route: 0 km												
SAC Annex I habitat features	Adverse effect on integrity											
	Changes to habitat			Changes to water quality			Changes to in physical processes			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Sandbanks which are slightly covered by sea water all the time	x a,c	x a,f,i	x a,c	x e	x e	x e		x j		x k	x k	x k
Reefs	x b,d	x b,g,h	x b,d	x e	x e	x e		x j		x k	x k	x k

#### Evidence supporting conclusions:

- For the assessment of temporary habitat loss/disturbance on sandbanks which are slightly covered by sea water all the time see paragraphs 5.5.1.2 – 5.5.1.13 of the RIAA for construction/decommissioning and paragraphs 5.5.2.33 – 5.5.2.35 of the RIAA for operation/maintenance impacts. There is no indication that temporary habitat loss/disturbance would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the extent and distribution, supporting processes, structure and function of Annex I sandbanks which are slightly covered by seawater all the time. Additionally, there is no indication that temporary habitat loss/disturbance would lead to an adverse change to the biological diversity or community structure of typical species that are representative of Annex I sandbanks which are slightly covered by seawater all the time. Therefore, no adverse effect on the integrity of The Wash and North Norfolk Coast SAC from this potential impact is concluded.
- For the assessment of temporary habitat loss/disturbance on reefs see paragraphs 5.5.1.2 – 5.5.1.13 of the RIAA for construction/decommissioning and paragraphs 5.5.2.33 – 5.5.2.35 of the RIAA for operation/maintenance impacts. There is no indication that temporary habitat loss/disturbance would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the extent and distribution, supporting processes, structure and function of reef habitats. Additionally, there is no indication that temporary habitat loss/disturbance would lead to an adverse change to the biological diversity or community structure of typical species that are representative of Annex I reef habitats. Therefore, no adverse effect on the integrity of The Wash and North Norfolk Coast SAC from this potential impact is concluded.
- For the assessment of temporary increases in suspended sediment on sandbanks which are slightly covered by sea water all the time see paragraphs 5.5.1.14 – 5.5.1.18 of the RIAA. There is no indication that temporary increases in suspended sediments/smothering would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the extent and distribution, supporting processes, structure and function of sandbanks which are slightly covered by seawater all the time. Nor is there any indication that these effects would lead to an adverse change to the diversity, community structure or typical species that are representative of sandbanks which are slightly covered by seawater all the time. Therefore, no adverse effect on the integrity of The Wash and North Norfolk Coast SAC from this potential impact is concluded.
- For the assessment of temporary increases in suspended sediment on reefs see paragraphs 5.1.14 – 5.5.1.18 of the RIAA. There is no indication that temporary increases in suspended sediments/smothering would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the extent and distribution, supporting processes, structure and function of reef habitats. Nor is there any indication that these effects would lead to an adverse change to the diversity, community structure or typical species that are representative of reef habitats. Therefore, no adverse effect on the integrity of The Wash and North Norfolk Coast SAC from this potential impact is concluded.

- e. For the assessment of accidental pollution on annex I habitats see paragraphs 5.5.1.19 – 5.5.1.21 of the RIAA for construction/decommissioning and paragraphs 5.5.2.37 – 5.5.2.43 of the RIAA for operation/maintenance impacts. Provided published guidelines, best working practices and the mitigation measures outlined in Table 4.5 are adhered to, the likelihood of an accidental spill is extremely low and, in the event of a spill, the volumes of potential contaminants released would be small and rapidly dispersed to concentrations below which deleterious effects would be expected. Consequently, there is no indication that accidental pollution events would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the extent and distribution, supporting processes, structure and function of sandbanks which are slightly covered by seawater all the time or reef habitats. Therefore, no adverse effect on the integrity of The Wash and North Norfolk Coast SAC from this potential impact is concluded.
- f. For the assessment of permanent/long-term habitat loss on sandbanks which are slightly covered by sea water all the time see paragraphs 5.5.2.1 – 5.5.2.9 of the RIAA. There is no indication that localised permanent/long term habitat loss would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the environmental quality, natural environmental processes and extent of sandbanks which are slightly covered by seawater all the time especially when considering the dynamic and transient nature of these habitats. Additionally, there is no indication that localised permanent/long term habitat loss would lead to any significant adverse change to the physical structure, biological diversity or community structure of typical species that are representative of Annex I sandbanks which are slightly covered by seawater all the time. Therefore, no adverse effect on the integrity of The Wash and North Norfolk Coast SAC from this potential impact is concluded.
- g. For the assessment of permanent/long-term habitat loss on reefs see paragraphs 5.5.2.1 – 5.5.2.9 of the RIAA. There is no indication that localised permanent/long term habitat loss would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the environmental quality, natural environmental processes and extent of reef habitats especially when considering the dynamic and transient nature of these habitats. Additionally, there is no indication that localised permanent/long term habitat loss would lead to any significant adverse change to the physical structure, biological diversity or community structure of typical species that are representative of Annex I reef habitats. Therefore, no adverse effect on the integrity of The Wash and North Norfolk Coast SAC from this potential impact is concluded.
- h. For the assessment of colonisation of hard structures and INNS on reefs see paragraphs 5.5.2.10 – 5.5.2.22 of the RIAA. Provided the designed in mitigation measures (outline within table 4.6 of the RIAA) are adhered to there is no indication that the colonisation of hard structures or introduction of INNS would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the environmental quality, natural environmental processes and extent of reefs. Additionally, there is no indication of a significant risk of an adverse change to the physical structure, biological diversity or community structure of typical species that are representative of reefs. Therefore, no adverse effect on the integrity of The Wash and North Norfolk Coast SAC from this potential impact is concluded.
- i. For the assessment of colonisation of hard structures and INNS on sandbanks which are slightly covered by sea water all the time see paragraphs 5.5.2.10 – 5.5.2.22 of the RIAA. Provided the designed in mitigation measures (outline within table 4.6 of the RIAA) are adhered to there is no indication that the colonisation of hard structures or introduction of INNS would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the environmental quality, natural environmental processes and extent of sandbanks which are slightly covered by sea water all the time. Additionally, there is no indication of a significant risk of an adverse change to the physical structure, biological diversity or community structure of typical species that are representative of sandbanks which are slightly covered by sea water all the time. Therefore, no adverse effect on the integrity of The Wash and North Norfolk Coast SAC from this potential impact is concluded.
- j. For the assessment of changes to physical process on Annex I habitats see paragraphs 5.5.2.23 – 5.5.2.32 of the RIAA. There is no indication that changes in physical processes arising from the operation of Hornsea Three would adversely affect the ability for the Conservation Objectives of this SAC to be achieved with regards to the environmental quality, natural environmental processes and extent of Annex I habitats. Additionally, there is no indication that changes in physical processes would lead to an adverse change to the physical structure, biological diversity or community structure of typical species that are representative of Annex I habitats. Therefore, no adverse effect on the integrity of The Wash and North Norfolk Coast SAC from this potential impact is concluded.
- k. There are no Tier 1, Tier 2 or Tier 3 plans or projects that have been identified within The Wash and North Norfolk Coast SAC that may contribute to cumulative temporary habitat loss/disturbance, temporary increases in suspended, permanent/long-term habitat loss or changes to physical processes with Hornsea Three (see section 5.8 of the RIAA).

### 3.4 Stage 2 Matrix: The Wash and North Norfolk Coast SAC (Annex II marine mammals)

Name of European site: The Wash and North Norfolk Coast SAC												
Distance to array area: 120km												
Distance to cable route: 0												
SAC marine mammal features	Adverse effect on integrity											
	<i>Behavioural disturbance/physical injury</i>			<i>Changes to water quality</i>			<i>Changes to prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Harbour Seal	Xa,b,c,d	Xd	Xa,b,c,d	Xe	Xe	Xe				Xe,f	Xf	Xe,f

#### Evidence supporting conclusions:

- For the assessment on physical injury from underwater noise on harbour seal see paragraphs 6.5.2.51 – 6.5.2.54 of the RIAA. There is no indication that lethality/injury and hearing impairment effects associated with underwater noise generated from piling activities on the harbour seal qualifying feature of this site would result in a permanent shift in the population or the distribution of the feature within this SAC in the long term, a Conservation Objective of the Wash and North Norfolk Coast SAC. Nor is there any indication that this impact would adversely affect the other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.
- For the assessment on behavioral disturbance from underwater noise on harbour seal see paragraphs 6.5.2.79 – 6.5.2.90 of the RIAA. There is no indication that behavioral effects associated with underwater noise on the harbour seal qualifying feature of this site would result in a permanent shift in the population or the distribution of the feature within this SAC in the long term, a Conservation Objective of the Wash and North Norfolk Coast SAC (see Section 6.2). Nor is there any indication that this impact would adversely affect the other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site (see Section 6.2). On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.
- For the assessment of physical injury/behavioural disturbance from UXO clearance (underwater noise) see paragraphs 6.5.2.107 – 6.5.2.124 of the RIAA. There is no indication that injurious or behavioral effects associated with underwater noise generated by UXO clearance on the harbour seal qualifying feature of this site would result in a permanent shift in the population or the distribution of the feature within this SAC in the long term, a Conservation Objective of the Wash and North Norfolk Coast SAC. Nor is there any indication that this impact would adversely affect the other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.
- For the assessment of increased vessel traffic on harbour seal see paragraphs 6.5.2.132 – 6.5.2.150 of the RIAA for construction/decommissioning impacts and paragraphs 6.5.3.2 – 6.5.3.8 for operation/maintenance impacts. There is no indication that effects associated with increased vessel traffic would result in a permanent shift in the population or the distribution of the harbour seal feature within this SAC in the long term and subsequently no adverse effect on the population or distribution of this qualifying feature is anticipated, a Conservation Objective of the Wash and North Norfolk Coast SAC. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.
- For the assessment of accidental pollution on harbour seal see paragraphs 6.5.2.158 – 6.5.2.164 of the RIAA for construction/decommissioning impacts and paragraphs 6.5.3.15 – 6.5.3.19 of the RIAA for operation/maintenance impacts. There is no indication that effects associated with accidental pollution events would lead to a reduction in the extent or structure and function of the habitats of the qualifying species or the supporting processes on which this

species rely, a conservation objective of the Wash and North Norfolk Coast SAC . Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site . On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.

- f. For the assessment of in-combination effects of underwater noise on harbour seal see paragraphs 6.7.2.1 - 6.7.2.10 of the RIAA. There is no indication that in-combination lethality/ injury and hearing impairment or behavioural effects associated with underwater noise on the harbour seal qualifying feature of this site would result in a permanent shift in the population or the distribution of the feature within this SAC in the long term. Nor is there any indication that this impact in-combination with other plans and projects would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.
- g. For the assessment of in-combination effects of increased vessel traffic on harbour seal see paragraphs 6.7.2.39 – 6.7.2.57 of the RIAA. There is no indication that in-combination effects associated with increased vessel traffic would result in a permanent shift in the population or the distribution of the harbour seal feature within this SAC in the long term. Nor is there any indication that this impact in-combination with other plans and projects would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis, there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.

### 3.5 Stage 2 Matrix: Klaverbank SCI (Annex II marine mammals)

Name of European site: Klaverbank SCI												
Distance to array area: 11km												
Distance to cable route: 18 km												
European site features	Adverse effect on integrity											
	<i>Behavioural disturbance/Physical injury</i>			<i>Changes to water quality</i>			<i>Changes in prey availability</i>			<i>In combination effects</i>		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	<b>Xb,d,e,f</b>	<b>Xf</b>	<b>Xb,d,f</b>	<b>Xg</b>	<b>Xg</b>	<b>Xg</b>				<b>Xh,i</b>	<b>Xh,i</b>	<b>Xh,i</b>
Harbour seal	<b>Xb,d,e,f</b>	<b>Xf</b>	<b>Xb,d,f</b>	<b>Xg</b>	<b>Xg</b>	<b>Xg</b>				<b>Xh,i</b>	<b>Xh,i</b>	<b>Xh,i</b>
Harbour porpoise	<b>Xa,c,e,f</b>	<b>Xf</b>	<b>Xa,c,f</b>	<b>Xg</b>	<b>Xg</b>	<b>Xg</b>				<b>Xh,i</b>	<b>Xh,i</b>	<b>Xh,i</b>

#### Evidence supporting conclusions:

- For the assessment of physical injury from underwater noise on harbour porpoise see paragraphs 6.5.2.45 – 6.5.2.48 of the RIAA. Given the impact ranges presented (table 6.11 of the RIAA), alongside the adoption of standard mitigation (e.g. JNCC protocol including the use of an ADD prior to a soft start), the risk of PTS to any harbour porpoise as a result of exposure to piling noise is negligible. There is no indication that the potential for lethality/ injury and hearing impairment effects associated with underwater noise generated from piling activities on the harbour porpoise features of this SCI would lead to a reduction in the extent or quality of the habitat in order to maintain the populations, a conservation objective of the Klaverbank SCI. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying features of this SCI.
- For the assessment of physical injury from underwater noise on harbour seal and grey seal see paragraphs 6.5.2.51 – 6.5.2.54 of the RIAA. Based on the impact ranges presented (table 6.12 of the RIAA), alongside the adoption of standard mitigation (e.g. JNCC protocol including the use of an ADD prior to a soft start), the risk of PTS to any seals as a result of exposure to piling noise is assessed as negligible. There is no indication that the potential for lethality/injury and hearing impairment effects associated with underwater noise generated from piling activities on the harbour and grey seal features of this SCI would lead to a reduction in the extent or quality of the habitat in order to maintain the populations, a Conservation Objective of the Klaverbank SCI. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying features of this SCI.
- For the assessment of behavioural disturbance from underwater noise on harbour porpoise see paragraphs 6.5.2.73 – 6.5.2.78 of the RIAA. There is no indication that the potential for behavioural effects associated with underwater noise on the harbour porpoise features of this SCI would lead to a significant disturbance of the species, conservation objective of the Klaverbank SCI. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying features of this SCI.



- d. For the assessment of behavioural disturbance from underwater noise on harbour seal and grey seal see paragraphs 6.5.2.79 – 6.5.2.100 of the RIAA. There is very little overlap between the impact footprint of the OWF pile driving locations and the areas that grey seals and harbour seals use meaning that the potential for impact is very low for pile driving from wind turbine foundation installation. There is no indication that the potential for behavioural effects associated with underwater noise on the harbour seal and grey seal features of this SCI would lead to a reduction in the extent or quality of the habitat in order to maintain the populations, Conservation Objective of the Klaverbank SCI. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying features of this SCI.
- e. For the assessment of physical injury/behavioural disturbance from UXO clearance (underwater noise) see paragraphs 6.5.2.107 – 6.5.2.124 of the RIAA. Each detonation will result in a single pulse of sound and based on data gathered on Hornsea Project One, only a small number of UXO, are anticipated to require detonation. There is no indication that the potential for injurious or behavioral effects associated with underwater noise generated by UXO clearance on the harbour seal, grey seal or harbour porpoise features of this SCI would lead to a reduction in the extent or quality of the habitat in order to maintain the populations, a Conservation Objective of the Klaverbank SCI. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying features of this SCI. A detailed assessment of the risk of injury and disturbance to marine mammals will be carried out and on the basis of this detailed assessment, a UXO specific MMMP will be developed for Hornsea Three and agreed with the MMO and statutory consultees.
- f. For the assessment of increased vessel traffic on the Annex II qualifying features see paragraphs 6.5.2.132 – 6.5.2.150 for construction/decommissioning impacts and paragraphs 6.5.3.2 – 6.5.3.8 of the RIAA for operation/maintenance impacts. It is considered that there is a high likelihood of avoidance from both increased vessel noise and collision risk, with both a high potential for recovery (< 1 year) for increased noise, and medium potential for recovery for collision risk (reflecting the low likelihood of collision and potential for non-lethal collision to occur). There is no indication that effects associated with increased vessel traffic would result in a reduction in the extent or quality of the habitat in order to maintain the feature populations, a Conservation Objective of the Klaverbank SCI. Furthermore, due to the temporary nature of the activity there is no indication that effects would result in a permanent shift in the population or the distribution of the features within this SCI in the long term. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying features of this SCI.
- g. For the assessment of accidental pollution on Annex II qualifying features see paragraphs 6.5.2.158 – 6.5.2.164 of the RIAA for construction/decommissioning impacts and paragraphs 6.5.3.15 – 6.5.3.19 of the RIAA for operation/maintenance impacts. As part of the project design, an MPCP will be developed (Table 4.6 of the RIAA) which will include measures to follow published guidelines and best working practice for the prevention of pollution events. Therefore accidental release of contaminants will be strictly controlled and an emergency plan will also be put in place in the unlikely event of an incident. There is no indication that effects associated with accidental pollution events would result in a reduction in the extent or quality of the habitat in order to maintain the feature populations, a Conservation Objective of the Klaverbank SCI. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying features of this SCI.
- h. For the assessment of in-combination effects from underwater noise see paragraphs 6.7.2.7 – 6.7.2.10 of the RIAA. There is no indication that the potential for auditory injury and hearing impairment or behavioural effects associated with underwater noise on the harbour seal, grey seal or harbour porpoise features would lead to a reduction in the extent or quality of the habitat in order to maintain the populations and due to the temporary nature of the activity there is no indication that effects would result in a permanent shift in the population or the distribution of the features within this SCI in the long term. Nor is there any indication that this impact in-combination with other plans and projects would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying features of this SCI.
- i. For the assessment of in-combination effects from underwater noise see paragraphs 6.7.2.39 – 6.7.2.57 of the RIAA. Given the limited spatial extent of vessel movements from the projects considered in this in-combination assessment, with most activity confined to within the project area and transiting via existing routes, it is considered likely that marine mammals will tolerate the additional noise disturbance due to the increased vessel movements. There is no indication that in-combination effects associated with increased vessel traffic would result in a reduction in the extent or quality of the habitat in order to maintain the feature population and there is no indication that effects would result in a permanent shift in the population or the distribution of the features within this SCI in the long term. Nor is there any indication that this impact in-combination with other plans and projects would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis, there is no indication of an adverse effect on the Annex II qualifying features of this SCI.

### 3.6 Stage 2 Matrix: Humber Estuary SAC (Annex II marine mammals)

<b>Name of European site: Humber Estuary SAC</b>												
Distance to array area: 141km												
Distance to cable route: : 73/ 67 km												
European site features	Adverse effect on integrity											
	Behavioural disturbance/Physical injury			Changes to water quality			Changes in prey availability			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	Xa,b,c,d	Xd	Xa,b,d	Xe	Xe	Xe				Xf,g	Xf,g	Xf,g

**Evidence supporting conclusions:**

- For the assessment of physical injury from underwater noise on grey seal see paragraphs 6.5.2.51 – 6.5.2.54 of the RIAA. Based on the impact ranges presented (table 6.12 of the RIAA), alongside the adoption of standard mitigation (e.g. JNCC protocol including the use of an ADD prior to a soft start), the risk of PTS to any seals as a result of exposure to piling noise is assessed as negligible. There is no indication that lethality/injury and hearing impairment effects associated with underwater noise generated from piling activities on the grey seal qualifying feature of this site would result in a permanent shift in the population or the distribution of the feature within this SAC in the long term, a Conservation Objective of the Humber Estuary SAC. Nor is there any indication that this impact would adversely affect the other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.
- For the assessment of behavioural disturbance from underwater noise on grey seal see paragraphs 6.5.2.91 – 6.5.2.100 of the RIAA. There is very little overlap between the impact footprint of the OWF pile driving locations and the areas that grey seals use meaning that the potential for impact is very low for pile driving from wind turbine foundation installation. There is no indication that behavioural effects associated with underwater noise on the grey seal qualifying feature of this site would result in a permanent shift in the population or the distribution of the feature within this SAC in the long term, Conservation Objective of the Humber Estuary SAC/Ramsar. Nor is there any indication that this impact would adversely affect the other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.
- For the assessment of physical injury and behavioural disturbance from UXO clearance see paragraphs 6.5.2.107 – 6.5.2.124 of the RIAA. Each detonation will result in a single pulse of sound and based on data gathered on Hornsea Project One, only a small number of UXO, are anticipated to require detonation. There is no indication that injurious or behavioral effects associated with underwater noise generated by UXO clearance on the grey seal qualifying feature of this site would result in a permanent shift in the population or the distribution of the feature within this SAC in the long term, a Conservation Objective of the Humber Estuary SAC/Ramsar . Nor is there any indication that this impact would adversely affect the other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site . On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.
- For the assessment of increased vessel traffic on grey seal see paragraphs 6.5.2.132 – 6.5.2.150 of the RIAA for construction/decommissioning impacts and paragraphs 6.5.3.2 – 6.5.3.8 of the RIAA for operation/maintenance impacts. It is considered that there is a high likelihood of avoidance from both increased vessel noise and collision risk, with both a high potential for recovery (< 1 year) for increased noise, and medium potential for recovery for collision risk (reflecting the low likelihood of collision and potential for non-lethal collision to occur). There is no indication that effects associated with increased vessel traffic would result in a permanent shift in the population or the distribution of the grey seal feature within this SAC in the long term and subsequently no adverse effect on the population or distribution of this qualifying feature is anticipated, a Conservation Objective of the Humber Estuary SAC/Ramsar (. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site (. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.

- e. For the assessment of accidental pollution on grey seal see paragraphs 6.5.3.15 – 6.5.3.19 of the RIAA for construction/decommissioning impacts and paragraphs 6.5.3.15 – 6.5.3.19 of the RIAA for operation/maintenance impacts. As part of the project design, an MPCP will be developed (Table 4.6 of the RIAA) which will include measures to follow published guidelines and best working practice for the prevention of pollution events. Therefore accidental release of contaminants will be strictly controlled and an emergency plan will also be put in place in the unlikely event of an incident. There is no indication that effects associated with accidental pollution events would result in a reduction in the extent or quality of the habitat in order to maintain the feature populations, a Conservation Objective of the Klaverbank SCI. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying features of this SCI.
- f. For the assessment of in-combination effects from underwater noise on grey seal see paragraphs 6.7.2.7 of the RIAA. There is no indication that in-combination lethality/ injury and hearing impairment or behavioural effects associated with underwater noise on the grey seal qualifying feature of this site would result in a permanent shift in the population or the distribution of the feature within this SAC in the long term. Nor is there any indication that this impact in-combination with other plans and projects would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.
- g. For the assessment of in-combination effects from increased vessel traffic on grey seal see paragraphs 6.7.2.39 – 6.7.2.57 of the RIAA. Given the limited spatial extent of vessel movements from the projects considered in this in-combination assessment, with most activity confined to within the project area and transiting via existing routes, it is considered likely that marine mammals will tolerate the additional noise disturbance due to the increased vessel movements. There is no indication that in-combination effects associated with increased vessel traffic would result in a permanent shift in the population or the distribution of the grey seal feature within this SAC in the long term. Nor is there any indication that this impact in-combination with other plans and projects would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.



### 3.7 Stage 2 Matrix: Southern North Sea cSAC

Name of European site: Southern North Sea cSAC												
Distance to array area: 2 km												
Distance to cable route: 0 km												
European site features	Adverse effect on integrity											
	Behavioural disturbance/Physical injury			Changes to water quality			Changes in prey availability			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Harbour porpoise	Xa,b,c,d	Xd	Xa,b,d	Xe	Xe	Xe				Xf,g	Xf,g	Xf,g

#### Evidence supporting conclusions:

- For the assessment of permanent threshold shift (PTS) on harbour porpoise see paragraphs 6.5.2.45 – 6.5.2.49 of the RIAA. Given the impact ranges presented (table 6.11 of the RIAA), alongside the adoption of standard mitigation (e.g. JNCC protocol including the use of an ADD prior to a soft start), the risk of PTS (auditory injury) to any harbour porpoise as a result of exposure to piling noise is negligible. There is no indication that the potential for lethality/ injury and hearing impairment effects associated with underwater noise generated from piling activities on the harbour porpoise qualifying feature of this site would lead to a reduction in the viability of the species, a Conservation Objective of the Southern North Sea cSAC. Nor is there any indication that this impact would adversely affect the other factors which are required to ensure that favourable conservation status is maintained as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this cSAC.
- For the assessment of behavioural disturbance on harbour porpoise see paragraphs 6.5.2.61 – 6.5.2.72 of the RIAA. The maximum spatial overlap of the effective deterrence range (26km as advocated by SNCBs), both for a one-off effect and a seasonal effect is well below specified thresholds. As such there is no indication that the potential for behavioural effects associated with underwater noise on the harbour porpoise qualifying feature of the Southern North Sea cSAC, would lead to a significant disturbance of the species, a conservation objective of the Southern North Sea cSAC. Nor is there any indication that this impact would adversely affect the other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this cSAC, from Hornsea Three alone.
- For the assessment of UXO clearance on harbour porpoise see paragraphs 6.5.2.107 – 6.5.2.124 of the RIAA. Each UXO detonation will result in a single pulse of sound and based on data gathered on Hornsea Project One, only a small number of UXO, are anticipated to require detonation. A UXO specific MMMP will be developed for Hornsea Three and agreed with the MMO and statutory consultees, in compliance with EPS guidance, which will reduce the risk of injury to all marine mammal species to negligible. Specifically relating to behavioural effects the one off disturbance events fall well below the thresholds for significant disturbance effects. There is no indication that the potential for injurious or behavioural effects associated with underwater noise generated by UXO clearance on the harbour porpoise qualifying feature of this site would lead to a reduction in the viability of the species or adversely impact the supporting habitats and processes relevant to this species and their prey from being maintained, a Conservation Objective of the Southern North Sea cSAC. Nor is there any indication that this impact would adversely affect the other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this cSAC.
- For the assessment of increased vessel traffic on harbour porpoise see paragraphs 6.5.2.132 – 6.5.2.150 of the RIAA. It is considered that there is a high likelihood of avoidance from both increased vessel noise and collision risk, with both a high potential for recovery (< 1 year) for increased noise, and medium potential for recovery for collision risk (reflecting the low likelihood of collision and potential for non-lethal collision to occur). There is no indication that

effects associated with increased vessel traffic would lead to a reduction in the viability of the harbour porpoise feature or adversely impact the supporting habitats and processes relevant to this species and their prey from being maintained, Conservation Objectives of the Southern North Sea cSAC (see paragraph 6.2.5.154 of the RIAA). Furthermore, due to the temporary nature of the activity there is no indication that effects would result in a permanent shift in the distribution of the feature within this cSAC in the long term and subsequently no adverse effect on the population or distribution of this qualifying feature is anticipated. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this cSAC.

- e. For the assessment of accidental pollution on harbour porpoise see paragraphs 6.5.2.158 – 6.5.2.164 of the RIAA. As part of the project design, an MPCP will be developed (Table 4.6 of the RIAA) which will include measures to follow published guidelines and best working practice for the prevention of pollution events. Therefore accidental release of contaminants will be strictly controlled and an emergency plan will also be put in place in the unlikely event of an incident. There is no indication that effects associated with accidental pollution events would lead to a reduction in the viability of the harbour porpoise feature or adversely impact the supporting habitats and processes relevant to this species and their prey from being maintained, a Conservation Objective of the Southern North Sea cSAC . Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site ). On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this cSAC.
- f. With the implementation of appropriate mitigation measures (see Table 4.6 of the RIAA), there is no indication that the potential for in-combination auditory injury and hearing impairment effects associated with underwater noise on the harbour porpoise qualifying feature of this site would lead to a reduction in the viability of the species or adversely impact the supporting habitats and processes relevant to this species and their prey from being maintained. With regard to the spatial extent of any potential impact and the very low likelihood of exceeding the 20% threshold, there is no indication that the potential for in-combination behavioural effects associated with underwater noise on the harbour porpoise qualifying feature of this site would lead to significant disturbance of the species or adversely impact the supporting habitats and processes relevant to this species and their prey from being maintained. Furthermore, due to the temporary nature of the activity there is no indication that effects would result in a permanent shift in the population or the distribution of the features within this cSAC in the long term and subsequently no adverse effect on the population or distribution of this qualifying feature is anticipated. Nor is there any indication that this impact in-combination with other plans and projects would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this cSAC (see section 6.7.2 of the RIAA).
- g. There is no indication that in-combination effects associated with increased vessel traffic would lead to a reduction in the viability of the harbour porpoise feature or adversely impact the supporting habitats and processes relevant to this species and their prey from being maintained and there is no indication that effects would result in a permanent shift in the distribution of the feature within this cSAC in the long term. Nor is there any indication that this impact in-combination with other plans and projects would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis, there is no indication of an adverse effect on the Annex II qualifying feature of this cSAC (see paragraphs 6.7.2.39 – 6.7.2.64 of the RIAA).

### 3.8 Stage 2 Matrix: Doggersbank SCI (Annex II marine mammals)

Name of European site: Doggersbank SCI												
Distance to array area: 42 km												
Distance to cable route: 58 km												
European site features	Adverse effect on integrity											
	Behavioural disturbance/Physical injury			Changes to water quality			Changes in prey availability			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	Xa,b,c,d	Xd	Xa,b,d	Xe	Xe	Xe				Xf,g	Xf,g	Xf,g
Harbour seal	Xa,b,c,d	Xd	Xa,b,d	Xe	Xe	Xe				Xf,g	Xf,g	Xf,g

#### Evidence supporting conclusions:

- For the assessment of physical injury from underwater noise on grey seal and harbour seal see paragraphs 6.5.2.51 – 6.5.2.54 of the RIAA. Based on the impact ranges presented (table 6.12 of the RIAA), alongside the adoption of standard mitigation (e.g. JNCC protocol including the use of an ADD prior to a soft start), the risk of PTS to any seals as a result of exposure to piling noise is assessed as negligible. There is no indication that the potential for lethality/injury and hearing impairment effects associated with underwater noise generated from piling activities on the harbour and grey seal features of this site would prevent the favourable conservation status of the qualifying species from being maintained, a Conservation Objective of the Doggersbanks SCI. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying features of this SCI.
- For the assessment of behavioural disturbance from underwater noise on grey seal and harbour seal see paragraphs 6.5.2.79 – 6.5.2.100 of the RIAA. There is very little overlap between the impact footprint of the OWF pile driving locations and the areas that grey seals and harbour seals use meaning that the potential for impact is very low for pile driving from wind turbine foundation installation. There is no indication that the potential for behavioural effects associated with underwater noise on the harbour and grey seal features of this site would prevent the favourable conservation status of the qualifying species from being maintained, a Conservation Objective of the Doggersbanks SCI. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying features of this SCI.
- For the assessment of physical injury and behavioural disturbance from UXO clearance see paragraphs 6.5.2.107 – 6.5.2.124 of the RIAA. Each detonation will result in a single pulse of sound and based on data gathered on Hornsea Project One, only a small number of UXO, are anticipated to require detonation. There is no indication that the potential for injurious or behavioural effects associated with underwater noise generated by UXO clearance on the harbour and grey seal features of this site would prevent the favourable conservation status of the qualifying species from being maintained, a Conservation Objective of the Doggersbank SCI. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying features of this SCI.
- For the assessment of increased vessel traffic on grey seal and harbour seal see paragraphs 6.5.2.132 – 6.5.2.150 of the RIAA for construction/decommissioning impacts and paragraphs 6.5.3.2 – 6.5.3.8 of the RIAA for operation/maintenance impacts. It is considered that there is a high likelihood of avoidance from both increased vessel noise and collision risk, with both a high potential for recovery (< 1 year) for increased noise, and medium potential for recovery for collision risk (reflecting the low likelihood of collision and potential for non-lethal collision to occur). There is no indication that that effects associated with increased vessel traffic on the harbour and grey seal features of this site would prevent the favourable conservation status of the qualifying species from being maintained, a Conservation Objective of the Doggersbank SCI. Nor is there any indication that this impact would adversely affect any other

factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site . On this basis there is no indication of an adverse effect on the Annex II qualifying features of this SCI.

- e. For the assessment of accidental pollution on grey seal and harbour seal see paragraphs 6.5.3.15 – 6.5.3.19 of the RIAA for construction/decommissioning impacts and paragraphs 6.5.3.15 – 6.5.3.19 of the RIAA for operation/maintenance impacts. As part of the project design, an MPCP will be developed (Table 4.6 of the RIAA) which will include measures to follow published guidelines and best working practice for the prevention of pollution events. There is no indication that that effects associated with accidental pollution events on the harbour and grey seal features of this site would prevent the favourable conservation status of the qualifying species from being maintained, a Conservation Objective of the Doggersbank SCI. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying features of this SCI.
- f. For the assessment of in-combination effects from underwater noise on grey seal and harbour seal see paragraphs 6.7.2.7 of the RIAA. There is no indication that the potential for in-combination lethality/ injury and hearing impairment or behavioural effects associated with underwater noise on the harbour and grey seal features of this site would prevent the favourable conservation status of the qualifying species from being maintained. Nor is there any indication that this impact in-combination with other plans and projects would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying features of this SCI.
- g. For the assessment of in-combination effects from increased vessel traffic on grey seal and harbour seal see paragraphs 6.7.2.39 – 6.7.2.57 of the RIAA. Given the limited spatial extent of vessel movements from the projects considered in this in-combination assessment, with most activity confined to within the project area and transiting via existing routes, it is considered likely that marine mammals will tolerate the additional noise disturbance due to the increased vessel movements. There is no indication that that in-combination effects associated with increased vessel traffic on the harbour and grey seal features of this site would prevent the favourable conservation status of the qualifying species from being maintained. Nor is there any indication that this impact in-combination with other plans and projects would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis, there is no indication of an adverse effect on the Annex II qualifying features of this SCI.

### 3.10 Stage 2 Matrix: Noordzeekustzone SAC/ Noordzeejustzone II SCI (Annex II marine mammals)

Name of European site: Noordzeekustzone SAC												
Distance to array area: 138 km												
Distance to cable route: 138 km												
European site features	Adverse effect on integrity											
	Behavioural disturbance/Physical injury			Changes to water quality			Changes in prey availability			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	Xa,b,c,d	Xd	Xa,b,d	Xe	Xe	Xe				Xf,g	Xf,g	Xf,g

**Evidence supporting conclusions:**

- For the assessment of physical injury from underwater noise on grey seal see paragraphs 6.5.2.51 – 6.5.2.54 of the RIAA. Based on the impact ranges presented (table 6.12 of the RIAA), alongside the adoption of standard mitigation (e.g. JNCC protocol including the use of an ADD prior to a soft start), the risk of PTS to any seals as a result of exposure to piling noise is assessed as negligible. The potential for lethality/injury and hearing impairment effects associated with underwater noise generated from piling activities on the grey seal feature of this site would not prevent the extent and quality of habitat in order to maintain the population from being maintained, a Conservation Objective of the Noordzeekustzone SAC/ Noordzeekustzone II SCI. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC/SCI.
- For the assessment of behavioural disturbance from underwater noise on grey seal see paragraphs 6.5.2.91 – 6.5.2.100 of the RIAA. There is very little overlap between the impact footprint of the OWF pile driving locations and the areas that grey seals use meaning that the potential for impact is very low for pile driving from wind turbine foundation installation. The potential for behavioural effects associated with underwater noise on the grey seal feature of this site would not prevent the extent and quality of habitat in order to maintain the population from being maintained, a Conservation Objective of the Noordzeekustzone SAC/Noordzeekustzone II SAC (see Section 6.2.8). Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site (see Section 6.2.8). On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC/SCI.
- For the assessment of physical injury and behavioural disturbance from UXO clearance see paragraphs 6.5.2.107 – 6.5.2.124 of the RIAA. Each detonation will result in a single pulse of sound and based on data gathered on Hornsea Project One, only a small number of UXO, are anticipated to require detonation. The potential for injurious or behavioural effects associated with underwater noise generated by UXO clearance on the grey seal feature of this site would not prevent the extent and quality of habitat in order to maintain the population from being maintained, a Conservation Objective of the Noordzeekustzone SAC/ Noordzeekustzone II SCI. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC/SCI.
- For the assessment of increased vessel traffic on grey seal see paragraphs 6.5.2.132 – 6.5.2.150 of the RIAA for construction/decommissioning impacts and paragraphs 6.5.3.2 – 6.5.3.8 of the RIAA for operation/maintenance impacts. It is considered that there is a high likelihood of avoidance from both increased vessel noise and collision risk, with both a high potential for recovery (< 1 year) for increased noise, and medium potential for recovery for collision risk (reflecting the low likelihood of collision and potential for non-lethal collision to occur). Effects associated with increased vessel traffic would not prevent the extent and quality of habitat in order to maintain the population from being



- maintained, a Conservation Objective of the Noordzeekustzone SAC/ Noordzeekustzone II SCI. Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC/SCI.
- e. For the assessment of accidental pollution on grey seal see paragraphs 6.5.3.15 – 6.5.3.19 of the RIAA. As part of the project design, an MPCP will be developed (Table 4.6 of the RIAA) which will include measures to follow published guidelines and best working practice for the prevention of pollution events. Therefore accidental release of contaminants will be strictly controlled and an emergency plan will also be put in place in the unlikely event of an incident. Effects associated with accidental pollution events would not prevent the extent and quality of habitat in order to maintain the population from being maintained, a Conservation Objective of the Noordzeekustzone SAC/ Noordzeekustzone II SCI . Nor is there any indication that this impact would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site . On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC/SCI
- f. For the assessment of in-combination effects from underwater noise on grey seal see paragraphs 6.7.2.7 of the RIAA for construction/decommissioning impacts and paragraphs 6.5.3.15 – 6.5.3.19 of the RIAA for operation/maintenance impacts. With respect to the Conservation Objectives for the SAC potentially impacted, the potential for in-combination lethality/ injury and hearing impairment or behavioural effects associated with underwater noise on the grey seal feature of this site would not prevent the extent and quality of habitat in order to maintain the population from being maintained. Nor is there any indication that this impact in-combination with other plans and projects would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC/SCI.
- g. For the assessment of in-combination effects from increased vessel traffic on grey seal see paragraphs 6.7.2.39 – 6.7.2.57 of the RIAA. Given the limited spatial extent of vessel movements from the projects considered in this in-combination assessment, with most activity confined to within the project area and transiting via existing routes, it is considered likely that marine mammals will tolerate the additional noise disturbance due to the increased vessel movements. With respect to the Conservation Objectives for the SAC potentially impacted, in-combination effects associated with increased vessel traffic would not prevent the extent and quality of habitat in order to maintain the population from being maintained. Nor is there any indication that this impact in-combination with other plans and projects would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis, there is no indication of an adverse effect on the Annex II qualifying feature of this SAC/SCI.

### 3.11 Stage 2 Matrix: Berwickshire and North Northumberland Coast SAC (Annex II marine mammals)

Name of European site: Berwickshire and North Northumberland Coast SAC												
Distance to from array area: km												
Distance to cable route: km												
European site features	Adverse effect on integrity											
	Behavioural disturbance/Physical injury			Changes to water quality			Changes in prey availability			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Grey seal	Xa,b,c,d	Xd	Xa,b,d	Xe	Xe	Xe				Xf,g	Xf,g	Xf,g

#### Evidence supporting conclusions:

- For the assessment of physical injury from underwater noise on grey seal see paragraphs 6.5.2.51 – 6.5.2.54 of the RIAA. Based on the impact ranges presented (table 6.12 of the RIAA), alongside the adoption of standard mitigation (e.g. JNCC protocol including the use of an ADD prior to a soft start), the risk of PTS to any seals as a result of exposure to piling noise is assessed as negligible. There is no indication that lethality/injury and hearing impairment effects associated with underwater noise generated from piling activities on the grey seal qualifying feature of this site, would result in a permanent shift in the population or the distribution of the feature within this SAC in the long term, a Conservation Objective of the Berwickshire and North Northumberland Coast SAC. Nor is there any indication that this impact would adversely affect the other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.
- For the assessment of behavioural disturbance from underwater noise on grey seal see paragraphs 6.5.2.91 – 6.5.2.100 of the RIAA. There is very little overlap between the impact footprint of the OWF pile driving locations and the areas that grey seals use meaning that the potential for impact is very low for pile driving from wind turbine foundation installation. There is no indication that behavioural effects associated with underwater noise on the grey seal qualifying feature of this site would result in a permanent shift in the population or the distribution of the feature within this SAC in the long term, a Conservation Objective of the Berwickshire and North Northumberland Coast SAC (see Section 6.2.34). Nor is there any indication that this impact would adversely affect the other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site (see Section 6.2.34). On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.
- For the assessment of physical injury and behavioural disturbance from UXO clearance see paragraphs 6.5.2.107 – 6.5.2.124 of the RIAA. Each detonation will result in a single pulse of sound and based on data gathered on Hornsea Project One, only a small number of UXO, are anticipated to require detonation. There is no indication that injurious or behavioural effects associated with underwater noise generated by UXO clearance on the grey seal qualifying feature of this site would result in a permanent shift in the population or the distribution of the feature within this SAC in the long term, a Conservation Objective of the Berwickshire and North Northumberland Coast SAC. Nor is there any indication that this impact would adversely affect the other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.
- For the assessment of increased vessel traffic on grey seal see paragraphs 6.5.2.132 – 6.5.2.150 of the RIAA for construction/decommissioning impacts and paragraphs 6.5.3.2 – 6.5.3.8 of the RIAA for operation/maintenance impacts. It is considered that there is a high likelihood of avoidance from both increased vessel noise and collision risk, with both a high potential for recovery (< 1 year) for increased noise, and medium potential for recovery for collision risk (reflecting the low likelihood of collision and potential for non-lethal collision to occur). There is no indication that effects associated with increased vessel traffic would result in a permanent shift in the population or the distribution of the grey seal feature within this SAC in the long term and subsequently no adverse effect on the population or distribution of this qualifying feature is anticipated, a Conservation Objective of the Berwickshire and North Northumberland

- Coast SAC. Nor is there any indication that this impact would adversely affect the other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.
- e. For the assessment of accidental pollution on grey seal see paragraphs 6.5.3.15 – 6.5.3.19 of the RIAA for construction/decommissioning impacts and paragraphs 6.5.3.15 – 6.5.3.19 of the RIAA for operation/maintenance impacts. As part of the project design, an MPCP will be developed (Table 4.6 of the RIAA) which will include measures to follow published guidelines and best working practice for the prevention of pollution events. Therefore accidental release of contaminants will be strictly controlled and an emergency plan will also be put in place in the unlikely event of an incident. There is no indication that effects associated with accidental pollution events would lead to a reduction in the extent or structure and function of the habitats of the qualifying species or the supporting processes on which this species rely, a Conservation Objective of the Berwickshire and North Northumberland Coast SAC. Nor is there any indication that this impact would adversely affect the other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.
- f. For the assessment of in-combination effects from underwater noise on grey seal see paragraphs 6.7.2.7 of the RIAA. There is no indication that in-combination lethality/ injury and hearing impairment or behavioural effects associated with underwater noise on the grey seal qualifying feature of this site would result in a permanent shift in the population or the distribution of the feature within this SAC in the long term. Nor is there any indication that this impact in-combination with other plans and projects would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.
- g. For the assessment of in-combination effects from increased vessel traffic on grey seal see paragraphs 6.7.2.39 – 6.7.2.57 of the RIAA. Given the limited spatial extent of vessel movements from the projects considered in this in-combination assessment, with most activity confined to within the project area and transiting via existing routes, it is considered likely that marine mammals will tolerate the additional noise disturbance due to the increased vessel movements. There is no indication that in-combination effects associated with increased vessel traffic would result in a permanent shift in the population or the distribution of the grey seal feature within this SAC in the long term. Nor is there any indication that this impact in-combination with other plans and projects would adversely affect any other factors which are required to ensure that the site is maintained in favourable condition as defined in the Conservation Objectives of this site. On this basis there is no indication of an adverse effect on the Annex II qualifying feature of this SAC.



### 3.12 Stage 2 Matrix: Flamborough and Filey Coast pSPA (Ornithological)

Name of European site: Flamborough and Filey Coast pSPA																		
Distance to array area:																		
Distance to cable route:																		
European site features	Adverse effect on integrity																	
	Disturbance			Changes to prey availability			Collision			Barrier			Displacement			In-combination		
Article 4.2 – Migratory (Breeding)	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Kittiwake <i>Rissa tridactyla</i>								<b>Xa</b>										<b>Xb</b>
Razorbill <i>Alca torda</i>	<b>Xc</b>		<b>Xc</b>											<b>Xc</b>				<b>Xd</b>
Guillemot <i>Uria aalge</i>	<b>Xe</b>		<b>Xe</b>											<b>Xe</b>				<b>Xf</b>
Gannet <i>Morus bassanus</i>								<b>Xg</b>						<b>Xh</b>				<b>Xi,j</b>
Article 4.2 – Assemblage	Disturbance			Changes to prey availability			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Puffin <i>Fratercula arctica</i>	<b>Xk</b>		<b>Xk</b>											<b>Xk</b>				<b>Xl</b>
Razorbill <i>Alca torda</i>	<b>Xc</b>		<b>Xc</b>											<b>Xc</b>				<b>Xd</b>
Guillemot <i>Uria aalge</i>	<b>Xe</b>		<b>Xe</b>											<b>Xe</b>				<b>Xf</b>
Gannet <i>Morus bassanus</i>								<b>Xg</b>						<b>Xh</b>				<b>Xi,j</b>
Kittiwake <i>Rissa tridactyla</i>								<b>Xa</b>										<b>Xb</b>
Fulmar <i>Fulmaris glacialis</i>														<b>Xm</b>				<b>Xn</b>

**Evidence to support conclusions:**

- a. For the assessment of collision on kittiwake see paragraphs 7.5.2.51 – 7.5.2.54 of the RIAA. Due to the low percentage of the pSPA population affected by collision and the small increase in background mortality it is assessed that there is no adverse effect on the integrity of the kittiwake population of the FFC pSPA as a result of collision mortality due to operation and maintenance activities. Furthermore, it should be noted that the predicted collision rates are considered precautionary due to the likely presence of a significant number of non-breeding adult birds in the observed population at Hornsea Three.

- b. For the assessment on in-combination effects of collision on kittiwake see paragraphs 7.7.2.25 – 7.7.2.38 of the RIAA. PVA modelling indicates that the resulting levels of in-combination mortality predicted to arise (Table 7.39 of the RIAA) would not be sufficient for the population to decline below the FFC pSPA citation for this species. This level of in-combination mortality does not include consideration of as-built scenarios (Table 7.37 of the RIAA) or nocturnal activity factors (Table 7.38 of the RIAA) which, if taken into account, would further reduce the in-combination collision risk. There is no indication that, at the level of mortality predicted to arise from Hornsea Three in-combination with other projects, the population is likely to decline, over a period of 35 years, to an extent that would mean that the breeding kittiwake population of the FFC pSPA would no longer be considered to be in favourable condition.
- c. For the assessment of displacement and disturbance on razorbill see paragraphs 7.5.2.77 – 7.5.2.89 of the RIAA. There is no predicted displacement mortality of breeding adult razorbill originating from the pSPA due to Hornsea Three in any biological season (see section 7.5 of the RIAA). In addition, any impact on immature birds associated with FFC pSPA is likely to be negligible due to the low level of mortality predicted in all seasons. There is, therefore, no indication of an adverse effect on the razorbill breeding feature at FFC pSPA as a result of disturbance or displacement due to construction/decommissioning or operation and maintenance activities from Hornsea Three.
- d. For the assessment on in-combination effect of displacement see paragraphs 7.7.2.40 of the RIAA. There is no predicted mortality of breeding adult razorbill and only a negligible predicted mortality for immature razorbill associated with the breeding colony of the FFC pSPA as a result of displacement from Hornsea Three in any biological season. Hornsea Three will therefore not materially affect the current predicted in-combination impact for razorbill from FFC pSPA.
- e. For the assessment of displacement and disturbance on guillemot see paragraphs 7.5.2.90 – 7.5.2.102 of the RIAA. There is predicted to be a negligible loss of breeding adult guillemot originating from the pSPA as a result of displacement from Hornsea Three in any biological season. In addition, any impact on immature birds associated with FFC pSPA is likely to be negligible due to the low level of mortality predicted in all seasons and the large BDMPS immature population to which impacts can be apportioned. There is, therefore, no indication of an adverse effect on the guillemot breeding feature at FFC pSPA as a result of disturbance or displacement due to operation and maintenance activities.
- f. For the assessment on in-combination effect of displacement on guillemot see paragraphs 7.7.2.41 – 7.7.2.58 of the RIAA. Hornsea Three is predicted to contribute a negligible number of breeding adult guillemot birds to the total number of breeding adult birds impacted by displacement mortality with any contribution from Hornsea Three occurring in the non-breeding season only. There is considered to be no indication that, at the level of mortality predicted to arise from Hornsea Three in-combination with other projects, the population is likely to decline, over a period of 35 years, to an extent that would mean that the breeding guillemot population of the FFC pSPA would no longer be considered to be in favourable condition.
- g. For the assessment of collision on gannet see paragraphs 7.5.2.32 – 7.5.2.35 of the RIAA. Due to the low percentage of the pSPA population affected by collision and, the small increase in background mortality it is assessed that there is no adverse effect on the integrity of the gannet population of the FFC pSPA as a result of collision mortality due to operation and maintenance activities.
- h. For the assessment of displacement on gannet see paragraphs 7.5.2.36 – 7.6.2.41 of the RIAA. Due to the low percentage of the pSPA population affected by displacement (with no pSPA birds affected in the pre- and post-breeding seasons), the small increase in background mortality and the extensive foraging range of gannet it is assessed that there is no adverse effect on the integrity of the gannet population of the FFC pSPA as a result of displacement due to operation and maintenance activities.
- i. For the assessment of in-combination effects of collision on gannet see paragraphs 7.7.2.3 – 7.7.2.16 of the RIAA. Hornsea Three contributes to less than 3% of the in-combination collision risk total for gannet at FFC pSPA (see section 7.7 of the RIAA). PVA modelling (MacArthur Green, 2015) indicates that the resulting levels of in-combination mortality predicted to arise (Table 7.36 of the RIAA) would not be sufficient for the population to decline below the FFC pSPA citation for this species. This level of in-combination mortality does not include consideration of as-built scenarios (Table 7.34 of the RIAA) or nocturnal activity factors (Table 7.35 of the RIAA) which, if taken into account, would further reduce the in-combination collision risk. There is no indication that, at the level of mortality predicted to arise from Hornsea Three in-combination with other projects, that the population is likely to decline, over a period of 35 years, to an extent that would mean that the breeding gannet population of the FFC pSPA would no longer be considered to be in favourable condition.
- j. For the assessment of in-combination effects of displacement on gannet see paragraphs 7.7.2.17 – 7.7.2.24 of the RIAA. An in-combination displacement impact of 14 birds for gannet would not adversely affect the site integrity of FFC pSPA. PVA modelling indicates that the resulting levels of in-combination mortality predicted to arise would not be sufficient for the population to decline below the FFC pSPA citation for this species. There is no indication that, at the level of mortality predicted to arise from Hornsea Three in-combination with other projects, that the population is likely to decline, over a period of 35 years, to an extent that would mean that the breeding gannet population of the FFC pSPA would no longer be considered to be in favourable condition.
- k. For the assessment on disturbance and displacement on puffin see paragraphs 7.5.2.60 – 7.6.2.68 of the RIAA. There is no predicted mortality of breeding adult puffin associated with the breeding colony of the FFC pSPA as a result of displacement from Hornsea Three in any biological season. In addition, any impact on immature birds associated with FFC pSPA is likely to be negligible. There is, therefore, no indication of an adverse effect on the puffin breeding feature at FFC pSPA as a result of disturbance or displacement due to operation and maintenance activities.
- l. For the assessment of in-combination effects of displacement on puffin see paragraphs 7.7.2.39 of the RIAA. There is no predicted mortality of breeding adult puffin and only a negligible predicted mortality for immature puffin associated with the breeding colony of the FFC pSPA as a result of displacement from Hornsea Three in any biological season. Hornsea Three will therefore not materially affect the current predicted in-combination impact for puffin from FFC pSPA.

- m. For the assessment on displacement of fulmar see paragraphs 7.5.2.12 – 7.5.2.20 of the RIAA. Fulmar is considered to have a very low vulnerability to displacement from offshore wind farms, being assigned a score of 1 (out of 5) by Wade et al. (2016). Due to the low percentage of the pSPA population affected by displacement and, the small increase in background mortality it is assessed that there is no adverse effect on the integrity of the fulmar population of the FFC pSPA as a result of displacement mortality due to operation and maintenance activities.
- n. For the assessment of in-combination effects of displacement on fulmar see paragraphs 7.7.2.1 of the RIAA. The displacement mortality predicted for Hornsea Three is considered unlikely to materially alter the current in-combination displacement impact for fulmar at FFC pSPA . On this basis, there is no indication that, at the level of mortality predicted to arise from Hornsea Three, this will result in an adverse effect on the site integrity of FFC pSPA.

### 3.13 Stage 2 Matrix: The Greater Wash SPA

Name of European site: The Greater Wash pSPA																					
Distance to array area: 106 km																					
Distance to cable route: 0 km																					
European site features			Adverse effect on integrity																		
Article 4.1 – Breeding (Winter)	Changes to prey availability			Disturbance			Habitat loss			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Red-throated Diver <i>Gavia stellata</i>				Xa		Xa											Xc		Xg	Xh	Xg
Sandwich tern	Xe		Xe	Xf		Xf													Xk	Xk	Xk
Article 4.2 – Assemblage	Changes to prey availability			Disturbance			Habitat loss			Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D	C	O	D
Common Scoter <i>Melanitta nigra</i>				Xb		Xb											Xd		Xi	Xj	Xi

#### Evidence supporting conclusions

- For the assessment on disturbance of red-throated diver see paragraphs 7.5.1.22 – 7.5.1.32 of the RIAA. The limited temporal span and localised effect installation of the export cable, combined with the relatively low densities of red-throated diver along the cable route it is assessed that there is no indication, of an adverse effect on the integrity of the red-throated diver population of the Greater Wash pSPA as a result of disturbance caused by construction and decommissioning activities.
- For the assessment on disturbance of common scoter see paragraphs 7.5.1.12 – 7.5.1.18 of the RIAA. Effects associated with the installation of the export cable will be localised with an extremely low level of interaction between the export cable route and areas of supporting high densities of common scoter it is assessed that there is no indication of an adverse effect on the integrity of the common scoter population of the Greater Wash pSPA as a result of disturbance / displacement due to construction and decommissioning activities.
- For the assessment on displacement of red-throated diver see paragraphs 7.5.1.33 – 7.5.1.35 of the RIAA. The effects of displacement on red-throated diver in the operational phase are likely to be at a significantly lower level of magnitude to that described during the construction phase as the level of activity associated with the export cable is significantly reduced. It is considered extremely unlikely that maintenance activities at the Hornsea Three export cable route will result in any increase in disturbance effects on red-throated diver when compared to the level of disturbance already considered to be part of the baseline environment. It is assessed that there is no indication of an adverse effect on the integrity of the red-throated diver population of the Greater Wash pSPA as a result of disturbance / displacement due to operation and maintenance activities.

- d. For the assessment on displacement of common scoter see paragraphs 7.5.1.19 – 7.5.1.21 of the RIAA. It is considered extremely unlikely that maintenance activities at the Hornsea Three export cable route will result in any increase in disturbance effects on common scoter when compared to the level of disturbance already considered to be part of the baseline environment. It is assessed that there is no indication of an adverse effect on the integrity of the common scoter population of the Greater Wash pSPA as a result of disturbance / displacement due to operation and maintenance activities.
- e. For the assessment on changes to prey availability on sandwich tern see paragraphs 7.5.1.40 – 7.5.1.43 of the RIAA. There is limited temporal span and localised level effect of export cable installation, in addition to the determined relatively low usage of the export cable route by sandwich tern and insignificant effects on their prey resources, it is assessed that there is no indication, of an adverse effect on the integrity of the feature of the Greater Wash pSPA as a result of changes to prey availability caused by construction and decommissioning activities.
- f. For the assessment on disturbance of sandwich tern see paragraphs 7.5.1.36 – 7.5.1.39 of the RIAA. Sandwich tern is considered to be a species with a low sensitivity to vessel and helicopter disturbance with the species seemingly tolerant of human activities at sea. Activities associated with the construction of the Hornsea Three export cable are highly unlikely to impact areas with a high level of usage by Sandwich tern from the breeding colony at Blakeney Point, with these foraging areas protected as part of the Greater Wash pSPA. It is therefore assessed that there is no indication, of an adverse effect on the integrity of the Sandwich tern feature of the Greater Wash pSPA as a result of disturbance/displacement due to construction and decommissioning activities.
- g. For the assessment of in-combination effect from disturbance on red-throated diver see paragraphs 7.7.1.1 – 7.7.1.6 of the RIAA. The limited temporal span and localised effect installation of the export cable, combined with the relatively low densities of red-throated diver along the cable route it is assessed that there is no indication, of an adverse effect on the integrity of the red-throated diver population of the Greater Wash pSPA as a result of disturbance caused by construction and decommissioning activities in-combination with other plans and projects.
- h. For the assessment of in-combination effect from displacement see paragraphs 7.7.1.7 – 7.7.1.12 of the RIAA. It is anticipated that vessel movements associated with operation and maintenance of offshore wind farms will largely occur within areas that are already substantially utilised by vessels is assessed that there is no indication of an adverse effect on the integrity of the red-throated diver population of the Greater Wash pSPA as a result of disturbance due to operation and maintenance activities in-combination with other plans and projects.
- i. For the assessment of in-combination effects from disturbance see paragraphs 7.7.1.13 – 7.7.1.18 of the RIAA. The localised effect installations of the export cable, combined with the extremely low level of interaction between the export cable route and areas of common scoter density it is assessed that there is no indication of an adverse effect on the integrity of the common scoter population of the Greater Wash pSPA as a result of disturbance due to construction and decommissioning activities in-combination with other plans and projects.
- j. For the assessment of in-combination effect from displacement see paragraphs 7.7.1.19 – 7.7.1.24 of the RIAA. It is anticipated that vessel movements associated with operation and maintenance of offshore wind farms will largely occur within areas that are already substantially utilised by vessels. It is assessed that there is no indication, of an adverse effect on the integrity of the common scoter population of the Greater Wash pSPA as a result of displacement due to operation and maintenance activities in-combination with other plans and projects.
- k. There are no projects that will act in-combination with Hornsea Three in relation to impacts that may affect the Sandwich tern feature of the Greater Wash pSPA. As such, Sandwich tern is screened out of the in-combination assessment.

### 3.14 Stage 2 Matrix: Forth Islands SPA

Name of European site: Forth Islands SPA												
Distance to array area: 384 km												
Distance to cable route: 388 km												
European site features	Adverse effect on integrity											
Article 4.2 – Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Fulmar Fulmarus glacialis								Xa			Xb	

**Evidence to support conclusions:**

- a. For the assessment on displacement of fulmar see paragraphs 7.5.5.4 – 7.5.5.12 of the RIAA. Fulmar is considered to have a very low vulnerability to displacement from offshore wind farms, being assigned a score of 1 (out of 5) by Wade et al. (2016). Due to the negligible proportion of the Forth Islands pSPA population affected by displacement and the insignificant increase in background mortality it is assessed that there is no adverse effect on the integrity of the fulmar population of the Forth Islands pSPA as a result of displacement mortality due to operation and maintenance activities.
- b. For the assessment of in-combination effects from displacement on fulmar see paragraphs 7.7.5.1 – 7.7.5.2 of the RIAA. There is little quantitative information on the potential displacement of fulmar from other wind farm projects that may act in-combination with Hornsea Three. However, Hornsea Three is unlikely to contribute a significant amount of additional mortality relative to the amount that may already occur at projects that may act in-combination. The displacement mortality predicted for Hornsea Three is considered unlikely to materially alter the current in-combination displacement impact for fulmar at the Forth Islands pSPA. On this basis, there is no indication that, at the level of mortality predicted to arise from Hornsea Three, this will result in an adverse effect on the site integrity of the Forth Islands pSPA.



### 3.15 Stage 2 Matrix: Coquet Island SPA

Name of European site: Coquet Island SPA												
Distance to array area: 283 km												
Distance to cable route: 288 km												
European site features	Adverse effect on integrity											
Article 4.2 – Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Fulmar Fulmarus glacialis								Xa			Xb	

**Evidence to support conclusions:**

- a. For the assessment on displacement of fulmar see paragraphs 7.5.3.4 – 7.5.3.12 of the RIAA. Fulmar is considered to have a very low vulnerability to displacement from offshore wind farms, being assigned a score of 1 (out of 5) by Wade et al. (2016). Due to the negligible proportion of the Forth Islands pSPA population affected by displacement and the insignificant increase in background mortality it is assessed that there is no adverse effect on the integrity of the fulmar population of the Forth Islands pSPA as a result of displacement mortality due to operation and maintenance activities.
- b. For the assessment of in-combination effects from displacement on fulmar see paragraphs 7.7.3.1 – 7.7.3.2 of the RIAA. There is little quantitative information on the potential displacement of fulmar from other wind farm projects that may act in-combination with Hornsea Three. However, Hornsea Three is unlikely to contribute a significant amount of additional mortality relative to the amount that may already occur at projects that may act in-combination. The displacement mortality predicted for Hornsea Three is considered unlikely to materially alter the current in-combination displacement impact for fulmar at Coquet Island SPA. On this basis, there is no indication that, at the level of mortality predicted to arise from Hornsea Three, this will result in an adverse effect on the site integrity of Coquet Island SPA.

### 3.16 Stage 2 Matrix: Farne Islands SPA

Name of European site: Farne Islands SPA												
Distance to array area: 304 km												
Distance to cable route: 308 km												
European site features	Adverse effect on integrity											
Article 4.2 – Assemblage	Collision			Barrier			Displacement			In-combination		
	C	O	D	C	O	D	C	O	D	C	O	D
Fulmar Fulmarus glacialis								Xa			Xb	

**Evidence supporting conclusions:**

- a. For the assessment on displacement of fulmar see paragraphs 7.5.4.9 – 7.5.4.12 of the RIAA. Fulmar is considered to have a very low vulnerability to displacement from offshore wind farms, being assigned a score of 1 (out of 5) by Wade et al. (2016). Due to the negligible proportion of the Farne Islands SPA population affected by displacement and, the insignificant increase in background mortality it is assessed that there is no adverse effect on the integrity of the fulmar population of the Farne Islands SPA as a result of displacement mortality due to operation and maintenance activities.
- b. For the assessment of in-combination effects from displacement on fulmar see paragraphs 7.7.4.1 – 7.7.4.2 of the RIAA. There is little quantitative information on the potential displacement of fulmar from other wind farm projects that may act in-combination with Hornsea Three. However, Hornsea Three is unlikely to contribute a significant amount of additional mortality relative to the amount that may already occur at projects that may act in-combination. The displacement mortality predicted for Hornsea Three is considered unlikely to materially alter the current in-combination displacement impact for fulmar at the Farne Islands SPA. On this basis, there is no indication that, at the level of mortality predicted to arise from Hornsea Three, this will result in an adverse effect on the site integrity of the Farne Islands SPA.



3.17 Stage 2 Matrix: Norfolk Valley Fens SAC (Annex I habitat)

Name of European site: Norfolk Valley Fens SAC												
Distance to array area: not relevant												
Distance to cable route: 0 km (cable route crosses site)												
SAC Annex I habitat features	Adverse effect on integrity											
	Changes to habitat			Release of contaminants			Invasive species			In combination effects		
	C	O	D	C	C	C	C	O	D	C	O	D
Alkaline fens (Calcium-rich springwater-fed fens)	Xa,b		Xa,b	Xc	Xc	Xc	Xd	Xd	Xd	Xe	Xe	Xe
Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, <i>Alnion incanae</i> , <i>Salicion albae</i> ) (Alder woodland on floodplains)	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf
Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davalliana</i> (Calcium-rich fen dominated by great fen sedge (saw sedge))	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf
European dry heath	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf
Molinia meadows on calcareous, peaty or clayey-silt-laden soils ( <i>Molinion caeruleae</i> ) (Purple moor-grass meadows)	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf
Northern Atlantic wet heaths with <i>Erica tetralix</i> (Wet heathland with cross-leaved heath)	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf

Name of European site: Norfolk Valley Fens SAC												
Semi-natural dry grasslands and scrubland facies: on calcareous substrates ( <i>Festuco-Brometalia</i> ) (Dry grasslands and scrublands on chalk or limestone)	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xf

**Evidence supporting conclusions:**

- a. For the assessment on permanent habitat loss on alkaline fens see paragraphs 8.5.1.10 – 8.5.1.12. The proposed design measures will avoid any permanent habitat loss within the Norfolk Valley Fens SAC. The buried export cables are not likely to impact groundwater flows into the hydrologically linked Blackwater Drain and therefore no adverse effect on site integrity is will occur with respect to the extent, distribution, structure and function of alkaline fens (calcium-rich springwater-fed fens) or to the supporting (physical, chemical or biological) process on which the habitats rely.
- b. For the assessment on temporary disturbance/damage on alkaline fens see paragraphs 8.5.1.13 – 8.5.1.14. The proposed design measures will avoid any temporary disturbance/damage within the Norfolk Valley Fens SAC. and therefore no adverse effect on site integrity will occur with respect to the extent, distribution, structure and function of alkaline fens (calcium-rich springwater-fed fens) or the supporting (physical, chemical or biological) process on which the habitats rely.
- c. For the assessment on accidental pollution on alkaline fens see paragraphs 8.5.1.15 – 8.5.1.17 of the RIAA and paragraphs 8.5.1.20 – 8.5.1.22 of the RIAA for operation/maintenance impacts. The proposed design measures will avoid accidental pollution and the application of pollution control measures will minimise the risk to this Annex I habitat within the Norfolk Valley Fens SAC (see section 8.5 of the RIAA). The employment of an Ecological Clerk of Works (ECoW) will ensure compliance with the PEMMP and therefore no adverse effect on site integrity will occur with respect to the extent, distribution, structure and function of alkaline fens (calcium-rich springwater-fed fens).
- d. For the assessment on INNS on alkaline fens see paragraphs 8.5.1.18 – 8.5.1.19 of the RIAA for construction/decommissioning impacts and paragraphs 8.5.1.23 – 8.5.1.24 of the RIAA for operation/maintenance impacts. The proposed application of a biosecurity protocol will minimise the risk of introducing or spreading invasive non-native plant or animal species within the Norfolk Valley Fens SAC and the employment of an ECoW will ensure compliance with the Outline EMP and CoCP. Therefore, no adverse effect on site integrity will occur with respect to a change in extent, distribution, structure and function of alkaline fens (calcium-rich springwater-fed fens) or to the supporting (physical, chemical or biological) processes on which the habitats rely.
- e. An in combination impact pathway exists between Hornsea Three and Norfolk Vanguard at Booton Common where the two cables routes are roughly perpendicular. Hornsea Three will avoid any direct impact to Booton Common and project design measures will avoid/minimise the risk of any indirect impact, therefore no in combination adverse effect on the integrity on any European or Ramsar site screened into this assessment can be concluded (see Section 8.9).
- f. Habitat feature is not present where it is likely that an impact pathway exists between the Hornsea Three Onshore Cable Corridor and the Norfolk Valley Fens SAC.

### 3.18 Stage 2 Matrix: River Wensum (Annex I habitat)

Name of European site: The River Wensum SAC												
Distance to array area: not relevant												
Distance to cable route: 0 km (cable route crosses site)												
SAC Annex I habitat features	Adverse effect on integrity											
	Changes to habitat			Release of contaminants			Invasive species			In combination effects		
	C	O	D	C	C	C	C	O	D	C	O	D
Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation; Rivers with floating vegetation often dominated by water-crowfoot	Xa,b		Xa,b	Xc	Xc	Xc	Xd	Xd	Xd	Xe	Xe	Xe

#### Evidence supporting conclusion

- For the assessment on permanent habitat loss on alkaline fens see paragraphs 8.5.2.17– 8.5.2.9. The Hornsea Three onshore cable corridor does not spatially overlap with areas of floating vegetation often dominated by water-crowfoot (see section 8.5 of the RIAA). The proposed design and construction measures will avoid any temporary habitat disturbance/damage within the River Wensum SAC. Furthermore, no likely hydrological effects have been identified and therefore no adverse effect on site integrity will occur with respect to the extent, distribution, structure and function of this Annex I habitat within the River Wensum SAC or to the supporting (physical, chemical or biological) processes on which the habitats rely.
- For the assessment on temporary disturbance/damage on alkaline fens see paragraphs 8.5.2.10 – 8.5.2.13. The proposed design and construction measures will avoid any temporary habitat disturbance/damage within the River Wensum SAC and therefore no adverse effect on site integrity will occur with respect to the extent, distribution, structure and function of floating vegetation often dominated by water-crowfoot or the supporting (physical, chemical or biological) processes on which the habitats rely.
- For the assessment on accidental pollution on alkaline fens see paragraphs 8.5.2.14 – 8.5.2.17 of the RIAA and paragraphs 8.5.2.20 – 8.5.1.22 of the RIAA for operation/maintenance impacts. The proposed design measures will avoid accidental pollution and the application of industry best practice (i.e. known effective mitigation) will minimise the residual risk within the River Wensum SAC. The employment of an ECoW will ensure compliance with the Outline EMP and CoCP and therefore no adverse effect on site integrity will occur with respect to the extent, distribution, structure and function of floating vegetation often dominated by water-crowfoot.
- For the assessment on INNS on alkaline fens see paragraphs 8.5.2.18 – 8.5.2.19 of the RIAA for construction/decommissioning impacts and paragraphs 8.5.2.23 – 8.5.1.24 of the RIAA for operation/maintenance impacts. The proposed application of a biosecurity protocol will minimise the risk of introducing or spreading invasive non-native plant or animal species within the River Wensum SAC and the employment of an ECoW will ensure compliance with the Outline EMP and CoCP (see section 8.5 of the RIAA). Therefore, no adverse effect on site integrity will occur with respect to the extent, distribution, structure and function of floating vegetation often dominated by water-crowfoot or to the supporting (physical, chemical or biological) processes on which it relies.
- An in combination impact pathway to the River Wensum SAC is not reasonably foreseeable therefore no adverse effect on site integrity will occur from in-combination impacts (see section 8.9 of the RIAA).

### 3.19 Stage 2 Matrix: North Norfolk Coast SAC (Annex I habitats)

Name of European site: North Norfolk Coast SAC												
Distance to array area: not relevant												
Distance to cable route: 0.32 km												
SAC Annex I habitat features	Adverse effect on integrity											
	Changes to habitat			Release of contaminants			Invasive species			In combination effects		
	C	O	D	C	C	C	C	O	D	C	O	D
Coastal Lagoons	Xa,b		Xa,b	Xc	Xc	Xc	Xd	Xd	Xd	Xe	Xe	Xe
Fixed dunes with herbaceous vegetation (grey dunes. (Dune grassland)	Xa,b		Xa,b	Xc	Xc	Xc	Xd	Xd	Xd	Xe	Xe	Xe
Embryonic shifting dunes	Xa,b		Xa,b	Xc	Xc	Xc	Xd	Xd	Xd	Xe	Xe	Xe
Humid dune slacks	Xa,b		Xa,b	Xc	Xc	Xc	Xd	Xd	Xd	Xe	Xe	Xe
Mediterranean and thermos-Atlantic halophilous scrubs ( <i>Sarcocometea fruticosi</i> ). (Mediterranean saltmarsh scrub).	Xa,b		Xa,b	Xc	Xc	Xc	Xd	Xd	Xd	Xe	Xe	Xe
Perennial vegetation of stony banks. (Coastal shingle vegetation outside the reach of waves)	Xa,b		Xa,b	Xc	Xc	Xc	Xd	Xd	Xd	Xe	Xe	Xe
Shifting dunes along the shoreline with <i>Ammophil arenaria</i> (white dunes). (Shifting dunes with marram)	Xa,b		Xa,b	Xc	Xc	Xc	Xd	Xd	Xd	Xe	Xe	Xe

**Evidence supporting conclusions:**

- For the assessment on permanent habitat loss on annex I habitats see paragraphs 8.5.3.1.No permanent loss of habitats in the North Norfolk Coast SAC will occur during construction/decommissioning/operation and maintenance because of the spatial separation of the Hornsea Three onshore cable corridor and associated infrastructure (see section 8.5 of the RIAA).

- b. For the assessment on temporary disturbance/damage on annex I habitats see paragraphs 8.5.3.1 No temporary disturbance/damage of habitats in the North Norfolk Coast SAC will occur during construction/decommissioning/operation and maintenance because of the spatial separation of the Hornsea Three onshore cable corridor and associated infrastructure.
- c. For the assessment on accidental pollution on annex I habitats see paragraphs 8.5.3.2 of the RIAA. There is no hydrological connection between the Hornsea Three onshore cable corridor and associated infrastructure and the North Norfolk Coast SAC and therefore there is no reasonably foreseeable impact pathway in respect of accidental pollution during construction/decommissioning/operation and maintenance (see section 8.5 of the RIAA).
- d. For the assessment on INNS on annex I habitats see paragraphs 8.5.3.3 of the RIAA. The spatial separation between the Hornsea Three onshore cable corridor and the SAC is sufficiently large that there is no reasonably foreseeable impact pathway for invasive non-native species during construction/decommissioning/operation and maintenance (see section 8.5 of the RIAA).
- e. Hornsea Three is spatially separated from the North Norfolk Coast SAC to the extent that no impact pathway from the project alone has been identified. Therefore, there is no pathway for effect for an in-combination effect.

### 3.20 Stage 2 Matrix: North Norfolk Coast Ramsar

Name of European site: North Norfolk Coast Ramsar												
Distance to array area: not relevant												
Distance to cable route: 0.32 km												
SAC Annex I habitat features	Adverse effect on integrity											
	Changes to habitat			Release of contaminants			Invasive species			In combination effects		
	C	O	D	C	C	C	C	O	D	C	O	D
Tidal flats	Xa,e		Xa,e	Xb,e	Xb,e	Xb,e	Xc,e	Xc,e	Xc,e	Xd,e	Xd,e	Xd,e
Salt marshes	Xa,e		Xa,e	Xb,e	Xb,e	Xb,e	Xc,e	Xc,e	Xc,e	Xd,e	Xd,e	Xd,e
Freshwater marshes / pools: permanent	Xa,e		Xa,e	Xb,e	Xb,e	Xb,e	Xc,e	Xc,e	Xc,e	Xd,e	Xd,e	Xd,e
Sand / shingle shores (including dune systems)	Xa,e		Xa,e	Xb,e	Xb,e	Xb,e	Xc,e	Xc,e	Xc,e	Xd,e	Xd,e	Xd,e
Coastal brackish / saline lagoons	Xa,e		Xa,e	Xb,e	Xb,e	Xb,e	Xc,e	Xc,e	Xc,e	Xd,e	Xd,e	Xd,e

**Evidence supporting conclusions:**

- For the assessment on permanent habitat loss on annex I habitats see paragraphs 8.5.4.8. No permanent loss or temporary disturbance/damage of habitats in the North Norfolk Coast SAC will occur during construction/decommissioning/operation and maintenance because of the spatial separation of the Hornsea Three onshore cable corridor and associated infrastructure (see section 8.5 of the RIAA).
- For the assessment on temporary disturbance/damage on annex I habitats see paragraphs 8.5.4.9. No temporary disturbance/damage of habitats in the North Norfolk Coast Ramsar will occur during construction/decommissioning/operation and maintenance because of the spatial separation of the Hornsea Three onshore cable corridor and associated infrastructure.
- For the assessment on accidental pollution on annex I habitats see paragraphs 8.5.4.10 of the RIAA. There is no hydrological connection between the Hornsea Three onshore cable corridor and associated infrastructure and the North Norfolk Coast Ramsar and therefore there is no reasonably foreseeable impact pathway in respect of accidental pollution during construction/decommissioning/operation and maintenance (see section 8.5 of the RIAA).
- For the assessment on INNS on annex I habitats see paragraphs 8.5.4.11 of the RIAA. The spatial separation between the Hornsea Three onshore cable corridor and the Ramsar site is sufficiently large that there is no reasonably foreseeable impact pathway for invasive non-native species during construction/decommissioning/operation and maintenance (see section 8.5 of the RIAA).
- Hornsea Three is spatially separated from the North Norfolk Coast Ramsar to the extent that no impact pathway from the project alone has been identified. Therefore, there is no pathway for effect for an in-combination effect.



### 3.21 Stage 2 Matrix: Norfolk Valley Fens (Annex II species)

Name of European site: Norfolk Valley Fens SAC												
Distance to array area: not relevant												
Distance to cable route: 0 km (cable route crosses site)												
SAC Annex I habitat features	Adverse effect on integrity											
	Changes to habitat			Release of contaminants			Invasive species			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Desmoulin's whorl snail <i>Vertigo moulinsiana</i>	Xa,b		Xa,b	Xc	Xc	Xc	Xd	Xd	Xd	Xe	Xe	Xe
Narrow-mouthed whorl snail <i>Vertigo angustor</i>	Xa,b		Xa,b	Xc	Xc	Xc	Xd	Xd	Xd	Xe	Xe	Xe

#### Evidence supporting conclusions

- For the assessment of permanent habitat loss on desmoulin's whorl snail / narrow-mouthed whorl snail see paragraphs 8.6.2.4 – 8.6.2.6 of the RIAA. The proposed design measures will avoid any permanent habitat loss within the Norfolk Valley Fens SAC. HDD is not likely to impact groundwater flows into the hydrologically linked Blackwater Drain and therefore no adverse effect on site integrity will occur with respect to the extent and distribution of the Annex II species and the extent, distribution, structure and function of their supporting habitats.
- For the assessment of temporary disturbance/damage on desmoulin's whorl snail / narrow-mouthed whorl snail see paragraphs 8.6.2.7 – 8.6.2.11 of the RIAA. The proposed design measures will avoid any temporary habitat disturbance/damage within the Norfolk Valley Fens SAC. No adverse effect on site integrity will therefore occur with respect to the extent and distribution of the Annex II species and the extent, distribution, structure and function of their supporting habitats.
- For the assessment of accidental pollution loss on desmoulin's whorl snail / narrow-mouthed whorl snail see paragraphs 8.6.2.12 – 8.6.2.15 of the RIAA for construction/decommissioning and paragraphs 8.6.2.18 – 8.6.2.19 for operation/maintenance impacts. The proposed design measures will avoid accidental pollution and the application of pollution control measures will minimise the residual risk within the Norfolk Valley Fens SAC. The employment of an ECoW will ensure compliance with the Outline EMP and CoCP and therefore no adverse effect on site integrity will occur with respect to the extent and distribution of the Annex II species and the extent, distribution, structure and function of their supporting habitats.
- For the assessment of INNS on desmoulin's whorl snail / narrow-mouthed whorl snail see paragraphs 8.6.2.16 – 8.6.2.17 of the RIAA for construction/decommissioning and paragraphs 8.6.2.20 – 8.6.2.21 for operation/maintenance impacts. The proposed application of a biosecurity protocol will minimise the risk of introducing or spreading invasive non-native plant or animal species within the Norfolk Valley Fens SAC and the employment of an ECoW will ensure compliance with the Outline EMP and CoCP. Therefore no adverse effect on site integrity will occur with respect to the extent and distribution of the Annex II species and the extent, distribution, structure and function of their supporting habitats.
- An in combination impact pathway exists between Hornsea Three and Norfolk Vanguard at Booton Common where the two cables routes are roughly perpendicular (see section 8.9 of the RIAA). Hornsea Three will avoid any direct impact to Booton Common and the results of surveys undertaken in 2017 identified the likely absence of Desmoulin's whorl snail and narrow-mouthed whorl snail from the Hornsea Three onshore cable corridor. Therefore no adverse effect on site integrity will occur from an in-combination effect with respect to the extent and distribution of the Annex II species and the extent, distribution, structure and function of their supporting habitats.

### 3.22 Stage 2 Matrix: River Wensum SAC (Annex II species)

Name of European site: The River Wensum SAC												
Distance to array area: not relevant												
Distance to cable route: 0 km (cable route crosses site)												
SAC Annex I habitat features	Adverse effect on integrity											
	Changes to habitat			Release of contaminants			Invasive species			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Desmoulin's whorl snail <i>Vertigo moulinsiana</i>	Xa,b		Xa,b	Xc	Xc	Xc	Xd	Xd	Xd	Xe	Xe	Xe
White-clawed crayfish <i>Austropotamobius pallipes</i>	Xa,b		Xa,b	Xc	Xc	Xc	Xd	Xd	Xd	Xe	Xe	Xe
Brock lamprey <i>Lampetra planeri</i>	Xa,b		Xa,b	Xc	Xc	Xc	Xd	Xd	Xd	Xe	Xe	Xe
Bullhead <i>Cottus gobio</i>	Xa,b		Xa,b	Xc	Xc	Xc	Xd	Xd	Xd	Xe	Xe	Xe

#### Evidence supporting conclusions:

- For the assessment of permanent habitat loss see paragraphs 8.6.3.6 – 8.6.3.8 of the RIAA. The proposed design measures (i.e. HDD or other trenchless technology) will avoid any permanent habitat loss within the River Wensum SAC for Desmoulin's whorl snail, white-clawed crayfish, brook lamprey and bullhead. Furthermore, no likely hydrological effects have been identified that may impact the water levels within the River Wensum that support white-clawed crayfish, brook lamprey and bullhead or adjacent wet habitats supporting Desmoulin's whorl snail. On this basis no adverse effect on site integrity will occur with respect to the extent and distribution of the Annex II species and the extent, distribution, structure and function of their supporting habitats.
- For the assessment of temporary habitat disturbance/damage see paragraphs 8.6.3.6 – 8.6.3.8 of the RIAA. The proposed design measures will avoid any temporary habitat disturbance/damage within the River Wensum SAC that supports white-clawed crayfish, brook lamprey and bullhead and minimise effects to adjacent wet habitats supporting Desmoulin's whorl snail. On this basis no adverse effect on site integrity will occur with respect to the extent and distribution of the Annex II species and the extent, distribution, structure and function of their supporting habitats.
- For the assessment of accidental pollution see paragraphs 8.6.3.15 – 8.6.3.18 of the RIAA for construction/decommissioning and paragraphs 8.6.2.21 – 8.6.2.23 for operation/maintenance impacts. The proposed design measures will avoid accidental pollution and the application of pollution control measures will minimise the residual risk within the River Wensum SAC and adjacent wet habitats. The employment of an ECoW will ensure compliance with the Outline EMP and CoCP and therefore no adverse effect on site integrity will occur with respect to the extent and distribution of the Annex II species and the extent, distribution, structure and function of their supporting habitats.
- For the assessment of INNS on desmoulin's whorl snail / narrow-mouthed whorl snail see paragraphs 8.6.2.19 – 8.6.2.20 of the RIAA for construction/decommissioning and paragraphs 8.6.2.24 – 8.6.2.25 for operation/maintenance impacts. The proposed application of a biosecurity protocol will minimise the risk of introducing or spreading invasive non-native plant or animal species within the River Wensum SAC and adjacent wet habitats and the employment of an ECoW will ensure compliance with the Outline EMP and CoCP. Therefore no adverse effect on site integrity will occur with respect to the extent and distribution of the Annex II species and the extent, distribution, structure and function of their supporting habitats.
- An in-combination impact pathway to the River Wensum SAC is not reasonably foreseeable therefore no adverse effect on site integrity will occur from in-combination impacts (see section 8.9 of the RIAA).



### 3.23 Stage 2 Matrix: North Norfolk Coast SAC (Annex II species)

Name of European site: North Norfolk Coast SAC												
Distance to array area: not relevant												
Distance to cable route: 0.32 km												
SAC Annex I habitat features	Adverse effect on integrity											
	Changes to habitat			Release of contaminants			Invasive species			In combination effects		
	C	O	D	C	O	D	C	O	D	C	O	D
Otter <i>Lutra lutra</i>	Xa,b,c		Xa,b,c	Xd	Xd	Xd	Xe	Xe	Xe	Xg	Xg	Xg
Petalwort <i>Petalophyllum ralfsii</i>	Xf		Xf	Xf	Xf	Xf	Xf	Xf	Xf	Xg	Xg	Xg

Evidence supporting conclusions:

- For the assessment of permanent habitat loss on otter see paragraphs 8.6.4.5 – 8.6.4.7 of the RIAA. The proposed design and pre-construction measures will avoid permanent habitat loss or temporary disturbance/damage in the North Norfolk Coast SAC and minimise habitat loss or temporary disturbance/damage in functionally linked land associated with the otter population of the North Norfolk Coast SAC. Furthermore, the construction measures will effectively minimise habitat fragmentation. Therefore no adverse effect on site integrity will occur with respect to the with respect to the extent and distribution of the Annex II species and the extent, distribution, structure and function of their supporting habitats.
- For the assessment of temporary habitat disturbance/damage see paragraphs 8.6.4.8 – 8.6.4.13 of the RIAA. The proposed design and construction measures will avoid any temporary habitat disturbance/damage within the North Norfolk Coast SAC and avoid and minimise any habitat disturbance/damage to any functionally linked land. Therefore no adverse effect on site integrity will occur with respect to the with respect to the extent and distribution of the Annex II species and the extent, distribution, structure and function of their supporting habitats.
- For the assessment of habitat fragmentation on otter see paragraphs 8.6.4.14 – 8.6.4.16 of the RIAA. The proposed design and pre-construction measures will avoid permanent habitat loss in the North Norfolk Coast SAC and in functionally linked land associated with the otter population of the North Norfolk Coast SAC. Furthermore, the construction measures will effectively minimise habitat fragmentation. Therefore, no adverse effect on site integrity will occur with respect to the extent and distribution of the Annex II species and the extent, distribution, structure and function of their supporting habitats.
- For the assessment of accidental pollution on otter see paragraphs 8.6.4.17 – 8.6.4.19 of the RIAA for construction/decommissioning and paragraphs 8.6.2.22 – 8.6.2.24 for operation/maintenance impacts. The proposed design measures will avoid accidental pollution and the application of pollution control measures will minimise the residual risk within the North Norfolk Coast SAC. The employment of an ECoW will ensure compliance with the Outline EMP and CoCP and therefore no adverse effect on site integrity will occur with respect to the extent and distribution of the Annex II species and the extent, distribution, structure and function of their supporting habitats.
- For the assessment of INNS on otter see paragraphs 8.6.4.20 – 8.6.2.21 of the RIAA. The proposed application of a biosecurity protocol will minimise the risk of introducing or spreading invasive non-native plant or animal species within the North Norfolk Coast SAC and the employment of an ECoW will ensure compliance with the Outline EMP and CoCP. Therefore no adverse effect on site integrity will occur with respect to a change in extent, distribution, structure and function of alkaline fens (calcium-rich springwater-fed fens) or to the supporting (physical, chemical or biological) processes on which the habitats rely.
- The permanent and temporary footprint of the Hornsea Three onshore cable elements as well as compounds and storage areas are spatially separated (0.32 km) from the North Norfolk Coast SAC, and therefore from any suitable sand dune habitat for petalwort within; the nearest sand dunes of any type being approximately 9 km west at Blakeney Point. The spatial separation between the Hornsea Three onshore cable corridor and the SAC is sufficiently large to exclude reasonably foreseeable impact pathways in relation to invasive non-native species and hydrological changes. Therefore, no adverse effect on site integrity will occur for construction/decommissioning and operation in respect of habitat loss and disturbance or damage to petalwort.

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- g. No impact pathway for in-combination effects has been identified (see section 8.9 of the RIAA).

### 3.24 Stage 2 Matrix: North Norfolk Coast SPA

Name of European site: North Norfolk Coast SPA												
Distance to array area: 128 km												
Distance to cable route: 0.32 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Release of contaminants			Invasive species			In-combination		
Article 4.2 – Migratory (Over winter)	C	O	D	C	O	D	C	O	D	C	O	D
	Pink-footed Goose <i>Anser brachyrhynchus</i>	Xa, b, c	Xf	Xa, b, c	Xd	Xd	Xd	Xe	Xe	Xe	Xg	Xg

#### Evidence supporting conclusions:

- For the assessment of permanent habitat loss on pink-footed goose see paragraphs 8.7.2.1 – 8.7.2.4 of the RIAA. The proposed route of the Hornsea Three onshore cable corridor will avoid permanent habitat loss within the North Norfolk Coast SPA site and the permanent footprint within the functional linked land area is not likely to be significant with respect to the total land area of functionally linked sugar beet land available. Therefore, no adverse effect on site integrity will occur with respect to the population and distribution of the pink-footed goose.
- For the assessment of temporary habitat loss on pink-footed goose see paragraphs 8.7.2.5 – 8.7.2.6 of the RIAA. No adverse effect on site integrity will occur from temporary habitat loss with respect to the population and distribution of pink-footed goose because of the known mobility of this species in response to changes in food availability. As such this highly mobile species has the capacity to take advantage of food resources within a wide area including sugar beet fields beyond the area influenced by the Hornsea Three onshore cable corridor.
- For the assessment of temporary disturbance on pink-footed goose see paragraphs 8.7.2.7 – 8.7.2.19 of the RIAA. If construction works take place outside November and January inclusive, there will be no disturbance impact pathway on pink-footed goose and there will be no adverse effect on site integrity. If construction works take place on functionally linked sugar beet fields between November and January inclusive, the application of a pink-footed goose mitigation plan, together with industry best practice guidance in respect of light and noise mitigation measures, will avoid or minimise the risk of disturbance to functionally linked sugar beet fields used for foraging. Therefore no adverse effect on site integrity will occur with respect to the population and distribution of the qualifying features.
- For the assessment of accidental pollution on pink-footed goose see paragraph 8.7.2.20 – 8.7.2.22 of the RIAA for construction/decommissioning impacts and paragraphs 8.7.2.28 – 8.7.2.30 for operation/maintenance impacts. The proposed design measures will avoid accidental pollution and the application pollution control measures will minimise the residual risk within the functionally linked sugar beet fields. The employment of an ECoW will ensure compliance with the Outline EMP and CoCP and therefore no adverse effect on site integrity will occur with respect to the population and distribution of the qualifying features, the physical, chemical or biological supporting processes associated with the site and which help to support and sustain its qualifying features and the extent, distribution, structure and function of their supporting habitats and the extent, distribution, structure and function of their supporting habitats.
- For the assessment of INNS on pink-footed goose see paragraph 8.7.2.23 – 8.7.2.24 of the RIAA. The proposed application of a biosecurity protocol will minimise the risk of introducing or spreading invasive non-native plant or animal species within the functionally linked sugar beet fields and adjacent wet habitats and the employment of an ECoW will ensure compliance with the Outline EMP and CoCP. Therefore, no adverse effect on site integrity will occur with respect to the population and distribution of the qualifying features, the supporting process and the extent, distribution, structure and function of their supporting habitats.
- For the assessment of temporary habitat loss/disturbance during operation on pink-footed goose see paragraphs 8.7.2.25 – 8.7.2.27 of the RIAA. The proposed design and operational measures will avoid any temporary habitat loss and disturbance within the North Norfolk Coast SPA site and avoid or minimise temporary habitat loss and disturbance in functionally linked sugar beet fields used for foraging. Taking into account the proposed mitigation and the fact that the majority of pink-footed geese were recorded more than 500m from the Hornsea Three onshore cable corridor, no adverse effect on site integrity will occur with respect to the population and distribution of pink-footed goose.
- No impact pathway has been identified between impacts from Hornsea Three alone and other developments on functionally linked habitats of the North Norfolk Coast SPA (see section 8.9 of the RIAA).

### 3.25 Stage 2 Matrix: North Norfolk Coast Ramsar

Name of European site: North Norfolk Coast Ramsar												
Distance to array area: 128 km												
Distance to cable route: 0.32 km												
European site features	Likely Effects of Hornsea Three											
	Changes to habitat			Release of contaminants			Invasive species			In-combination		
Article 4.2 – Migratory (Over winter)	C	O	D	C	O	D	C	O	D	C	O	D
	Pink-footed Goose <i>Anser brachyrhynchus</i>	Xa, b, c	Xf	Xa, b, c	Xd	Xd	Xd	Xe	Xe	Xe	Xg	Xg

#### Evidence supporting conclusions:

- For the assessment of permanent habitat loss on pink-footed goose see paragraphs 8.7.2.1 – 8.7.2.4 of the RIAA. The proposed route of the Hornsea Three onshore cable corridor will avoid permanent habitat loss within the North Norfolk Coast Ramsar site and the permanent footprint within the functional linked land area is not likely to be significant with respect to the total land area of functionally linked sugar beet land available. Therefore no adverse effect on site integrity will occur with respect to the population and distribution of the pink-footed goose.
- For the assessment of temporary habitat loss on pink-footed goose see paragraphs 8.7.2.5 – 8.7.2.6 of the RIAA. No adverse effect on site integrity will occur due to temporary habitats loss with respect to the population and distribution of pink-footed goose because of the known mobility of this species in response to changes in food availability. As such this highly mobile species has the capacity to take advantage of food resources within a wide area including sugar beet fields beyond the area influenced by the Hornsea Three onshore cable corridor.
- For the assessment of temporary disturbance on pink-footed goose see paragraphs 8.7.2.7 – 8.7.2.19 of the RIAA. If construction works take place outside November and January inclusive, there will be no disturbance impact pathway on pink-footed goose and there will be no adverse effect on site integrity. If construction works take place on functionally linked sugar beet fields between November and January inclusive, the application of a pink-footed goose mitigation plan, developed with and approved by Natural England, together with industry best practice guidance in respect of light and noise mitigation measures, will avoid or minimise the risk of disturbance to functionally linked sugar beet fields used for foraging. Therefore no adverse effect on site integrity will occur with respect to the population and distribution of the qualifying features.
- For the assessment of accidental pollution on pink-footed goose see paragraph 8.7.2.20 – 8.7.2.22 of the RIAA for construction/decommissioning impacts and paragraphs 8.7.2.28 – 8.7.2.30 for operation/maintenance impacts. The proposed design measures will avoid accidental pollution and the application pollution control measures will minimise the residual risk within the functionally linked sugar beet fields. The employment of an ECoW will ensure compliance with the Outline EMP and CoCP and therefore no adverse effect on site integrity will occur with respect to the population and distribution of the qualifying features, the supporting process and the extent, distribution, structure and function of their supporting habitats.
- For the assessment of INNS on pink-footed goose see paragraph 8.7.2.23 – 8.7.2.24 of the RIAA. The proposed application of a biosecurity protocol will minimise the risk of introducing or spreading invasive non-native plant or animal species within the functionally linked sugar beet fields and adjacent wet habitats and the employment of an ECoW will ensure compliance with the Outline EMP and CoCP. Therefore no adverse effect on site integrity will occur with respect to the population and distribution of the qualifying features, the supporting process and the extent, distribution, structure and function of their supporting habitats.
- For the assessment of temporary habitat loss/disturbance during operation on pink-footed goose see paragraphs 8.7.2.25 – 8.7.2.27 of the RIAA. The proposed design and operational measures will avoid any temporary habitat loss and disturbance within the North Norfolk Coast Ramsar site and avoid or minimise temporary habitat loss and disturbance in functionally linked sugar beet fields used for foraging. Taking into account the proposed mitigation and the fact that the majority of pink-footed geese were recorded more than 500m from the Hornsea Three onshore cable corridor, no adverse effect on site integrity will occur with respect to the population and distribution of pink-footed goose.
- No impact pathway has been identified between impacts from Hornsea Three alone and other developments on functionally linked habitats of the North Norfolk Coast Ramsar (see section 8.9 of the RIAA).