

# REPORT on the IMPLICATIONS for EUROPEAN SITES Proposed Yorkshire and Humber CCS Cross Country Pipeline

An Examining Authority report prepared with the support  
of the Environmental Services Team



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Report on the Implications for European Sites for the  
Yorkshire and Humber CCS Cross Country Pipeline

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## 1.0 INTRODUCTION

### Background

- 1.1 National Grid Carbon Ltd (the applicant) has applied to the Secretary of State for a development consent order (DCO) under section 37 of the Planning Act 2008 (as amended) (PA2008) for the proposed Yorkshire and Humber CCS Cross Country Pipeline (the application). The Secretary of State has appointed an Examining Authority (ExA) to conduct an examination of the application, to report its findings and conclusions, and to make a recommendation to the Secretary of State as to the decision to be made on the application.
- 1.2 The relevant Secretary of State is the competent authority for the purposes of the Habitats Directive<sup>1</sup> and the Habitats Regulations<sup>2</sup> and the Offshore Marine Regulations<sup>3</sup> for applications submitted under the PA2008<sup>4</sup>. The findings and conclusions on nature conservation issues reported by the ExA will assist the Secretary of State in performing their duties under the Habitats Regulations.
- 1.3 This report compiles, documents and signposts information provided within the DCO application, and the information submitted throughout the examination by both the applicant and interested parties in relation to potential effects to European Sites<sup>5</sup>. The Report on the Implications for European Sites (RIES) includes information submitted up to and including Deadline 4 of the examination (4 March 2015) and makes reference to examination documents in the Planning Inspectorate's document library where each document is identified by a unique reference number<sup>6</sup>. This RIES is not a standalone document and should be read in conjunction with the documents referred to in this report.

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<sup>1</sup> Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (as codified) (the 'Habitats Directive').

<sup>2</sup> The Conservation of Habitats and Species Regulations 2010 (as amended) (the 'Habitats Regulations').

<sup>3</sup> The Offshore Marine Conservation (Natural Habitats, &c) Regulations 2007 (as amended) (the Offshore Marine Regulations) apply beyond UK territorial waters (12 nautical miles). These regulations are relevant when an application is submitted for an energy project in a renewable energy zone (except any part in relation to which the Scottish Ministers have functions).

<sup>4</sup> The application to be submitted under the PA2008 forms the onshore scheme of a larger National Grid project named 'The Yorkshire and Humber CCS Transportation and Storage Project'. The proposed onshore scheme subject to the DCO is applicable only to mean low water spring mark. The remainder of the National Grid project is an offshore scheme which will be subject to a separate consenting regime under the Petroleum Act 1998 and the Energy Act 2008 (as amended). See section 2 of this RIES for further details.

<sup>5</sup> The term European Sites in this context includes Special Areas of Conservation (SACs) and candidate SACs, Special Protection Areas (SPAs), potential SPAs, Sites of Community Importance (SCIs), Ramsar sites, and any sites identified as compensatory measures for adverse effects on any of the above. For a full description of the designations to which the Habitats Regulations apply, and/ or are applied as a matter of Government policy, see PINS Advice Note 10 and the Habitats Regulations Assessment Handbook (DTA Publications July 2014).

<sup>6</sup> The Examination Library is an internal Planning Inspectorate document compiled to record all documents submitted with the application and throughout the examination. This document will be submitted to the Secretary of State as part of the ExA's Recommendation Report.

- 1.4 The RIES is issued to ensure that interested parties, including Natural England (NE) as the statutory nature conservation body (SNCB), are consulted formally on Habitats Regulations matters. This process may be relied on by the Secretary of State for the purposes of Regulation 61(3) of the Habitats Regulations and Regulation 25 of the Offshore Marine Regulations. Following consultation the responses will be considered by the ExA in making their recommendation to the Secretary of State and made available to the Secretary of State along with this report. The RIES will not be revised following consultation.
- 1.5 The applicant has not identified any potential impacts on European sites in other EEA member States<sup>7</sup> in any of their application documents. Only UK European sites are addressed in this report.

## Documents used to inform this RIES

- 1.6 The applicant submitted a No Significant Effects Report (NSER) as part of the DCO application, comprising a main report **[AD-191]**<sup>8</sup> and appendices to the NSER **[AD-192]**.
- 1.7 The applicant's original documents were updated and superseded by NSER Revision B **[PSC-014]** which was submitted during the pre-examination phase and accepted by the Examining Authority at the preliminary meeting. References to 'the NSER' in this RIES are to Revision B of the document.
- 1.8 At Deadline 1 (18 December 2014), the applicant submitted revised Habitats Regulations Assessment (HRA) Screening Matrices **[REP1-064]** to supersede those submitted as part of the appendices to NSER Revision B.
- 1.9 A complete list of documents used to inform this RIES is provided in **Annex 1** of this document.

## Structure of this RIES

- 1.10 The remainder of this report is as follows:
  - **Section 2** identifies the European sites that have been considered within the DCO application and during the examination period, up to and including Deadline 4 of the examination (4 March 2015). It provides an overview of the issues that have emerged in relation to HRA during the examination.

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<sup>7</sup> European Economic Association (EEA) States.

<sup>8</sup> The references provided within the RIES refer to those documented in the Examination Library, an internal Planning Inspectorate document compiled to record all documents submitted with the application and throughout the examination. The Examination Library will be submitted to the Secretary of State with the Recommendation Report. Please refer to Annex 1 of this document to identify the full name of the document that the references relate to.

- **Section 3** identifies the European sites and qualifying features screened by the applicant for potential likely significant effect (LSE), either alone or in-combination with other projects and plans in their application documents ('the Stage 1 assessment'). The section also identifies where Interested Parties have disputed the applicant's conclusions, together with any additional European sites and qualifying features screened for potential LSE during the examination.
- **Section 4** identifies the European sites and qualifying features for which there has been consideration in terms of adverse effects on site integrity, either alone or in-combination with other projects and plans ('the Stage 2 assessment').

1.11 In addition, the following are provided as annexes to the RIES:

- **Annex 1** provides a complete list of application and examination documents used to inform the RIES.
- **Annex 2** provides a list of European Sites and their qualifying features that were screened into the HRA by the Applicant and considered as part of the DCO application.

## 2.0 OVERVIEW

### The Application

- 2.1 As detailed in section 1.2 of the applicant's NSER **[PSC-014]**, the application is for a carbon dioxide transportation and storage system to support the provision of carbon capture and storage (CCS) technology in the Yorkshire and Humber Region. It forms part of a larger project which in its entirety is named by the applicant as 'The Yorkshire and Humber CCS Transportation and Storage Project' which would transport carbon dioxide captured from power stations in the region to a permanent geological storage site beneath the North Sea. It would comprise:
- a cross country pipeline – referred to as the 'onshore scheme' and for which a DCO is being applied for under the PA2008 (i.e. a Nationally Significant Infrastructure Project (NSIP) application). This is the application to which this RIES relates; and
  - a sub-sea pipeline – the 'offshore scheme' which will be subject to a separate consenting regime under the Petroleum Act 1998 and the Energy Act 2008 (as amended) (paragraph 2.1.1 of **[AD-173]**).
- 2.2 The onshore scheme is described in Chapter 3 of the ES **[AD-091]** and summarised in sections 4.2 – 4.6 of the NSER **[PSC-014]**. It would comprise:
- a new buried welded steel high pressure cross country pipeline of approximately 74km in length from the proposed White Rose CCS Project at Drax, near Selby to the Mean Low Water Spring Mark on the Holderness Coast north of Barmston; and
  - associated pipeline infrastructure, including a pipeline intelligent gauge (PIG) trap adjacent to the White Rose CCS Project, a multi-junction near Camblesforth, three block valves at Tollingham, South Dalton and Skerne and a pumping station to the north of Barmston.
- 2.3 An outline of the offshore scheme is provided in Chapter 21 of the ES **[AD-173]** and section 4.8 of the NSER **[PSC-014]**. It comprises a c.90km concrete coated carbon steel pipeline from the Mean Low Water Spring Mark on the Holderness Coast (at the extent of the onshore scheme) to a permanent geological storage site beneath the southern North Sea (including related infrastructure such as wells, platforms, power generation facilities and a normally unmanned installation (NUI)).
- 2.4 The onshore and offshore schemes are illustrated in Figures 1 and 2 (page 51) of the NSER **[PSC-014]** respectively.



- 2.5 The applicant considered the potential for in-combination effects of the onshore scheme with the offshore scheme in the 'Statement of Combined Effects' (Chapter 21 of the ES **[AD-173]**). This is discussed further in the following sections of this RIES.

## European Sites Considered

- 2.6 The project is not connected with or necessary to the management for nature conservation of any of the European sites considered within the applicant's assessment (page 45 of **[REP3-012]**).
- 2.7 Paragraph 5.2.1 of the NSER **[PSC-014]** confirms that *'there are no Natura 2000 sites within the Application Boundary of the Onshore Scheme. Therefore the Onshore Scheme will not result in the direct loss, temporary or permanent of any habitat within the boundary of a Natura 2000 site'*.
- 2.8 Paragraph 5.3.17 **[PSC-014]** describes that a distance of 15km from the application site boundary is selected in defining those European sites for consideration in the assessment, in addition to those European sites which were "upstream" and "downstream". A 15km buffer is also defined by the applicant such that European sites which have locally mobile interest features are included as part of the assessment.
- 2.9 The applicant's NSER identified the following UK based European sites for inclusion within the assessment (Table 5.2 of **[PSC-014]**):
- Humber Estuary SPA;
  - Humber Estuary SAC;
  - Humber Estuary Ramsar site;
  - River Derwent SAC;
  - Lower Derwent Valley SAC;
  - Lower Derwent Valley SPA;
  - Lower Derwent Valley Ramsar site;
  - Skipwith Common SAC;
  - Thorne and Hatfield Moors SPA;
  - Thorne Moor SAC;
  - Flamborough Head SAC;
  - Flamborough Head and Bempton Cliffs SPA;

- Flamborough Head and Filey Coast potential SPA (pSPA)<sup>9</sup>; and
  - Hornsea Mere SPA.
- 2.10 Annex 2 of this RIES outlines the qualifying features for these European sites, as defined by the applicant in Table 5.3 of the NSER **[PSC-014]** and appendix 5.4.3 of the NSER **[PSC-015]**.
- 2.11 In response to the ExA's first written questions (question 3.24 of **[PD-006]**), NE confirmed that they agree with the European sites and features that have been considered regarding the onshore element of the scheme. However, NE stated that further information was required in order to determine whether the offshore element of the scheme outside the scope of the DCO would have an adverse effect on the integrity of European sites **[REP1-026]** (see section 3 of this RIES for further details).
- 2.12 In relation to European sites to be considered in the assessment, NE additionally identified the Wash and North Norfolk Coast SAC as a site that could be affected on the basis that the installation, operation and decommissioning of the NUI (of the offshore scheme) may impact on harbour seal as a qualifying feature (paragraph 5.1.17 of **[REP1-026]**). In response, the applicant provided a document entitled 'Project Habitat Regulations Assessment Report' **[REP2-019]** at Deadline 2 (see paragraph 3.24 of this RIES for further details) which gave consideration to all of the European sites identified in paragraph 2.9 of this RIES as well as the Wash and North Norfolk Coast SAC, and the site is therefore also presented in Annex 2 of this RIES.
- 2.13 No other interested parties raised any queries in respect of the European sites and features that have been considered in the assessment.

## HRA Matters Considered During the Examination

- 2.14 The applicant concluded within the NSER **[AD-191]** that there would be no LSE on all European sites considered in their assessment.

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<sup>9</sup> The Flamborough Head and Filey Coast pSPA was identified in the applicant's original NSER **[AD-191]**. After the application was accepted for examination on 16 July 2014, the Planning Inspectorate brought to the applicant's attention (through provision of advice under section 51 of the PA2008) that a formal consultation was being held by NE on the designation of the Flamborough and Filey Coast pSPA. In response, the applicant submitted the following documents prior to the commencement of the examination on 19 November 2014:

- NSER Revision B **[PSC-014]**, updating the original version of the NSER to consider the pSPA, and
- Appendices to NSER Revision B **[PSC-015]** updating the original version of the NSER appendices and also including an additional appendix document which was not included as part of the original application:
  - Appendix 5.4.12: Flamborough Head pSPA Offshore Usage

These documents were accepted for examination by the ExA at the preliminary meeting **[EV-002]** and interested parties were given the opportunity to comment on these submissions at examination Deadline 1.

- 2.15 NE confirmed that they agreed with the content and conclusions of the screening matrices presented in respect of the onshore scheme **[REP1-026]**. However, in their relevant and written representations **[RR-05]** and **[REP1-026]**, NE stated that further information was required from the applicant in respect of the offshore scheme and potential in-combination effects with the onshore scheme. It stated that *“with some uncertainty as to the detail of the offshore pipeline construction and potential impacts on designated sites, we do not consider that sufficient information has been made available in order to determine that likely significant effects of the offshore element of the scheme can be ruled out, either alone or in-combination with other plans and projects”* (paragraph 6.2.1 of **[REP1-026]**).
- 2.16 In terms of HRA, the examination to date has therefore focussed on the concerns of NE in respect of the potential in-combination effects between the onshore scheme and the offshore scheme. The applicant submitted information regarding the offshore scheme at Deadline 2<sup>10</sup>. In these documents, the applicant agreed in Stage 1 of their assessment that a LSE could not be ruled out for some European sites when the onshore scheme was considered in-combination with the offshore scheme. However, the applicant subsequently ruled out an adverse effect on integrity on all European sites in Stage 2 of their assessment. This is discussed further in sections 3 and 4 of this RIES.

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<sup>10</sup> See paragraph 3.24 of this RIES for further details.

## 3.0 LIKELY SIGNIFICANT EFFECTS

### Determination of LSE

#### Overview of applicant's screening methodology

- 3.1 The applicant's approach to the HRA process is outlined in section 2 of the NSER [PSC-014]. The applicant outlined how they determined LSE by applying a source-pathway-receptor approach (paragraphs 3.1.4 – 3.1.6 of [PSC-014]), although no statement was provided about how a 'significant effect' is defined. Paragraph 2.1.1 of the NSER [PSC-014] states that the HRA methodology "takes cognisance" of the EC Guidance document: 'Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (2000)'<sup>11</sup>.
- 3.2 Section 3 and Figures 3 and 4 of the NSER outline the staged approach to the screening of European Sites and their interest features into the HRA, based on the existence of a potential pathway of effects and the qualifying features of the European Sites. Where such linkages exist, the sensitivity of the interest feature to the source of effect is taken into account (paragraph 3.1.6 of [PSC-014]) as well as potential mitigation measures.
- 3.3 The applicant's screening stages are briefly detailed below.
- *Screening stage 1a* - are any sites within the application boundary of the onshore scheme? (see section 5.2 of [PSC-014]);
  - *Screening stage 1ba* - determining the possible sources of potential effects (summarised in Table 5.1 of [PSC-014]);
  - *Screening stage 1bb* - does an effect pathway exist between the onshore scheme and a Natura 2000 site? (summarised in Table 5.2 of [PSC-014] and Table 3.1 of this RIES);
  - *Screening stage 1bc* - does a mechanism for effect exist between the onshore scheme and sites interest features? (summarised in Tables 5.4, 5.5 and 9.1 of [PSC-014]);
  - *Screening stage 1c* - can the effect be avoided? (summarised in Table 6.1 of [PSC-014]);
  - *Screening stage 1d* - can the effect be reduced/mitigated? (summarised in Table 7.1 of [PSC-014]);
  - *Screening stage 1e* – would the onshore scheme have a significant effect alone? (see section 7.3 of [PSC-014]); and

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<sup>11</sup> [http://ec.europa.eu/environment/nature/natura2000/management/guidance\\_en.htm](http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm)

- *Screening stage 1f*: would the onshore scheme have a significant effect in-combination? (see section 8 of [PSC-014] and paragraphs 3.8 to 3.10 of this RIES).

### Potential impact pathways considered by the applicant

3.4 The potential impact pathways that the applicant considered could occur as a result of the construction and operation of the proposed development are detailed within Table 5.2 of the applicant's NSER [PSC-014] and are summarised in Table 3.1 below.

**Table 3.1: Potential impact pathways considered within the applicant's NSER**

European Site	Identified impact pathways		
	Temporary disturbance to interest features	Temporary loss or fragmentation of supporting habitat	Permanent loss or fragmentation of supporting habitat
Humber Estuary SPA	✓	✓	✓
Humber Estuary SAC	✓	x	x
Humber Estuary Ramsar site	✓	✓	✓
River Derwent SAC	✓	x	x
Lower Derwent Valley SAC	✓	x	x
Lower Derwent Valley SPA	✓	✓	✓
Lower Derwent Valley Ramsar site	✓	✓	✓
Skipwith Common SAC <sup>12</sup>	x	x	x
Thorne and Hatfield Moors SPA	✓	✓	✓
Thorne Moor SAC <sup>12</sup>	x	x	x
Flamborough Head SAC <sup>12</sup>	x	x	x
Flamborough Head and Bempton Cliffs SPA	✓	✓	✓

<sup>12</sup> The applicant considered that as the European sites contain no transient interest features, there is no pathway of effect to any of the interest features of the sites (Table 5.2 of the NSER [PSC-014]).

European Site	Identified impact pathways		
	Temporary disturbance to interest features	Temporary loss or fragmentation of supporting habitat	Permanent loss or fragmentation of supporting habitat
Flamborough Head Filey Coast pSPA	✓	✓	✓
Hornsea Mere SPA	✓	✓	✓

3.5 Table 5.2 of the applicant's NSER **[PSC-014]** stated that the potential impact pathways relate only to the onshore scheme, with the exception of the following European sites where temporary disturbance effects could result from both the onshore and the offshore schemes:

- Humber Estuary SAC;
- Flamborough Head SAC;
- Flamborough Head and Bempton Cliffs SPA; and
- Flamborough Head Filey Coast pSPA.

### Mitigation Measures

3.6 Table 5.1 of the NSER **[PSC-014]** identifies 'built in' measures to the proposed development that have been relied upon to conclude no LSE on European sites. This includes:

- permanent noise sources at Barmston pumping station would be attenuated and would not exceed background levels at nearest sensitive receptors<sup>13</sup>

<sup>13</sup> The draft DCO Requirement 15 places restrictions on the rating noise level for permanent fixed plant / machinery at the nearest existing residential receptor (namely Rose Cottage) compared to existing background noise level. During the examination, the ExA queried whether any species from European sites were located closer to the Barmston pumping station than the residence identified as the nearest residential receptor in DCO Requirement 15 (question 3.27 of **[PD-006]**). The applicant explained that the Golden Plover *Pluvialis Apricaria* and Lapwing *Vanellus vanellus* interest features of the Humber Estuary SPA and Lower Derwent Valley SPA may utilise fields adjacent to the pumping station for feeding and foraging; however, the level of noise generated by the operation of the pumping station would not be at a level which would prevent these interest features from utilising these fields (response to question 3.27 in **[REP1-026]**). NE confirmed at Deadline 3 that permanent noise from the pumping station would not have a significant adverse effect on breeding, feeding or foraging birds from any protected sites (agenda item 10 of **[REP3-001]**).

- there would be no permanent lighting at the AGIs other than Barmston pumping station which would be used only if required during maintenance. DCO Requirement 11 **[REP4-033]** requires lighting details to be submitted to and approved by the relevant planning authority in consultation with the Environment Agency and such lighting may only operate when that AGI is manned;
  - silt management plan and spillage emergency response plan to be implemented across all construction areas – these are secured by DCO requirement 9 **[REP4-033]**;
  - during operation chemicals, diesel and other substances would be stored on site at the pumping station only and would be appropriately bunded and stored<sup>14</sup>;
  - drainage methods for the AGIs would incorporate sustainable urban drainage - DCO requirement 11 **[REP4-033]** requires a drainage plan to be submitted to and approved by the relevant planning authority;
  - a commitment that water would be returned to the catchment it was abstracted from or, if a groundwater source is used, that groundwater is discharged to a surface water location identified in consultation with the Environment Agency – this is secured in DCO requirement 9(2)(h) **[REP4-033]**; and
  - hydrostatic testing would be controlled – requirement 9(2)(g) DCO **[REP4-033]** of the DCO states that the construction water management plan to be approved by the Environment Agency must include details of hydrostatic testing requirements, including water sources and discharge points, and water quality monitoring of test water discharged.
- 3.7 Mitigation measures have also been considered in section 7 of the NSER **[PSC-014]** at screening stage 1d for interest features where avoidance measures could not be applied. The NSER acknowledged that the programme for the construction of the Pumping Station is two years and cannot be constructed outside the wintering bird season (i.e. avoidance was not possible). Therefore, potential impacts on European golden plover *Pluvialis apricaria* (non-breeding) and Lapwing *Vanellus vanellus* (over winter assemblage) during construction of the Pumping Station have been considered. To mitigate potential impacts, Table 7.1 of the NSER **[PSC-014]** sets out the following measures:

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<sup>14</sup> The applicant confirmed they did not intend to store large volumes of chemicals or diesel at the pumping station site during the operational phase and that any chemicals brought on site must be stored, handled and disposed of in accordance with the Control of Substances Hazardous to Health Regulations 2002 (COSHH) this controls environmental hazards as well as health hazards. (Agenda item 6, page 26 of **[REP3-012]**).

- adherence to construction working zones and fencing – this is included in paragraph 10.3.5 of the Code of Construction Practice (CoCP) **[REP4-032]** as secured by DCO requirement 14 **[REP4-033]**
- directional and limited lighting – this is included in paragraph 3.4.3 of the CoCP **[REP4-032]** as secured by DCO requirement 14 **[REP4-033]**

### **In-combination effects**

3.8 The applicant considered potential in-combination effects within their NSER **[PSC-014]**. Figure 3: Screening Methodology of the NSER illustrates that potential in-combination effects would only be considered where the assessment reaches screening stage 1d and beyond. If there is no mechanism for effect (screening stage 1b) or if avoidance measures can be introduced to address the sources and pathways of impacts (screening stage 1c) then in-combination effects would not be considered.

#### *Others plans and projects*

3.9 The plans and projects considered in the applicant's in-combination assessment are listed in section 8.1.2 of the NSER **[PSC-014]**, with further details provided in Chapter 17: Cumulative Effects of the ES **[APP-168]**. They are:

- The Don Valley Power Project in Stainforth;
- The White Rose CCS Project at Drax;
- Dogger Bank Offshore Wind Farm<sup>15</sup>;
- Hornsea Offshore Wind Farm;
- Fraisthorpe On-shore Wind Farm;
- River Humber Pipeline Project; and
- Thorpe Marsh Gas Pipeline.

3.10 A LSE from the onshore scheme in-combination with the above projects was ruled out in section 8 of the NSER **[PSC-014]** for all European sites and features.

#### *The offshore scheme*

3.11 The applicant also considered the potential in-combination effects of the onshore scheme and offshore scheme within the NSER **[PSC-014]** (as described in paragraphs 2.1 – 2.5 of this RIES). Paragraph 1.5.2 of the NSER **[PSC-014]** makes reference to the conclusions of the Statement of

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<sup>15</sup> Section 8.1.2 of **[PSC-014]** refers to "Dogger Bank Offshore Wind Farm" whereas section 8.2.8 refers to "Dogger Bank Creyek Beck Offshore Wind Farm" [sic].



Combined Effects (SoCE) (Chapter 21 of the ES **[AD-173]**). It *"concludes that there are very few combined effects between the Onshore and Offshore Schemes"* and that *"the relative isolation of the landfall point, the naturally dynamic nature of the coast and the short duration of effects with no effects extending beyond the construction season has limited the potential for any effects to be significant"*.

- 3.12 Paragraph 8.1.2 of the NSER **[PSC-014]** concludes that *"only effects relating to the construction of the Pumping Station were taken through from Stage 1c to 1d as stage 1c concluded the all other effects could be avoided. Therefore only in-combination effects associated with the construction of the Pumping Station are considered."*
- 3.13 As detailed in paragraph 3.5 of this RIES, Table 5.2 of the applicant's NSER **[PSC-014]** identified that temporary disturbance effects could result from both the onshore and the offshore scheme at Humber Estuary SAC, Flamborough Head and Bempton Cliffs SPA and Flamborough Head and Filey Coast pSPA. However, a LSE in-combination with the offshore scheme was not assessed because a LSE was screened out prior to screening stage 1d, as detailed below:
- for the Flamborough Head and Bempton Cliffs SPA and Flamborough Head and Filey Coast pSPA - at screening stage 1bc (Table 5.5 of the NSER) **[PSC-014]**; and
  - for the Humber Estuary SAC - at screening stage 1c (Tables 6.1 and 9.1 of the NSER) **[PSC-014]**.

### **Conclusion of the applicant's screening assessment**

- 3.14 A total of 11 European sites were screened by the applicant in their NSER **[PSC-014]** (see Table 5.2 of the NSER and paragraph 2.9 of this RIES). The applicant concluded that the project is *"not likely to give rise to significant effects, either alone or in-combination"* with other plans or projects (paragraph 9.1.13 of **[PSC-014]**).
- 3.15 The applicant provided revised screening matrices at Deadline 1 **[REP1-064]** which summarised their screening assessment.
- 3.16 Annex 2 of this RIES summarises the screening stages at which each European site was screened out by the applicant.

## Summary of matters discussed in relation to the HRA screening outcome during the examination

### **The onshore scheme**

- 3.17 In response to the ExA's first written questions (question 3.24 **[PD-006]**), NE confirmed that they agree with the content and conclusions of

the screening matrices presented in respect of the onshore scheme **[REP1-026]**. NE reiterated this position in Table 3 of the statement of common ground between NE and the applicant that was submitted at Deadline 1 **[REP1-075]** which records *"agreement that the Onshore Scheme elements of the project will not result in a likely significant effect as presented in the NSER"* and again at the issue specific hearing on biodiversity issues held on 4 February 2015 **[EV-026]**.

### The offshore scheme

3.18 As noted in paragraph 2.15 of this RIES, NE stated that *"with some uncertainty as to the detail of the offshore pipeline construction and potential impacts on designated sites, we do not consider that sufficient information has been made available in order to determine that likely significant effects of the offshore element of the scheme can be ruled out, either alone or in-combination with other plans and projects"* (paragraph 6.2.1 of **[REP1-026]**).

3.19 Paragraph 6.1.1 of NE's written representation **[REP1-026]** explained that NE considered the applicant had not provided sufficient information on the offshore element of the scheme to demonstrate it would not have an adverse effect on the integrity of the following European sites:

- Humber Estuary SAC;
- Humber Estuary SPA;
- Humber Estuary Ramsar site;
- The Wash and North Norfolk Coast SAC;
- Flamborough Head SAC; and
- Flamborough and Filey Coast pSPA<sup>16</sup>.

3.20 NE did not specify for which features of the European sites identified above they considered there to be a LSE. However, the features for which the applicant considered there to be a LSE are identified in Table 4.1 of the applicant's Project Habitat Regulations Assessment Report **[REP2-019]**<sup>17</sup> and are summarised in Annex 2 of this RIES; this was not disputed by NE during the examination.

3.21 Specifically, NE's written representation **[REP1-026]** noted the following concerns:

- The installation of the intertidal pipeline and the use of rock armouring may impact on sediment transport and physical coastal processes, with

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<sup>16</sup> NE did not specifically express concern over the Flamborough Head and Bempton Cliffs SPA. However, this RIES considers the SPA and pSPA as separate European Sites.

<sup>17</sup> See paragraph 3.24 of this RIES.

potential impacts on habitats and bird species which are interest features of the Humber Estuary SAC, SPA and Ramsar site (paragraph 6.2.5 of **[REP1-026]**).

- Installation, operation and decommissioning of the NUI may impact on marine mammals, specifically grey seals which are a qualifying feature of the Humber Estuary SAC and Ramsar site, and harbour seals which are a qualifying feature of The Wash and North Norfolk Coast SAC (paragraph 6.2.6 of **[REP1-026]**).
- Elements of the offshore scheme may also impact on bird species which are qualifying features of the Flamborough and Filey Coast pSPA, including potential disturbance impacts on flightless young guillemot and razorbill (paragraph 6.2.7 of **[REP1-026]**).
- Construction, operation and decommissioning of the offshore scheme in-combination with other plans and projects (paragraph 6.2.8 of **[REP1-026]**).
- Further details are required for monitoring, control measures and safeguards to ensure impacts are as predicted (paragraph 6.2.8 of **[REP1-026]**).

3.22 At Deadline 3, NE clarified the position they had put in their written representation by confirming that *"in order to inform the Appropriate Assessment of the onshore scheme in combination with the offshore scheme, evidence needed to be provided that gave confidence to Natural England, and Pins, that in the absence of further information (in relation to the offshore scheme) effective mitigation measures (which could include a range of options) can be called upon during construction; operation and maintenance, which are appropriate to the nature of the offshore development"* (response to agenda item 7 of **[REP3-001]**).

3.23 NE noted at an early stage in the examination that they had agreed a 'roadmap' with the applicant to allow the provision of such information during the examination period (paragraph 3.4 of **[RR-057]** and paragraphs 3.1.2 and 6.2.2 of **[REP1-026]**).

### **Deadline 2 documents**

3.24 At Deadline 2 the applicant submitted the following documents with further information on the offshore scheme:

- Document 11.3 – Offshore Scheme Technical Evidence Report **[REP2-003]**;
- Document 11.8 - Project Habitat Regulations Assessment Report **[REP2-019]**; and

- Document 11.9 - Offshore Scheme Shadow Appropriate Assessment Report **[REP2-020]** and supporting HRA Integrity Matrices **[REP2-021]**.
- 3.25 Figure 1.2 of **[REP2-019]** presents how these documents relate to one another, as well as the NSER and to the screening and integrity matrices.
- 3.26 The Project HRA Report **[REP2-019]** acknowledged that *"the Offshore Scheme is an integral part of the Project as a whole"* and as such the document *"presents a Habitat Regulations Assessment for the Project to provide sufficient information to enable the Secretary of State to determine whether the Project as a whole will result in an Adverse Effect on Site Integrity (AEOSI)"* (paragraph 1.4.9).
- 3.27 It further stated that *"the application for the Offshore Scheme is expected to be made in 2015. Whilst impacts are not certain to occur, the precautionary principle has been applied as the design for the Offshore Scheme has not yet been finalised. Therefore likely significant effects of the Offshore Scheme cannot be ruled out and the next stage (stage 2) of the HRA process - testing for Adverse Effect on Site Integrity (AEOSI) - has been progressed for all elements of the Project associated with the Offshore Scheme"* (paragraph 2.1.2 of **[REP2-019]**).

## Conclusion

- 3.28 During the examination, the applicant agreed with NE that a LSE for the project as a whole (i.e. the onshore scheme in-combination with the offshore scheme) could not be ruled out whilst there remains some uncertainty as to the detail of the offshore scheme information (Table 2.3 and paragraph 2.2.3 of the Project Habitat Regulations Assessment Report **[REP2-019]**) for the following European sites (identified in Table 2.1 of **[REP2-019]**):
- Humber Estuary SPA;
  - Humber Estuary SAC;
  - Humber Estuary Ramsar site;
  - Flamborough Head SAC;
  - Flamborough Head and Bempton Cliffs SPA;
  - Flamborough Head and Filey Coast potential SPA (pSPA); and
  - The Wash and North Norfolk Coast SAC.
- 3.29 The interest features of these European sites that were screened in to Stage 2 of the assessment and the mechanisms of effects were detailed in

Table 4.1 of the Project Habitat Regulations Assessment Report **[REP2-019]**. They are identified in Annex 2 of this RIES.

- 3.30 Section 4 of this RIES considers the applicant's submissions and NE's position in relation to the potential adverse effects on site integrity from the onshore scheme in-combination with the offshore scheme.
- 3.31 Other than NE, no interested parties commented upon or disputed the applicant's conclusion of no likely significant effects on these European sites and their qualifying features during the examination.

## 4.0 ADVERSE EFFECTS ON INTEGRITY

### The Integrity Test

4.1 As detailed in section 3 of this RIES, the applicant's documents ruled out a LSE on all European sites alone and in-combination with other plans and projects in their NSER **[PSC-014]**. However, in response to representations from NE during the examination, the applicant subsequently screened in the potential for a LSE for the seven European sites identified in paragraph 3.28 of this RIES for the Yorkshire and Humber CCS Transportation and Storage Project as a whole (i.e. the onshore and the offshore scheme together), in the Project Habitat Regulations Assessment Report received at Deadline 2 **[REP2-019]**.

#### **Consideration of the onshore and offshore project acting as a whole**

4.2 In considering the onshore and offshore scheme as a whole, the sources and mechanisms of effect from the offshore scheme for which a LSE was identified were identified in Tables 4.1, 4.2 and 4.3 of the Project Habitat Regulations Assessment Report **[REP2-019]**. They include:

- installation of the pipeline potentially resulting in an increase or decrease of the down drift sediment supply;
- use of rock armouring potentially interfering with coastal process resulting in an increase or decrease of the down drift sediment supply;
- disturbance from the physical presence of pipeline and NUI installation vessels;
- disturbance to marine mammals (underwater noise); and
- disturbance from vessels and activities associated with the operation of the offshore scheme.

4.3 The mechanisms of effect identified in the Project Habitat Regulations Assessment Report **[REP2-019]** mirrored the concerns raised by NE in their written representation, as detailed in paragraph 3.21 of this RIES.

4.4 Table 4.3 of the Project Habitat Regulations Assessment Report **[REP2-019]** summarised the applicant's assessment of the potential for these mechanisms to result in adverse effect on site integrity (i.e. the Stage 2 assessment), with references to more detailed assessments in the Offshore Scheme Shadow Appropriate Assessment Report **[REP2-020]** (see below for further details).

4.5 Table 4.4 of the Project Habitat Regulations Assessment Report **[REP2-019]** also considered the potential for in-combination effects with the

offshore scheme and Dogger Bank Creyke Beck and Hornsea Round 3 developments.

- 4.6 The Project Habitat Regulations Assessment Report concluded “no adverse effects on the integrity of the Humber Estuary SAC (and associated effects on the Humber Estuary SPA & Ramsar), Flamborough Head SAC, Flamborough [sic] Head and Bempton Cliffs SPA, Flamborough Head and Filey Coast pSPA and the Wash and North Norfolk Coast SAC have been identified as a result of the Project or in-combination with other developments” (paragraph 5.1.1 of **[REP2-019]**).

#### **Shadow Appropriate Assessment for the offshore scheme**

- 4.7 As noted above in this RIES, the applicant also provided an Offshore Scheme Shadow Appropriate Assessment Report **[REP2-020]** which acknowledged that “although the Planning Inspectorate (PINS) is not the Competent Authority for the Offshore Scheme, information is being provided for both the Onshore Scheme...and the Offshore Scheme...so that Natural England can confirm to the Examining Authority that there is sufficient information before them to enable the Examining Authority to report on Habitat Regulations Assessment issues and, accordingly, for the Secretary of State to carry out the Appropriate Assessment, as the Competent Authority” (paragraph 1.1.3 of **[REP2-020]**). The document provided a detailed description of the offshore scheme (section 3) and a description of the baseline conditions for coastal processes, marine mammals and seabirds in the vicinity of the offshore scheme (section 4). Paragraph 5.2.7 of **[REP2-020]** screened in a LSE for all features of the seven European sites identified in paragraph 3.28 of this RIES and considered the same potential effects as the Project Habitat Regulations Assessment Report **[REP2-019]** (see paragraph 4.2 of this RIES).
- 4.8 Sections 7 and 8 of the Offshore Scheme Shadow Appropriate Assessment Report **[REP2-020]** concluded that no adverse effects on integrity alone, or in-combination with other developments have been identified as a result of the offshore scheme on the following European sites (paragraph 9.1.1):
- Humber Estuary SPA;
  - Humber Estuary SAC;
  - Humber Estuary Ramsar site;
  - Flamborough Head SAC;
  - Flamborough Head and Bempton Cliffs SPA;
  - Flamborough Head and Filey Coast potential SPA (pSPA); and
  - The Wash and North Norfolk Coast SAC.

- 4.9 Integrity matrices summarising the applicant's assessment for the offshore scheme were provided in **[REP2-021]** at Deadline 2.

### **Conclusion**

- 4.10 At Deadline 3, NE confirmed in writing their position they put forward at the issue specific hearing on biodiversity issues held on 4 February 2015 **[EV-026]**. NE stated that *"having reviewed this information, Natural England is satisfied that there is no Adverse Effect on Site Integrity (AEOSI) for the onshore scheme, in-combination with the offshore scheme, for all sites. This is because we are satisfied there is sufficient scope within the offshore project design to identify adequate mitigation and avoidance measures, to avoid an adverse effect. Importantly, there is sufficient information in The Applicants submissions to allow an Appropriate Assessment to be carried out."*
- 4.11 This position was reiterated in the revised statement of common ground between NE and the applicant that was submitted at Deadline 3 (Table 3 of **[REP3-029]**).



## **ANNEX 1: LIST OF DOCUMENTS USED TO INFORM THE RIES**

## Application Documents

### Environmental Statement

- Chapter 3 Onshore Scheme Description **[AD-091]**
- Chapter 21 Statement of Combined Effects **[AD-173]**

### HRA Reports

- No Significant Effects Report **[AD-191]**
- No Significant Effects Report Appendices **[AD-192]** comprising:
  - Longshore Drift and Spurn Head
  - Lamprey Response to Noise and Vibration
  - Qualifying Species of Sites Screened out at Stage 1ba
  - Humber Estuary SPA Qualifying Features Data Search and Field Survey Results
  - Lower Derwent Valley SPA Qualifying Features Data Search and Field Survey Results
  - Hornsea Mere SPA Data Search and Field Survey Results
  - Thorne and Hatfield Moors SPA Data Search and Field Survey Results
  - Flamborough Head and Bempton Cliffs SPA Data Search and Field Survey Results
  - Screening Matrices
  - Consultation Responses
  - Grey Seal Usage

## Pre-examination Documents

### Documents accepted at Preliminary Meeting<sup>1</sup>

- No Significant Effects Report Revision B **[PSC-014]**
- No Significant Effects Report Appendices Revision B **[PSC-015]** containing the following documents:
  - Longshore Drift and Spurn Head
  - Lamprey Response to Noise and Vibration
  - Qualifying Species of Sites Screened out at Stage 1ba
  - Humber Estuary SPA Qualifying Features Data Search and Field Survey Results
  - Lower Derwent Valley SPA Qualifying Features Data Search and Field Survey Results

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<sup>1</sup> These documents were submitted during the pre-examination phase and accepted by the ExA at the Preliminary Meeting on 19 November 2014.

- Hornsea Mere SPA Data Search and Field Survey Results
- Thorne and Hatfield Moors SPA Data Search and Field Survey Results
- Flamborough Head and Bempton Cliffs SPA Data Search and Field Survey Results
- Screening Matrices
- Consultation Responses
- Grey Seal Usage
- Flamborough Head pSPA Offshore Usage

### **Relevant Representations**

- Marine Management Organisation **[RR-014]**
- Natural England **[RR-057]**

### **Examination Documents**

#### **Representations**

##### Deadline 1:

- Natural England:
  - Written Representation and Summary including Appendix C Response to the Examining Authority's First Written Questions **[REP1-026]**
  - Appendix A of Written Representation - Site Maps **[REP1-027]**
  - Appendix B of Written Representation - Designated site conservation objectives and citations **[REP1-028]**
- Applicant:
  - Screening Matrices **[REP1-064]**
  - Flamborough Head SPA pSPA Offshore Usage **[REP1-065]**
  - Statement of Common Ground between Natural England and National Grid **[REP1-075]**
  - Responses to ExA's first written questions **[REP1-086]**

##### Deadline 2:

- Applicant:
  - Offshore Scheme Technical Evidence Report **[REP2-003]**
  - Project Habitat Regulations Assessment Report **[REP2-019]** (Late submission for Deadline 2)
  - Offshore Scheme Shadow Appropriate Assessment Report **[REP2-020]** (Late submission for Deadline 2)
  - Integrity Matrices **[REP2-021]** (Late submission for Deadline 2)

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Deadline 3:

- Natural England: Summary of representation at Biodiversity Hearing of 4 February 2015 **[REP3-001]**
- National Grid Carbon Limited: 12.1 Written Summaries of Oral Evidence and Supporting Information Report **[REP3-012]**
- National Grid Carbon Limited: 9.5 Statement of Common Ground between Natural England and National Grid **[REP3-029]**

Deadline 4:

- National Grid Carbon Limited: 7.5 Code of Construction Practice (Rev D) **[REP4-032]**
- National Grid Carbon Limited: 3.1 Draft Development Consent Order (Rev D) **[REP4-033]**

**Hearings**

- Biodiversity Hearing of 4 February 2015: Audio recording **[EV-026]**

**ANNEX 2: EUROPEAN SITES AND THEIR  
QUALIFYING FEATURES  
SCREENED INTO THE HRA BY THE  
APPLICANT AND A SUMMARY OF  
THE APPLICANT'S SCREENING  
AND INTEGRITY STAGES OF THE  
ASSESSMENT**

European Sites and their Qualifying Features Screened into the HRA by the Applicant and a summary of the applicant's screening and integrity stages of the assessment

Name of European Site	Qualifying Features <sup>1</sup>	Stage 1 (Screening)		Stage 2 (Effects on integrity)
		Application scheme alone and in-combination with other plans and projects <sup>2</sup>	In combination with the offshore scheme <sup>3</sup>	Alone and in-combination with other plans and projects
Humber Estuary SPA	<p><b>Article 4.1 Qualification</b> (79/409/EEC) during the breeding season the area regularly supports:</p> <ul style="list-style-type: none"> <li>• Great bittern <i>Botaurus stellaris</i></li> <li>• Eurasian marsh harrier <i>Circus aeruginosus</i></li> <li>• Pied avocet <i>Recurvirostra avosetta</i></li> <li>• Little tern <i>Sterna albifrons</i></li> </ul> <p>Over winter the area regularly supports:</p> <ul style="list-style-type: none"> <li>• Great bittern <i>Botaurus stellaris</i></li> <li>• Hen harrier <i>Circus cyaneus</i></li> <li>• Bar-tailed godwit <i>Limosa lapponica</i></li> <li>• European golden plover <i>Pluvialis apricaria</i></li> <li>• Pied avocet <i>Recurvirostra avosetta</i></li> </ul> <p>On passage the area regularly supports:</p> <ul style="list-style-type: none"> <li>• Ruff <i>Philomachus pugnax</i></li> </ul> <p><b>Article 4.2 Qualification</b> (79/409/EEC) Over winter the area regularly supports:</p> <ul style="list-style-type: none"> <li>• Dunlin <i>Calidris alpina alpina</i></li> <li>• Red knot <i>Calidris canutus</i></li> <li>• Black-tailed godwit <i>Limosa limosa islandica</i></li> <li>• Common shelduck <i>Tadorna tadorna</i></li> <li>• Common redshank <i>Tringa totanus</i></li> </ul> <p>On passage the area regularly supports:</p> <ul style="list-style-type: none"> <li>• Dunlin <i>Calidris alpina alpina</i></li> </ul>	No LSE – taken through to screening stages 1d to 1f (Table 9.1 of [PSC-014]) and no LSE concluded (paragraph 9.1.13 of [PSC-014]).	LSE for associated effects resulting from changes in coastal processes as a result of the: <ul style="list-style-type: none"> <li>• installation of the pipeline potentially resulting in an increase or decrease of the down drift sediment supply;</li> <li>• use of rock armouring potentially interfering with coastal process resulting in an increase or decrease of the down drift sediment supply.</li> </ul> <p>(Tables 2.1 and 4.1<sup>4</sup> of [REP2-019]).</p>	No AEOI (Tables 4.3, 4.4 and 5.1 of [REP-019]).

<sup>1</sup> Taken from Table 5.3 of the NSER [PSC-014], appendix 5.4.3 of the NSER [PSC-015] and Table 3.7 of the Project Habitat Regulations Assessment Report [REP2-019].

<sup>2</sup> Based on the conclusions drawn within the applicant's NSER [PSC-014]. The NSER concluded no LSE for the application scheme alone, and in-combination with other plans and projects and the offshore scheme. However, as detailed in section 3 of this RIES, the potential for in-combination effects with the off-shore scheme was queried by NE during the examination. For the purpose of this table, the conclusions drawn in this column are with regard to other plans and project excluding the offshore scheme; in-combination effects with the offshore scheme as these have been considered in the subsequent column of the table.

<sup>3</sup> Based on the conclusions drawn within the applicant's Project HRA Report [REP2-019].

<sup>4</sup> The features for which there is a LSE have not been specifically identified by the applicant; a LSE for the European site as a whole has been identified in Table 4.1 of [REP2-019]

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Name of European Site	Qualifying Features <sup>1</sup>	Stage 1 (Screening)		Stage 2 (Effects on integrity)
		Application scheme alone and in-combination with other plans and projects <sup>2</sup>	In combination with the offshore scheme <sup>3</sup>	Alone and in-combination with other plans and projects
	<ul style="list-style-type: none"> <li>Red knot <i>Calidris canutus</i></li> <li>Black-tailed godwit <i>Limosa limosa islandica</i></li> <li>Common redshank <i>Tringa tetanus</i></li> </ul> <p><b>Article 4.2 Qualification</b> (79/409/EEC) An Internationally Important Assemblage of Birds In the non-breeding season the area regularly supports 153,934 waterfowl (5 year peak mean 1996/7 to 2000/1) Including: <i>Anas crecca</i>, <i>Anas penelope</i>, <i>Anas platyrhynchos</i>, <i>Arenaria interpres</i>, <i>Aythya ferina</i>, <i>Aythya marila</i>, <i>Botaurus stellaris</i>, <i>Branta bernicla bernicla</i>, <i>Bucephala clangula</i>, <i>Calidris alba</i>, <i>Calidris alpina alpina</i>, <i>Calidris canutus</i>, <i>Charadrius hiaticula</i>, <i>Haematopus ostralegus</i>, <i>Limosa lapponica</i>, <i>Limosa limosa islandica</i>, <i>Numenius arquata</i>, <i>Numenius phaeopus</i>, <i>Philomachus pugnax</i>, <i>Pluvialis apricaria</i>, <i>Pluvialis squatarola</i>, <i>Recurvirostra avosetta</i>, <i>Tadorna tadorna</i>, <i>Tringa nebularia</i>, <i>Tringa totanus</i>, <i>Vanellus vanellus</i></p>			
Humber Estuary SAC	<p><b>Annex I habitats that are a primary reason for selection of this site:</b></p> <ul style="list-style-type: none"> <li>Estuaries</li> <li>Mudflats and sandflats not covered by seawater at low tide</li> </ul>	No LSE – screened out at screening stage 1c (paragraph 6.3.1 of [PSC-014]).	LSE (Table 4.1 of [REP2-019]) for all features for: <ul style="list-style-type: none"> <li>installation of the pipeline potentially resulting in an increase or decrease of the down drift sediment supply;</li> <li>use of rock armouring potentially interfering with coastal process resulting in an increase or decrease of the down drift sediment supply</li> </ul>	No AEOI (Tables 4.3, 4.4 and 5.1 of [REP-019]).
	<p><b>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:</b></p> <ul style="list-style-type: none"> <li>Sandbanks which are slightly covered by sea water all the time</li> <li>Coastal lagoons (Priority feature)</li> <li>Salicornia and other annuals colonising mud and sand</li> <li>Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)</li> <li>Embryonic shifting dunes</li> <li>Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (“white dunes”)</li> <li>Fixed dunes with herbaceous vegetation (“grey dunes”) (Priority feature)</li> <li>Dunes with <i>Hippophae rhamnoides</i></li> </ul>			No AEOI (Tables 4.3, 4.4 and 5.1 of [REP-019]).
	<p><b>Annex II species present as a qualifying feature, but not a primary reason for site selection</b></p> <ul style="list-style-type: none"> <li>Sea lamprey <i>Petromyzon marinus</i></li> </ul>			LSE (Table 4.1 of [REP2-019]) for: <ul style="list-style-type: none"> <li>Grey seal for:</li> </ul>

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Name of European Site	Qualifying Features <sup>1</sup>	Stage 1 (Screening)		Stage 2 (Effects on integrity)
		Application scheme alone and in-combination with other plans and projects <sup>2</sup>	In combination with the offshore scheme <sup>3</sup>	Alone and in-combination with other plans and projects
	<ul style="list-style-type: none"> <li>River lamprey <i>Lampetra fluviatilis</i></li> <li>Grey seal <i>Halichoerus grypus</i></li> </ul>		<ul style="list-style-type: none"> <li>disturbance from the physical presence of pipeline and NUI installation vessels.</li> <li>disturbance to marine mammals</li> <li>disturbance from vessels and activities associated with the operation of the Offshore Scheme</li> </ul>	
Humber Estuary Ramsar	<p><b>Ramsar Criterion 1</b></p> <p>The site is a representative example of a near-natural estuary with the following component habitats: dune systems and humid dune slacks, coastal brackish/saline lagoons, intertidal and subtidal mudflats, sandflats, saltmarsh, reedbeds, strandline, foredune, mobile, semi-fixed dunes, dune grassland</p>	No LSE – taken through to screening stages 1d to 1f (Table 9.1 of [PSC-014]) and no LSE concluded (paragraph 9.1.13 of [PSC-014]).	<p>LSE for associated effects resulting from changes in coastal processes as a result of the:</p> <ul style="list-style-type: none"> <li>installation of the pipeline potentially resulting in an increase or decrease of the down drift sediment supply;</li> <li>use of rock armouring potentially interfering with coastal process resulting in an increase or decrease of the down drift sediment supply.</li> </ul> <p>(Tables 2.1 and 4.1<sup>5</sup> of [REP2-019]).</p>	No AEOI (Tables 4.3, 4.4 and 5.1 of [REP-019]).
	<p><b>Ramsar Criterion 2</b></p> <p>The site supports populations of animal species important for maintaining the biological diversity of a particular biogeographic region: The Humber Estuary Ramsar site supports a breeding colony of grey seals <i>Halichoerus grypus</i> at Donna Nook. It is the second largest grey seal colony in England and the furthest south regular breeding site on the east coast. The dune slacks at Saltfleetby-Theddlethorpe on the southern extremity of the Ramsar site are the most north-easterly breeding site in Great Britain of the natterjack toad <i>Bufo calamita</i>.</p>		<p>LSE specifically identified (Table 4.1 of [REP2-019]) for Criterion 2 for:</p> <ul style="list-style-type: none"> <li>disturbance from the physical presence of pipeline and NUI installation vessels</li> <li>disturbance to marine mammals</li> <li>disturbance from vessels and activities associated with the operation of the</li> </ul>	

<sup>5</sup> The features for which there is a LSE have not been specifically identified by the applicant; a LSE for the European site as a whole has been identified in Table 4.1 of [REP2-019]



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Name of European Site	Qualifying Features <sup>1</sup>	Stage 1 (Screening)		Stage 2 (Effects on integrity)
		Application scheme alone and in-combination with other plans and projects <sup>2</sup>	In combination with the offshore scheme <sup>3</sup>	Alone and in-combination with other plans and projects
	<p><b>Ramsar Criterion 3</b> The Humber Estuary Ramsar site supports a breeding colony of grey seals <i>Halichoerus grypus</i> at Donna Nook. It is the second largest grey seal colony in England and the furthest south regular breeding site on the east coast. The dune slacks at Saltfleetby-Theddlethorpe on the southern extremity of the Ramsar site are the most north-easterly breeding site in Great Britain of the natterjack toad <i>Bufo calamita</i>.</p> <p><b>Ramsar Criterion 5</b> Assemblages of international importance:</p> <ul style="list-style-type: none"> <li>• 153,934 waterfowl, non-breeding season (5 year peak mean 1996/97-2000/2001)</li> </ul> <p><b>Ramsar Criterion 6</b> Species/populations occurring at levels of international importance for breeding, non breeding and on passage species<sup>6</sup>:</p> <ul style="list-style-type: none"> <li>• Eurasian golden plover, <i>Pluvialis apricaria</i></li> <li>• Red knot, <i>Calidris canutus</i></li> <li>• Dunlin, <i>Calidris alpina</i></li> <li>• Black-tailed godwit, <i>Limosa limosa</i></li> <li>• Common redshank, <i>Tringa totanus</i></li> <li>• Common shelduck, <i>Tadorna tadorna</i></li> <li>• Bar-tailed godwit, <i>Limosa lapponica</i></li> </ul> <p><b>Ramsar Criterion 8<sup>7</sup></b> The Humber Estuary acts as an important migration route for both river lamprey <i>Lampetra fluviatilis</i> and sea lamprey <i>Petromyzon marinus</i> between coastal waters and their spawning areas.</p>		Offshore Scheme  LSE resulting from changes in coastal processes (Tables 2.1 and 4.14 <sup>4</sup> of [REP2-019]).	
River Derwent SAC	<p><b>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:</b></p> <ul style="list-style-type: none"> <li>• Watercourses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation</li> <li>• Otter <i>Lutra lutra</i></li> </ul>	No LSE – screened out at screening stage 1c (paragraph 6.3.1 of [PSC-014]).	No LSE (Tables 2.1 and 5.1 <sup>8</sup> of [REP2-019])	n/a

<sup>6</sup> The official description of this criterion for the Humber Estuary Ramsar Site (available from <http://jncc.defra.gov.uk/pdf/RIS/UK11031.pdf>) lists these species which are not presented by the applicant in Table 5.3 of their NSER [PSC-014].

<sup>7</sup> Criterion 8 is taken from the official description of the Humber Estuary Ramsar Site (available from <http://jncc.defra.gov.uk/pdf/RIS/UK11031.pdf>). This criterion is not presented by the applicant in Table 5.3 of their NSER [PSC-014].

<sup>8</sup> Tables 2.1 and 5.1 of [REP2-019] does not identify each feature of the European site however refers to a LSE for the European site as a whole.

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Name of European Site	Qualifying Features <sup>1</sup>	Stage 1 (Screening)		Stage 2 (Effects on integrity)
		Application scheme alone and in-combination with other plans and projects <sup>2</sup>	In combination with the offshore scheme <sup>3</sup>	Alone and in-combination with other plans and projects
	<b>Annex II species that are a primary reason for selection of this site</b> <ul style="list-style-type: none"> <li>River lamprey <i>Lampetra fluviatilis</i></li> <li>Bullhead <i>Cottus gobio</i></li> </ul>		No LSE (Tables 2.1 and 5.1 of [REP2-019])	n/a
	<b>Annex II species present as a qualifying feature, but not a primary reason for site selection:</b> <ul style="list-style-type: none"> <li>Sea lamprey <i>Petromyzon marinus</i></li> </ul>		No LSE (Tables 2.1 and 5.1 of [REP2-019])	n/a
Lower Derwent Valley SAC	<b>Annex I habitats that are a primary reason for selection of this site</b> <ul style="list-style-type: none"> <li>Lowland hay meadows (<i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i>)</li> </ul>	No LSE – screened out at screening stage 1bc (paragraph 5.3.32 of [PSC-014]).	No LSE (Tables 2.1 and 5.1 of [REP2-019])	n/a
	<b>Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site</b> <ul style="list-style-type: none"> <li>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)(Priority feature)</li> </ul>			
	<b>Annex II species present as a qualifying feature, but not a primary reason for site selection</b> <ul style="list-style-type: none"> <li>Otter <i>Lutra lutra</i></li> </ul>			
Lower Derwent Valley SPA	<b>Article 4.1 (79/409/EEC) - Supporting populations of European importance of the following species listed on Annex I of the Directive:</b> During the breeding season: <ul style="list-style-type: none"> <li>Corncrake <i>Crex crex</i></li> <li>Ruff <i>Philomachus pugnax</i></li> <li>Spotted Crane <i>Porzana porzana</i>,</li> </ul> Over winter: <ul style="list-style-type: none"> <li>Bewick's Swan <i>Cygnus Columbianus bewickii</i></li> <li>Bittern <i>Botaurus stellaris</i></li> <li>Golden Plover <i>Pluvialis apricaria</i></li> <li>Ruff <i>Philomachus pugnax</i></li> </ul>	No LSE – taken through to screening stages 1d to 1f (Table 9.1 of [PSC-014]) and no LSE concluded (paragraph 9.1.13 of [PSC-014]).	No LSE (Tables 2.1 and 5.1 of [REP2-019])	n/a
	<b>Article 4.2 (79/409/EEC) - Supporting populations of European importance of the following migratory species.</b>			

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Name of European Site	Qualifying Features <sup>1</sup>	Stage 1 (Screening)		Stage 2 (Effects on integrity)
		Application scheme alone and in-combination with other plans and projects <sup>2</sup>	In combination with the offshore scheme <sup>3</sup>	Alone and in-combination with other plans and projects
	<p>Over winter:</p> <ul style="list-style-type: none"> <li>Teal <i>Anas crecca</i></li> </ul> <p><b>Assemblage qualification</b> Over winter, the area regularly supports 39,936 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including:</p> <ul style="list-style-type: none"> <li>Lapwing <i>Vanellus vanellus</i>,</li> <li>Pochard <i>Aythya ferina</i>,</li> <li>Shoveler <i>Anas clypeata</i>,</li> <li>Mallard <i>Anas platyrhynchos</i>,</li> <li>Wigeon <i>Anas penelope</i>,</li> <li>Teal <i>Anas crecca</i>,</li> <li>Ruff <i>Philomachus pugnax</i>,</li> <li>Golden Plover <i>Pluvialis apricaria</i>,</li> <li>Bewick's Swan <i>Cygnus columbianus bewickii</i>,</li> <li>Bittern <i>Botaurus stellaris</i>.</li> </ul>			
Lower Derwent Valley Ramsar	<p><b>Ramsar Criterion 1</b> The site represents one of the most important examples of traditionally managed species-rich alluvial flood meadow habitat remaining in the UK. The river and flood meadows play a substantial role in the hydrological and ecological functioning of the Humber Basin.</p>	No LSE – screened out at screening stages 1c (Table 6.1 of <b>[PSC-014]</b> ).	No LSE (Tables 2.1 and 5.1 of <b>[REP2-019]</b> )	n/a
	<p><b>Ramsar Criterion 2</b> The site has a rich assemblage of wetland invertebrates including 16 species of dragonfly and damselfly, 15 British Red Data Book wetland invertebrates as well as a leafhopper, Cicadula ornate for which Lower Derwent Valley is the only known site in Great Britain.</p>		No LSE (Tables 2.1 and 5.1 of <b>[REP2-019]</b> )	n/a
	<p><b>Ramsar Criterion 4</b> The site qualifies as a staging post for passage birds in spring. Of particular note are the nationally important numbers of Ruff, <i>Philomachus pugnax</i> and Whimbrel, <i>Numenius phaeopus</i>.</p>		No LSE (Tables 2.1 and 5.1 of <b>[REP2-019]</b> )	n/a
	<p><b>Ramsar Criterion 5<sup>9</sup></b> Assemblages of international importance (species with peak counts in</p>		No LSE (Table 5.1 of <b>[REP2-019]</b> )	n/a

<sup>9</sup> The official description of this criterion for the Lower Derwent Valley Ramsar site (available from <http://jncc.defra.gov.uk/pdf/RIS/UK11037.pdf>) lists the species. The applicant does not refer to the species and counts in Table 5.3 of their NSER **[PSC-014]**.

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		Application scheme alone and in-combination with other plans and projects <sup>2</sup>	In combination with the offshore scheme <sup>3</sup>	Alone and in-combination with other plans and projects
	winter): <ul style="list-style-type: none"> <li>31,942 waterfowl (5 year peak mean 1998/99-2002/2003)</li> </ul>			
	<b>Ramsar Criterion 6<sup>10</sup></b> Species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation) with peak counts in winter: <ul style="list-style-type: none"> <li>Eurasian wigeon, <i>Anas penelope</i>,</li> <li>Eurasian teal, <i>Anas crecca</i></li> </ul>		No LSE (Table 5.1 of [REP2-019])	n/a
Skipwith Common SAC	<b>Annex I habitats that are a primary reason for selection of this site:</b> <ul style="list-style-type: none"> <li>Northern Atlantic wet heaths with <i>Erica tetralix</i></li> <li>European Dry Heaths</li> </ul>	No LSE – screened out at screening stage 1bb (paragraph 5.3.19 of [PSC-014]).	No LSE (Table 5.1 of [REP2-019])	n/a
Thorne and Hatfield Moors SPA	<b>Article 4.1 (79/409/EEC) - Supporting populations of European importance of the following species listed on Annex I of the Directive:</b> <ul style="list-style-type: none"> <li>European nightjar <i>Caprimulgus europaeus</i> (Breeding)</li> </ul>	No LSE – screened out at screening stage 1bc (paragraph 5.3.32 of [PSC-014]).	No LSE (Tables 2.1 and 5.1 of [REP2-019])	n/a
Thorne Moor SAC	<b>Annex I habitats that are a primary reason for selection of this site</b> <ul style="list-style-type: none"> <li>Degraded raised bogs still capable of natural regeneration</li> </ul>	No LSE – screened out at screening stage 1bb (paragraph 5.3.19 of [PSC-014]).	No LSE (Tables 2.1 and 5.1 of [REP2-019])	n/a
Flamborough Head SAC	<b>Annex I habitats that are a primary reason for selection of this site:</b> <ul style="list-style-type: none"> <li>Reefs</li> <li>Vegetated sea cliffs of the Atlantic and Baltic coasts</li> <li>Submerged or partially submerged sea caves</li> </ul>	No LSE – screened out at screening stage 1bb (paragraph 5.3.19 of [PSC-014])	LSE (Table 4.1 of [REP2-019]) for all features for: <ul style="list-style-type: none"> <li>the pipeline potentially resulting in an increase or decrease of the down drift sediment supply;</li> <li>use of rock armouring potentially interfering with coastal process resulting in an increase or decrease of the down drift sediment supply.</li> </ul>	No AEOI (Tables 4.3, 4.4 and 5.1 of [REP-019]).
Flamborough Head and	<b>Article 4.2 (79/409/EEC) - Supporting populations of European importance of the following migratory species:</b>	No LSE – screened out at screening stage 1bc (paragraph	LSE (Table 4.1 of [REP2-019]), for all features for:	No AEOI (Tables 4.3, 4.4 and 5.1 of [REP-019]).

<sup>10</sup> Criterion 6 is taken from the official description of the Lower Derwent Valley Ramsar site (available from <http://jncc.defra.gov.uk/pdf/RIS/UK11037.pdf>). This criterion is not presented by the applicant in Table 5.3 of their NSER [PSC-014].

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		Application scheme alone and in-combination with other plans and projects <sup>2</sup>	In combination with the offshore scheme <sup>3</sup>	Alone and in-combination with other plans and projects
Bempton Cliffs SPA	<p>During the breeding season:</p> <ul style="list-style-type: none"> <li>• Kittiwake <i>Rissa tridactyla</i></li> <li>• A seabird assemblage of international importance</li> </ul> <p><b>Article 4.2 (79/409/EEC) - Regularly supporting at least 20,000 seabirds.</b> During the breeding season, the area regularly supports 305,784 individual seabirds including:</p> <ul style="list-style-type: none"> <li>• Puffin <i>Fratercula arctica</i>,</li> <li>• Razorbill <i>Alca torda</i>,</li> <li>• Guillemot <i>Uria aalge</i>,</li> <li>• Herring Gull <i>Larus argentatus</i>,</li> <li>• Gannet <i>Morus bassanus</i>,</li> <li>• Kittiwake <i>Rissa tridactyla</i>.</li> </ul>	5.3.32 of <b>[PSC-014]</b> .	<ul style="list-style-type: none"> <li>• disturbance from the physical presence of pipeline and NUI installation vessels</li> <li>• disturbance from vessels and activities associated with the operation of the Offshore Scheme</li> </ul>	
Flamborough Head and Filey Coast pSPA	<p><b>Article 4.2 (79/409/EEC) - Supporting over 1% of the biogeographical population of four regularly occurring migratory species:</b></p> <ul style="list-style-type: none"> <li>• Black-legged kittiwake <i>Rissa tridactyla</i></li> <li>• Northern gannet <i>Morus bassanus</i></li> <li>• Common guillemot <i>Uria aalge</i></li> <li>• Razorbill <i>Alca torda</i></li> </ul> <p><b>Article 4.2 (2009/147/EC) - Used by over 20,000 seabirds in any season.</b> During the breeding season, the area regularly supports 215,7503 individual seabirds including:</p> <ul style="list-style-type: none"> <li>• Black-legged kittiwake <i>Rissa tridactyla</i></li> <li>• Northern gannet <i>Morus bassanus</i></li> <li>• Common guillemot <i>Uria aalge</i></li> <li>• Razorbill <i>Alca torda</i>,</li> <li>• Northern fulmar <i>Fulmarus glacialis</i></li> </ul>	No LSE – screened out at screening stage 1bc (paragraph 5.3.32 of <b>[PSC-014]</b> ).	LSE (Table 4.1 of <b>[REP2-019]</b> ), for all features for: <ul style="list-style-type: none"> <li>• disturbance from the physical presence of pipeline and NUI installation vessels</li> <li>• disturbance from vessels and activities associated with the operation of the Offshore Scheme.</li> </ul>	No AEOI (Tables 4.3, 4.4 and 5.1 of <b>[REP-019]</b> ).
Hornsea Mere SPA	<p><b>Article 4.2 (79/409/EEC) - Supporting populations of European importance of the following migratory species.</b> Over winter:</p>	No LSE – screened out at screening stage 1bc (paragraph 5.3.32 of <b>[PSC-014]</b> ).	No LSE (Tables 2.1 and 5.1 of <b>[REP2-019]</b> )	n/a

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	<ul style="list-style-type: none"> <li>Gadwall <i>Anas strepera</i></li> </ul>			
The Wash and North Norfolk Coast SAC <sup>11</sup>	<p><b>Annex I habitats that are a primary reason for selection of this site:</b></p> <ul style="list-style-type: none"> <li>Sandbanks which are slightly covered by sea water all the time; Subtidal sandbanks</li> <li>Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats</li> <li>Coastal lagoons</li> <li>Large shallow inlets and bays</li> <li>Reefs</li> <li>Salicornia and other annuals colonising mud and sand; Glasswort and other annuals colonising mud and sand</li> <li>Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)</li> <li>Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>);</li> <li>Mediterranean saltmarsh scrub</li> </ul> <p><b>Annex II species present as a qualifying feature, but not a primary reason for site selection</b></p> <ul style="list-style-type: none"> <li>Otter <i>Lutra lutra</i></li> <li>Common seal <i>Phoca vitulina</i></li> </ul>	European site not identified in the NSER [PSC-014].	LSE (Table 4.1 of [REP2-019]) for: <ul style="list-style-type: none"> <li>Harbour<sup>12</sup> seal for: <ul style="list-style-type: none"> <li>disturbance from the physical presence of pipeline and NUI installation vessels</li> <li>disturbance to marine mammals</li> <li>disturbance from vessels and activities associated with the operation of the Offshore Scheme</li> </ul> </li> </ul>	No AEIOI (Tables 4.3, 4.4 and 5.1 of [REP-019]).

<sup>11</sup> In relation to European sites to be considered in the assessment, NE identified the Wash and North Norfolk Coast SAC as a site that could be affected (paragraph 5.1.17 of [REP1-026]). This site was not considered as part of the applicant's NSER for the onshore scheme [PSC-014]. The applicant provided a document entitled 'Project Habitat Regulations Assessment Report' [REP2-019] at Deadline 2 which considered all of the European sites identified in the NSER as well as the Wash and North Norfolk Coast SAC.

<sup>12</sup> Note: Table 4.1 of the Project Habitat Regulations Assessment Report [REP2-019] refers to Harbour seal, whereas Table 3.7 of the same document refers to the Common seal as a feature of the site. The same Latin name for the species (*Phoca vitulina*) has been provided and it is assumed the names have been unintentionally used interchangeably in the report.