



REPORT on the IMPLICATIONS for EUROPEAN SITES Proposed East Anglia ONE Offshore Windfarm

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

5 November 2013

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1.0 INTRODUCTION

Background

East Anglia ONE Limited (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) for the proposed East Anglia ONE Offshore Windfarm. 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.

The relevant Secretary of State is the competent authority for the purposes of the Habitats Directive¹ and the 2010 Habitats Regulations² for applications submitted under the Planning Act regime (as amended). The findings and conclusions on nature conservation issues reported by the Examining Authority will assist the Secretary of State in performing its duties under the Habitats Regulations.

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. It is issued to ensure that interested parties including the statutory nature conservation bodies, Joint Nature Conservation Committee (JNCC) and Natural England (NE), 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.

Attention is drawn in particular to integrity matrix 3.4 and the potential impacts of the project in-combination with other projects on Gannet and Kittiwake. Please note the comments raised by NE regarding a strategic approach to the allocation of wind resource in the North Sea. The ExA would welcome comments from Interested Parties on this matter spelling out in particular the practical implications of this approach and if possible how this could be progressed and the likely timescales involved.

In addition, the ExA would welcome a copy of the citation documents from NE relating to the consultation on the Flamborough Head and Filey Coast as an SPA and comments from Interested Parties about whether this emerging designation affects the assessment by the applicant of the

¹ 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')

² The Conservation of Habitats and Species Regulations 2010 (as amended) (the 2010 Habitats Regulations). The Offshore Marine Conservation (Natural Habitats, &c) Regulations 2007 (as amended) (Offshore Marine Regulations) will 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).

impact of the project on internationally designated sites and the provision of sufficient information to inform an Appropriate Assessment.

Documents Used to Inform this Report

The applicant completed the screening and integrity matrices in response to a Rule 17 Request issued by the Examining Authority on 5 August 2013 (submitted to the Examining Authority on 27 August 2013).

These matrices presented the applicant's evidence on whether the project, alone or in-combination with other projects, potentially affects a European site³, and whether it is likely to have a significant impact on key features of each European site.

The matrices presented within this report have been updated by the Examining Authority, with the support of the Environmental Services Team of the Planning Inspectorate, throughout the examination using the following documents:

Application Documents

- Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)
- Volume 2 Chapter 11 of the ES (Marine Mammals) (Doc Ref: APP-079)
- Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)
- Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)
- EAOL - Draft Development Consent Order (Version 5 - October 2013) (Doc Ref: APP-246)

Representations

- EOAL – Less Black Backed Gull Tagging Data Analysis as part of the Applicant's response to the Examining Authority's first questions, 30 July 2013 (REP-227)
- EOAL – Lesser Black Backed Gull Technical Clarification Note as part of the Applicant's response to the Examining Authority's first questions, 30 July 2013 (REP-228)

³ European sites include Special Areas of Conservation (SACs), candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs) which are protected under the Habitats Regulations. As a matter of policy, the Government also applies the procedures of the Habitats Regulations to potential SPAs (pSPAs), Ramsar sites, and (in England) proposed Ramsar sites and sites identified, or required, as compensatory measures for adverse effects on any of the above sites.

- EOAL – Diver Displacement Technical Note as part of the Applicant’s response to the Examining Authority’s first questions, 30 July 2013 (REP-216)
- Natural England and JNCC Written Representation, 30 July 2013 (Doc Ref: REP-150)
- Annex D Dr Richard Caldwor expert report on Coastal and Offshore Ornithology HRA of NE and JNCC’s Written Representation, 30 July 2013 (REP-155).
- Natural England Representation received on 18 October 2013 for Deadline III, (Doc Ref: REP-276)
- EAOL - Response to the Tiered Approach (October 2013) (Doc Ref: REP-312)

Statements of Common Ground

- EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184)
- EAOL – Statement of Common Ground with Suffolk County Council and Mid Suffolk District Council and Suffolk Coastal District Council and Environment Agency and Internal Drainage Board and Natural England and Suffolk Wildlife Trust (Doc Ref: REP-188)

Structure of this Report

The remainder of this report is in three parts:

Section 2 identifies the European sites, potential impacts, mitigation measures and the main issues that were considered within the HRA process

Section 3 comprises screening matrices for the European sites that might potentially be affected by the project (Stage 1 of the HRA process). These matrices collate evidence on whether the project is likely to have significant effects on the key features of each European site alone, or in combination with other projects. The European sites for which a likely significant effect is identified on one or more of its key features are taken forward to Section 3 of this report, and

Section 4 comprises matrices for the European sites identified in Section 2 for which a likely significant effect cannot be excluded. The matrices summarises the anticipated effects on the integrity of the European sites, in the context of their conservation objectives (Stage 2 of the HRA process).

2.0 KEY POINTS

European Sites

The project is not connected with or necessary to the management for nature conservation of any of the European sites considered within the assessment.

The applicant's HRA Report identified the following European sites for inclusion within the assessment:

- Alde, Ore and Butley Estuaries SAC
- Benacre to Easton Bavents Lagoons SAC
- Essex Estuaries SAC
- Flamborough Head SAC
- Hainsborough, Hammond and Winterton SCI
- Humber Estuary SAC
- Inner Dowsing, Race Bank and North Ridge cSAC
- Margate and Long Sands SCI
- Minsmere to Walberswick Heaths and Marshes SAC
- North Norfolk Coast SAC
- North Norfolk Sandbanks and Saturn Reef cSAC
- Orfordness Shingle Street SAC
- Saltfleeby-Theddlethorpe Dunes and Gibraltar Point SAC
- Thanet Coast SAC
- The Wash and North Norfolk SAC
- Winterton Horsey Dunes SAC
- Alde-Ore Estuary SPA
- Alde-Ore Estuary Ramsar
- Benfleet and Southend Marshes SPA
- Blackwater Estuary SPA
- Chesil Beach and The Fleet SPA
- Chichester and Langstone Harbour SPA
- Colne Estuary SPA
- Crouch and Roach Estuary SPA
- Deben Estuary SPA
- Deben Estuary Ramsar
- Exe Estuary SPA
- Flamborough Head and Bempton Cliffs SPA

- Foulness SPA
- Hamford Water SPA
- Humber Estuary SPA
- Lough Foyle SPA
- Medway Estuary and Marshes SPA
- North Norfolk Coast SPA
- Outer Thames Estuary SPA
- Portsmouth Harbour SPA
- Solent and Southampton Water SPA
- Stour and Orwell Estuaries SPA
- The Swale SPA
- The Wash SPA
- Hermaness, Saxa Vord and Valla Field SPA
- Firth of Forth Islands SPA
- Noss SPA
- Fair Isle SPA
- Fetlar SPA
- Foula SPA
- Hoy SPA

The Applicants' Habitats Regulations Assessment Report (Version 2 - September 2013) submitted in response to Rule 17 request states at Section 5 paragraph 69 that the screening for Likely Significant Effect was carried out as a two stage filtering process (initially a coarse filter, then a more detailed assessment) with re-iteration after the consultation stages and after the detailed discussions held with NE and JNCC in the post submission stage. NE and JNCC have submitted numerous representations during the examination process and with the exception of updated information in relation to the Ministerial consent regarding Flamborough Head and Filey Coast pSPA (Written Summary of the Oral Case put by Natural England during the Issues Specific Hearing 18 October 2013) they have not expressed any concerns regarding the sites considered by the Applicants' HRA.

Potential Impacts

The potential impacts upon the identified European sites which are/ considered within the applicant's HRA Report are provided in the table below.

Potential impacts considered within the screening (Stage 1) and effects on integrity (Stage 2) matrices

Designated sites	Impacts in submission information	Presented in matrices as
e.g. SAC	<ul style="list-style-type: none"> • Development occurring within the SAC leading to direct habitat loss 	<ul style="list-style-type: none"> • Direct Habitat Loss
	<ul style="list-style-type: none"> • Indirect habitat loss from impacts to natural processes e.g, rates of erosion, availability of prey species 	<ul style="list-style-type: none"> • Indirect Habitat Loss
eg SPA	<ul style="list-style-type: none"> • Mortality as a result with collision with wind turbines • Attraction to lit structures 	<ul style="list-style-type: none"> • Collision risk

Designated sites	Impacts submission information	Presented matrices as
	<ul style="list-style-type: none"> • Disturbance and displacement due to presence of vessels and construction equipment • Indirect effects on bird prey species through physical habitat damage/disturbance • Effects on bird prey species through accidental pollution event 	<ul style="list-style-type: none"> • Disturbance / displacement
	<ul style="list-style-type: none"> • Interruption of bird flight paths to avoid wind farms by flying around turbines/array 	<ul style="list-style-type: none"> • Barrier effect

Some impacts have been grouped together for ease of presentation.

A significant effect is considered to be any effect that may be reasonably predicted to occur that may affect the conservation objectives of the features for which the site was designated, and that therefore could have an adverse effect on the integrity of the site. This follows EC guidance on habitats assessment (EC Guidance document: 'Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (2000)' and EC Guidance document: 'Assessment of plans and projects significantly affecting Natura 2000 sites (2001)').

In-combination impacts

The applicant has addressed in-combination impacts within the matrices. The following projects have been included in the in-combination assessment carried out by the applicant:

- Greater Gabbard
- Gunfleet Sands
- Lynn and Inner Dowsing
- Sheringham Shoal
- Scroby Sands
- Thanet
- London Array
- Kentish Flats
- Beatrice (demonstrator)
- Lincs
- Teeside (South Sharpley)
- Humber Gateway
- Dudgeon
- Galloper
- Westermost Rough
- Race Bank
- Triton Knoll
- European Offshore Wind Deployment Centre

The applicants' approach to the in-combination assessment and specifically which projects should be considered within the assessment is an area of disagreement between the applicant and NE. Following the Issue Specific Hearing held on 17 September 2013 the ExA requested that the applicant respond by 21 October to the tiered approach identified by NE and JNCC as a method of resolving the deliberations regarding what projects should be included in cumulative assessments. The applicant's response to the tiered approach was received by the ExA on 21 October 2013 and provides additional information in relation to in-combination impacts of collision risk for gannet and kittiwake at Flamborough Head and Bempton Cliffs SPA. The additional information does not include an assessment of the in-combination impacts and has only provided data based on a 99% avoidance rate for gannets. The additional projects considered are as follows:

- Rampion
- Hornsea Project 1
- Dogger Bank Creyke Beck

- Neart Ne Goithe
- Firth Of Forth
- Inch Cape
- Moray Firth
- Beatrice
- Navitus Bay
- Hornsea Project 2
- Dogger Bank Teeside
- East Anglia Three
- East Anglia Four
- East Anglia Future Projects
- Hornsea Future Projects

Figures based on a 98% avoidance rate for gannets have been provided in Table 3.7b of the Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269), however these figures do not take into account the additional projects listed above.

Mitigation measures

Mitigation measures have been proposed to avoid/reduce impacts to below significant levels for some key interest features. Specific mitigation measures applicable to interest features considered are identified in the matrices as appropriate.

Issues

There is a continued disagreement between the applicant and the SNCB (NE and JNCC) regarding the projects that should be included within the in-combination assessment. The applicant has recently submitted additional information in response to JNCC and NE's suggested tiers for cumulative impact assessment.

There is a continued disagreement between the applicant and NE and JNCC regarding the appropriate collision risk avoidance rate to use in relation to gannets.

Likely significant effects

As a result of the screening assessment, the applicant concluded that significant effects cannot be excluded on the following European sites:

- Alde Ore Estuary SPA (Herring Gull & Lesser Black Backed Gull)
- Flamborough Head and Bempton Cliffs SPA (Gannet and Kittiwake)

The scope of the screening exercise and its conclusion has been agreed with NE and JNCC following submission of additional information during the examination.

The features of the European sites detailed above have therefore been taken forward to the integrity matrices in Section 4 of this report.

Effects on integrity

The applicant concluded that the project will not adversely affect the integrity of the following European site(s) and feature(s):

- Alde Ore Estuary SPA (Herring Gull & Lesser Black Backed Gull)
- Flamborough Head and Bempton Cliffs SPA (Gannet and Kittiwake)

3.0 STAGE 1: SCREENING FOR LIKELY SIGNIFICANT EFFECTS

Background

The project is not connected with or necessary to the management for nature conservation of the European site(s) considered within the assessment.

This section reports on the screening for likely significant effects of the project in relation to the potentially affected European site(s).

Stage 1 Matrices Key

X = Likely significant effect cannot be excluded

✓ = Likely significant effect can be excluded

C= construction

O = operation

D = decommissioning

Evidence supporting the conclusions is detailed in footnotes for each table with reference to relevant supporting documentation.

Where an impact is not considered relevant for a feature of a European site, the cell in the matrix is formatted as follows:

n/a

Screening Matrices

Stage 1 Matrix 3.1: Alde, Ore and Butley Estuaries SAC (project alone and in-combination)

Site Code: UK0030076

Distance to project: Not stated

European site features	Likely Effects of NSIP								
	Direct Habitat Loss			Indirect Habitat Loss			In-combination Effects		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>			
Estuaries	*a	*a	*a	*a	*a	*a	*a	*a	*a
Mudflats and sandflats not covered by seawater at low tide	*a	*a	*a	*a	*a	*a	*a	*a	*a
Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	*a	*a	*a	*a	*a	*a	*a	*a	*a

- a The potential impacts on marine geology, oceanography and physical processes are reported in Chapter 6 of the ES. The results of the hydrodynamic and sedimentological modelling concluded that there would be no LSE on habitat features of those SACs on the coast or offshore areas of eastern England (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 104**).

In the Statement of Common Ground with NE/JNCC, it is agreed that there will be no LSE on Annex 1 habitats resulting from the project alone or in-combination (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, Parts 4a and 5a,**). In addition, in **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, 6a** it is agreed that SACs and cSACs can be screened out of further assessment.

Stage 1 Matrix 3.2: Benacre to Easton Barents Lagoons SAC (project alone and in-combination)

Site Code: UK0013104

Distance to project: Not stated

European site features	Likely Effects of NSIP								
	Direct Habitat Loss			Indirect Habitat Loss			In-combination Effects		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>			
Coastal Lagoons	xa	xa	xa	xa	xa	xa	xa	xa	xa

- a The potential impacts on marine geology, oceanography and physical processes are reported in Chapter 6 of the ES. The results of the hydrodynamic and sedimentological modelling concluded that there would be no LSE on habitat features of those SACs on the coast or offshore areas of eastern England (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 104**).

In the Statement of Common Ground with NE/JNCC, it is agreed that there will be no LSE on Annex 1 habitats resulting from the project alone or in-combination (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, Parts 4a and 5a**. In addition, in **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, 6a** it is agreed that SACs and cSACs can be screened out of further assessment.

Stage 1 Matrix 3.3: Essex Estuaries SAC (project alone and in-combination)

Site Code: UK0013690

Distance to project: Not stated

European site features	Likely Effects of NSIP								
	Direct Habitat Loss			Indirect Habitat Loss			In-combination Effects		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>			
Estuaries	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
Salicornia and other annuals colonizing mud and sand	xa	xa	xa	xa	xa	xa	xa	xa	xa
Spartina swards	xa	xa	xa	xa	xa	xa	xa	xa	xa

(Spartinion maritimae)									
Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	*a	*a	*a	*a	*a	*a	*a	*a	*a
Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)	*a	*a	*a	*a	*a	*a	*a	*a	*a
Sandbanks which are slightly covered by sea water all the time	*a	*a	*a	*a	*a	*a	*a	*a	*a

- a The potential impacts on marine geology, oceanography and physical processes are reported in Chapter 6 of the ES. The results of the hydrodynamic and sedimentological modelling concluded that there would be no LSE on habitat features of those SACs on the coast or offshore areas of eastern England (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 104**).

In the Statement of Common Ground with NE/JNCC, it is agreed that there will be no LSE on Annex 1 habitats resulting from the project alone or in-combination (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, Parts 4a and 5a**). In addition, in **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, 6a** it is agreed that SACs and cSACs can be screened out of further assessment.

Stage 1 Matrix 3.4: Flamborough Head SAC (project alone and in-combination)

Site Code: UK00130136

Distance to project: Not stated

European site features	Likely Effects of NSIP								
	Direct Habitat Loss			Indirect Habitat Loss			In-combination Effects		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>			
Reefs	*a	*a	*a	*a	*a	*a	*a	*a	*a
Vegetated sea cliffs of the Atlantic and Baltic Coasts	*a	*a	*a	*a	*a	*a	*a	*a	*a
Submerged or partially submerged sea caves	*a	*a	*a	*a	*a	*a	*a	*a	*a

- a The potential impacts on marine geology, oceanography and physical processes are reported in Chapter 6 of the ES. The results of the hydrodynamic and sedimentological modelling concluded that there would be no LSE on habitat features of those SACs on the coast or offshore areas of eastern England (**Habitats Regulations Assessment**

Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 104).

In the Statement of Common Ground with NE/JNCC, it is agreed that there will be no LSE on Annex 1 habitats resulting from the project alone or in-combination (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, Parts 4a and 5a**). In addition, in **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, 6a** it is agreed that SACs and cSACs can be screened out of further assessment.

Stage 1 Matrix 3.5: Hainsborough, Hammond and Winterton SCI (project alone and in-combination)

Site Code: UK0030369

Distance to project: Not stated

European site features	Likely Effects of NSIP								
	Direct Habitat Loss			Indirect Habitat Loss			In-combination Effects		
	<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 of the time	*a	*a	*a	*a	*a	*a	*a	*a	*a
Reefs	*a	*a	*a	*a	*a	*a	*a	*a	*a

- a The potential impacts on marine geology, oceanography and physical processes are reported in Chapter 6 of the ES. The results of the hydrodynamic and sedimentological modelling concluded that there would be no LSE on habitat features of those SACs on the coast or offshore areas of eastern England (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269) paragraph 104**).

In the Statement of Common Ground with NE/JNCC, it is agreed that there will be no LSE on Annex 1 habitats resulting from the project alone or in-combination (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, Parts 4a and 5a**). In addition, in **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, 6a** it is agreed that SACs and cSACs can be screened out of further assessment.

Stage 1 Matrix 3.6: Humber Estuary SAC (project alone and in-combination)

Site code: UK0030170

Distance to project: Not stated

European site features	Likely Effects of NSIP															
	Collision Risk			Disturbance / Displacement			Barrier Effect			Direct Habitat Loss			Indirect Habitat Loss			In-combination Effects
	<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>	<i>C</i>	<i>O</i>	<i>D</i>	
Grey seal, <i>Halichoerus grypus</i>	n/a	n/a	n/a	*a	*a	*a	n/a	*b	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Harbour seal, <i>Phoca vitulina</i>	n/a	n/a	n/a	*a	*a	*a	n/a	*b	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*a,b
Sea Lamprey, <i>Petromyzon marinus</i>	*c	*c	*c	*c	*c	*c	*c	*c	*c	n/a	n/a	n/a	n/a	n/a	n/a	*c
River Lamprey, <i>Lampetra fluviatilis</i>	*c	*c	*c	*c	*c	*c	*c	*c	*c	n/a	n/a	n/a	n/a	n/a	n/a	*c
Twaiite shad, <i>Alosa fallax</i>	*c	*c	*c	*c	*c	*c	*c	*c	*c	n/a	n/a	n/a	n/a	n/a	n/a	*c

Allis shad, <i>Alosa alosa</i>	x c	x c	x c	x c	x c	x c	x c	x c	x c	x c	n/a	n/a	n/a	n/a	n/a	n/a	x c
Estuaries	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	x d	x d	x d	x d	x d	x d	x d
Sandbanks which are slightly covered by sea water all the time (subtidal sandbanks)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	x d	x d	x d	x d	x d	x d	x d
Mudflats and sandflats not covered by seawater at low tide (intertidal mudflats and sandflats)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	x d	x d	x d	x d	x d	x d	x d
Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	x d	x d	x d	x d	x d	x d	x d
Coastal lagoons	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	x d	x d	x d	x d	x d	x d	x d
Annual vegetation of drift lines	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	x d	x d	x d	x d	x d	x d	x d
<i>Salicornia</i> and other annuals colonizing mud and sand	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	x d	x d	x d	x d	x d	x d	x d

<i>Spartina</i> swards (<i>Spartinion</i> <i>maritimae</i>)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*d	*d	*d	*d	*d	*d	*d
Embryonic shifting dunes	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*d	*d	*d	*d	*d	*d	*d
Shifting dunes along the shoreline with <i>Ammophila</i> <i>arenaria</i> (white dunes)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*d	*d	*d	*d	*d	*d	*d
Fixed dunes with herbaceous vegetation (grey dunes)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*d	*d	*d	*d	*d	*d	*d
Dunes with <i>Hippophae</i> <i>rhamnoides</i>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*d	*d	*d	*d	*d	*d	*d

- a The potential impacts on marine mammals are reported in **Volume 2 Chapter 11 of the ES (Doc Ref: APP-079)**. Based upon the assessment of disturbance / displacement caused by direct effect of noise, effects of construction and maintenance vessels and indirect effects of noise on its prey species reported within the ES and the information provided within the **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)** the Applicant has concluded that there will be no likely significant effect on the marine mammal interest features of the Humber Estuary SAC.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on marine mammals alone and in combination assuming the inclusion of the embedded mitigation as described, a commitment to the development of the MMMP with agreement with SNCBs and that mitigation is carried out as described (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1. 6a**). Condition 9(f) of the Deemed Marine Licence (**EAOL - Draft**

Development Consent Order (Version 5 – October 2013) (Doc Ref: APP-246) secures the MMMP and **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, 5a** confirms the agreement that the conditions provided within the deemed marine licence are appropriate and adequate.

- b The potential impacts on marine mammals are reported in **Volume 2 Chapter 11 of the ES (Doc Ref: APP-079)**. Based upon the assessment of barrier effects reported within the ES and the information provided within the **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)** the Applicant has concluded that there will be no likely significant effect on the marine mammal interest features of the Humber Estuary SAC.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on marine mammals alone and in combination assuming the inclusion of the embedded mitigation as described, a commitment to the development of the MMMP with agreement with SNCBs and that mitigation is carried out as described (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1. 6a**). Condition 9(f) of the Deemed Marine Licence (**EAOL - Draft Development Consent Order (Version 5 – October 2013) (Doc Ref: APP-246)** secures the MMMP and **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, 5a** confirms the agreement that the conditions provided within the deemed marine licence are appropriate and adequate.

- c The feature is identified within the site JNCC SAC description but has not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated features of the Humber Estuary SAC (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1. 6a**).

- d The potential impacts on marine geology, oceanography and physical processes are reported in Chapter 6 of the ES. The results of the hydrodynamic and sedimentological modelling concluded that there would be no LSE on habitat

features of those SACs on the coast or offshore areas of eastern England (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 104**).

In the Statement of Common Ground with NE/JNCC, it is agreed that there will be no LSE on Annex 1 habitats resulting from the project alone or in-combination (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, Parts 4a and 5a**). In addition, in **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, 6a** it is agreed that SACs and cSACs can be screened out of further assessment.

Stage 1 Matrix 3.7: Inner Dowsing, Race Bank and North Ridge cSAC (project alone and in-combination)

Site Code: UK0030370

Distance to project: Not stated

European features	site	Likely Effects of NSIP															In-combination Effects
		Collision Risk			Disturbance / Displacement			Barrier Effect			Direct Habitat Loss			Indirect Habitat Loss			
		<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>	<i>C</i>	<i>O</i>	<i>D</i>	
Harbour porpoise, <i>Phocoena phocoena</i>		n/a	n/a	n/a	*a	*a	*a	n/a	*b	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*a, b
Grey seal, <i>Halichoerus grypus</i>		n/a	n/a	n/a	*a	*a	*a	n/a	*b	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*a, b
Sandbanks slightly covered by seawater at all times		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*c	*c	*c	*c	*c	*c	*c

Reefs (of <i>Sabellaria alveolata</i>)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*c	*c	*c	*c	*c	*c	
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- a The potential impacts on marine mammals are reported in **Volume 2 Chapter 11 of the ES (Doc Ref: APP-079)**. Based upon the assessment of disturbance / displacement caused by direct effect of noise, effects of construction and maintenance vessels and indirect effects of noise on its prey species reported within the ES and the information provided within the **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)** the Applicant has concluded that there will be no likely significant effect on the marine mammal interest features of the Inner Dowsing, Race Bank and North Ridge cSAC.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on marine mammals alone and in combination assuming the inclusion of the embedded mitigation as described, a commitment to the development of the MMMP with agreement with SNCBs and that mitigation is carried out as described (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1. 6a**). Condition 9(f) of the Deemed Marine Licence (**EAOL - Draft Development Consent Order (Version 5 – October 2013) (Doc Ref: APP-246)** secures the MMMP and **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, 5a** confirms the agreement that the conditions provided within the deemed marine licence are appropriate and adequate.

- b The potential impacts on marine mammals are reported in **Volume 2 Chapter 11 of the ES (Doc Ref: APP-079)**. Based upon the assessment of barrier effects reported within the ES and the information provided within the **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)** the Applicant has concluded that there will be no likely significant effect on the marine mammal interest features of the Inner Dowsing, Race Bank and North Ridge cSAC.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on marine mammals alone and in combination assuming the inclusion of the embedded mitigation as described, a commitment to the development of the MMMP with agreement with SNCBs and that mitigation is carried out as described (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July**

2013 (Doc Ref: REP-184), Section 3.1. 6a). Condition 9(f) of the Deemed Marine Licence (**EAOL - Draft Development Consent Order (Version 5 – October 2013) (Doc Ref: APP-246)**) secures the MMMP and **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, 5a** confirms the agreement that the conditions provided within the deemed marine licence are appropriate and adequate.

- c The potential impacts on marine geology, oceanography and physical processes are reported in Chapter 6 of the ES. The results of the hydrodynamic and sedimentological modelling concluded that there would be no LSE on habitat features of those SACs on the coast or offshore areas of eastern England (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269) paragraph 104**).

In the Statement of Common Ground with NE/JNCC, it is agreed that there will be no LSE on Annex 1 habitats resulting from the project alone or in-combination (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, Parts 4a and 5a**). In addition, in **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, 6a** it is agreed that SACs and cSACs can be screened out of further assessment.

Stage 1 Matrix 3.8: Margate and Long Sands SCI (project alone and in-combination)

Site Code: UK0030371

Distance to project: Not stated

European site features	Likely Effects of NSIP								
	Direct Habitat Loss			Indirect Habitat Loss			In-combination Effects		
	<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 of the time	*a	*a	*a	*a	*a	*a	*a	*a	*a

- a The potential impacts on marine geology, oceanography and physical processes are reported in Chapter 6 of the ES. The results of the hydrodynamic and sedimentological modelling concluded that there would be no LSE on habitat features of those SACs on the coast or offshore areas of eastern England (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269) paragraph 104**).

In the Statement of Common Ground with NE/JNCC, it is agreed that there will be no LSE on Annex 1 habitats resulting from the project alone or in-combination (**EAOL – Statement of Common Ground with JNCC and**

Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, Parts 4a and 5a). In addition, in **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, 6a** it is agreed that SACs and cSACs can be screened out of further assessment.

Stage 1 Matrix 3.9: Minsmere to Walberswick Heaths and Marshes SAC (project alone and in-combination)

Site Code: UK0012809

Distance to project: Not stated

European site features	Likely Effects of NSIP								
	Direct Habitat Loss			Indirect Habitat Loss			In-combination Effects		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>			
Annual vegetation of drift lines	*a	*a	*a	*a	*a	*a	*a	*a	*a
European dry heaths	*a	*a	*a	*a	*a	*a	*a	*a	*a
Perennial vegetation of stony banks	*a	*a	*a	*a	*a	*a	*a	*a	*a

- a The potential impacts on marine geology, oceanography and physical processes are reported in Chapter 6 of the ES. The results of the hydrodynamic and sedimentological modelling concluded that there would be no LSE on habitat features of those SACs on the coast or offshore areas of eastern England (**Habitats Regulations Assessment**

Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269) paragraph 104).

In the Statement of Common Ground with NE/JNCC, it is agreed that there will be no LSE on Annex 1 habitats resulting from the project alone or in-combination (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, Parts 4a and 5a**). In addition, in **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, 6a** it is agreed that SACs and cSACs can be screened out of further assessment.

Stage 1 Matrix 3.10: North Norfolk Coast SAC (project alone and in-combination)

Site Code: UK0019838

Distance to project: Not stated

European features	site	Likely Effects of NSIP																																				
		Collision Risk			Disturbance / Displacement			Barrier Effect			Direct Habitat Loss			Indirect Habitat Loss			In-combination Effects																					
		<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>	<i>C</i>	<i>O</i>	<i>D</i>																						
Coastal lagoons	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	*a	*a	*a	*a	*a	*a	*a	*a												
Perennial vegetation of stony banks	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*a	*a	*a	*a	*a	*a						
Mediterranean and thermo-Atlantic halophilous scrubs (Sarcocornetea fruticosi)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*a	*a	*a	*a	*a		
Embryonic shifting dunes	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*a	*a	*a	*a	*a

Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*a	*a	*a	*a	*a	*a	*a
Fixed coastal dunes with herbaceous vegetation ("grey dunes")	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*a	*a	*a	*a	*a	*a	*a
Humid dune slacks	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*a	*a	*a	*a	*a	*a	*a
Petalwort	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*a	*a	*a	*a	*a	*a	*a
Otter, <i>Lutra Lutra</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	n/a	n/a	n/a	n/a	n/a	n/a	*b

- a The potential impacts on marine geology, oceanography and physical processes are reported in Chapter 6 of the ES. The results of the hydrodynamic and sedimentological modelling concluded that there would be no LSE on habitat features of those SACs on the coast or offshore areas of eastern England (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269) paragraph 104**).

In the Statement of Common Ground with NE/JNCC, it is agreed that there will be no LSE on Annex 1 habitats resulting from the project alone or in-combination (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, Parts 4a and 5a**). In addition, in **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, 6a** it is agreed that SACs and cSACs can be screened out of further assessment.

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on marine mammals alone and in combination assuming the inclusion of the embedded mitigation as described, a commitment to the development of the MMMP with agreement with SNCBs and that mitigation is carried out as described (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1. 6a**). Condition 9(f) of the Deemed Marine Licence (**EAOL - Draft Development Consent Order (Version 5 – October 2013) (Doc Ref: APP-246)**) secures the MMMP and **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, 5a** confirms the agreement that the conditions provided within the deemed marine licence are appropriate and adequate.

Stage 1 Matrix 3.11: North Norfolk Sandbanks and Saturn Reef cSAC (project alone and in-combination)

Site Code: UK0030358

Distance to project: Not stated

European site features	Likely Effects of NSIP								
	Direct Habitat Loss			Indirect Habitat Loss			In-combination Effects		
	<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	*a	*a	*a	*a	*a	*a	*a	*a	*a
Reefs	*a	*a	*a	*a	*a	*a	*a	*a	*a

- a The potential impacts on marine geology, oceanography and physical processes are reported in Chapter 6 of the ES. The results of the hydrodynamic and sedimentological modelling concluded that there would be no LSE on habitat features of those SACs on the coast or offshore areas of eastern England (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269) paragraph 104**).

In the Statement of Common Ground with NE/JNCC, it is agreed that there will be no LSE on Annex 1 habitats resulting from the project alone or in-combination (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, Parts 4a and 5a**). In addition, in **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, 6a** it is agreed that SACs and cSACs can be screened out of further assessment.

Stage 1 Matrix 3.12: Orfordness Shingle Street SAC (project alone and in-combination)

Site Code: UK0014780

Distance to project: Not stated

European site features	Likely Effects of NSIP								
	Direct Habitat Loss			Indirect Habitat Loss			In-combination Effects		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>			
Coastal Lagoons	xa	xa	xa	xa	xa	xa	xa	xa	xa
Annual vegetation of drift lines	xa	xa	xa	xa	xa	xa	xa	xa	xa
Perennial vegetation of stony banks	xa	xa	xa	xa	xa	xa	xa	xa	xa

- a The potential impacts on marine geology, oceanography and physical processes are reported in Chapter 6 of the ES. The results of the hydrodynamic and sedimentological modelling concluded that there would be no LSE on habitat features of those SACs on the coast or offshore areas of eastern England (**Habitats Regulations Assessment**

Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269) paragraph 104).

In the Statement of Common Ground with NE/JNCC, it is agreed that there will be no LSE on Annex 1 habitats resulting from the project alone or in-combination (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, Parts 4a and 5a**). In addition, in **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, 6a** it is agreed that SACs and cSACs can be screened out of further assessment.

Stage 1 Matrix 3.13: Saltfleeby-Theddlethorpe Dunes and Gibraltar Point SAC (project alone and in-combination)

Site Code: UK0030270

Distance to project: Not stated

European site features	Likely Effects of NSIP								
	Direct Habitat Loss			Indirect Habitat Loss			In-combination Effects		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>			
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")	*a	*a	*a	*a	*a	*a	*a	*a	*a
Fixed coastal dunes with herbaceous vegetation ("grey dunes")	*a	*a	*a	*a	*a	*a	*a	*a	*a
Dunes with <i>Hippophae rhamnoides</i>	*a	*a	*a	*a	*a	*a	*a	*a	*a

Humid dune slacks	*a	*a	*a	*a	*a	*a	*a	*a	*a
Embryonic shifting dunes	*a	*a	*a	*a	*a	*a	*a	*a	*a

- a The potential impacts on marine geology, oceanography and physical processes are reported in Chapter 6 of the ES. The results of the hydrodynamic and sedimentological modelling concluded that there would be no LSE on habitat features of those SACs on the coast or offshore areas of eastern England (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269) paragraph 104**).

In the Statement of Common Ground with NE/JNCC, it is agreed that there will be no LSE on Annex 1 habitats resulting from the project alone or in-combination (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, Parts 4a and 5a**). In addition, in **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, 6a** it is agreed that SACs and cSACs can be screened out of further assessment.

Stage 1 Matrix 3.14: Thanet Coast SAC (project alone and in-combination)

Site Code: UK0013107

Distance to project: Not stated

European site features	Likely Effects of NSIP								
	Direct Habitat Loss			Indirect Habitat Loss			In-combination Effects		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>			
Reefs	*a	*a	*a	*a	*a	*a	*a	*a	*a
Submerged or partially submerged sea caves	*a	*a	*a	*a	*a	*a	*a	*a	*a

- a The potential impacts on marine geology, oceanography and physical processes are reported in Chapter 6 of the ES. The results of the hydrodynamic and sedimentological modelling concluded that there would be no LSE on habitat features of those SACs on the coast or offshore areas of eastern England (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269) paragraph 104**).

In the Statement of Common Ground with NE/JNCC, it is agreed that there will be no LSE on Annex 1 habitats resulting from the project alone or in-combination (**EAOL – Statement of Common Ground with JNCC and**

Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, Parts 4a and 5a). In addition, in **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, 6a** it is agreed that SACs and cSACs can be screened out of further assessment.

Stage 1 Matrix 3.15: The Wash and North Norfolk SAC (project alone and in-combination)

Site Code: UK0017075

Distance to project: Not stated

European features	site	Likely Effects of NSIP															
		Collision Risk			Disturbance / Displacement			Barrier Effect			Direct Habitat Loss			Indirect Habitat Loss			In-combination Effects
		<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>	<i>C</i>	<i>O</i>	<i>D</i>	
Grey seal, <i>Halichoerus grypus</i>	n/a	n/a	n/a	*a	*a	*a	n/a	*b	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*a, b	
Harbour seal, <i>Phoca vitulina</i>	n/a	n/a	n/a	*a	*a	*a	n/a	*b	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*a, b	
Otter, <i>Lutra lutra</i>	*c	*c	*c	*c	*c	*c	*c	*c	*c	n/a	n/a	n/a	n/a	n/a	n/a	*c	
Sandbanks which are slightly covered by sea water all the time (subtidal sandbanks)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	*d	*d	*d	*d	*d	*d	*d	

Mudflats and sandflats not covered by seawater at low tide (intertidal mudflats and sandflats)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	x/d	x/d	x/d	x/d	x/d	x/d	x/d
Coastal lagoons	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	x/d	x/d	x/d	x/d	x/d	x/d	x/d
Large shallow inlets and bays	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	x/d	x/d	x/d	x/d	x/d	x/d	x/d
Reefs	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	x/d	x/d	x/d	x/d	x/d	x/d	x/d
<i>Salicornia</i> and other annuals colonising mud and sand	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	x/d	x/d	x/d	x/d	x/d	x/d	x/d
<i>Spartina</i> swards, <i>Spartinion maritimae</i>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	x/d	x/d	x/d	x/d	x/d	x/d	x/d
Atlantic salt meadows, <i>Glaucopuccinellietalia maritimae</i>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	x/d	x/d	x/d	x/d	x/d	x/d	x/d
Mediterranean and thermo-Atlantic halophilous scrubs (<i>Sarcocornetea fruticosi</i>)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	x/d	x/d	x/d	x/d	x/d	x/d	x/d

- a The potential impacts on marine mammals are reported in **Volume 2 Chapter 11 of the ES (Doc Ref: APP-079)**. Based upon the assessment of disturbance / displacement caused by direct effect of noise, effects of construction and maintenance vessels and indirect effects of noise on its prey species reported within the ES and the information provided within the **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)** the Applicant has concluded that there will be no likely significant effect on the marine mammal interest features of The Wash and North Norfolk SAC.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on marine mammals alone and in combination assuming the inclusion of the embedded mitigation as described, a commitment to the development of the MMMP with agreement with SNCBs and that mitigation is carried out as described (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1. 6a**). Condition 9(f) of the Deemed Marine Licence (**EAOL - Draft Development Consent Order (Version 5 – October 2013) (Doc Ref: APP-246)**) secures the MMMP and **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, 5a** confirms the agreement that the conditions provided within the deemed marine licence are appropriate and adequate.

- b The potential impacts on marine mammals are reported in **Volume 2 Chapter 11 of the ES (Doc Ref: APP-079)**. Based upon the assessment of barrier effects reported within the ES and the information provided within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)** the Applicant has concluded that there will be no likely significant effect on the marine mammal interest features of the Inner Dowsing, Race Bank and The Wash and North Norfolk SAC.

- c The feature is identified within the site JNCC SAC description but has not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on marine mammals alone and in combination assuming the inclusion of the embedded mitigation as described, a commitment to the development of the MMMP with agreement with SNCBs and that mitigation is carried

out as described (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1. 6a**). Condition 9(f) of the Deemed Marine Licence (**EAOL - Draft Development Consent Order (Version 5 – October 2013) (Doc Ref: APP-246)**) secures the MMMP and **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-18, Section 3.1, 5a** confirms the agreement that the conditions provided within the deemed marine licence are appropriate and adequate.

- d The potential impacts on marine geology, oceanography and physical processes are reported in Chapter 6 of the ES. The results of the hydrodynamic and sedimentological modelling concluded that there would be no LSE on habitat features of those SACs on the coast or offshore areas of eastern England (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 104**).

In the Statement of Common Ground with NE/JNCC, it is agreed that there will be no LSE on Annex 1 habitats resulting from the project alone or in-combination (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, Parts 4a and 5a.** In addition, in **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.1, 6a** it is agreed that SACs and cSACs can be screened out of further assessment.

Stage 1 Matrix 3.16: Winterton and Horsey Dunes SAC (project alone and in-combination)

Site Code: UK0013043

Distance to project: Not stated

European site features	Likely Effects of NSIP								
	Direct Habitat Loss			Indirect Habitat Loss			In-combination Effects		
	<i>C</i>	<i>O</i>	<i>D</i>	<i>C</i>	<i>O</i>	<i>D</i>			
Atlantic decalcified fixed dunes (Calluno-Ulicetea)	*a	*a	*a	*a	*a	*a	*a	*a	*a
Humid dune slacks	*a	*a	*a	*a	*a	*a	*a	*a	*a
Embryonic shifting dunes	*a	*a	*a	*a	*a	*a	*a	*a	*a
Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ("white dunes")	*a	*a	*a	*a	*a	*a	*a	*a	*a

- a The potential impacts on marine geology, oceanography and physical processes are reported in Chapter 6 of the ES. The results of the hydrodynamic and sedimentological modelling concluded that there would be no LSE on habitat features of those SACs on the coast or offshore areas of eastern England (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269) paragraph 104**).

In the Statement of Common Ground with NE/JNCC, it is agreed that there will be no LSE on Annex 1 habitats resulting from the project alone or in-combination (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, Parts 4a and 5a**). In addition, in **EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.1, 6a** it is agreed that SACs and cSACs can be screened out of further assessment.

Stage 1 Matrix 3.17: Alde-Ore Estuary SPA (project alone)

Site Code: UK9009112

Distance to project: 54 km

European site features	Likely Effects of NSIP								
	Collision Risk			Disturbance / Displacement			Barrier Effect		
	<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>
Lesser Black Backed Gull, <i>Larus fuscus</i>	n/a	*a	n/a	*b	*b	*b	n/a	*c	n/a
Herring Gull as part of a seabird assemblage of international importance including: Herring Gull <i>Larus argentatus</i> , Black-headed Gull <i>Larus ridibundus</i> , Lesser Black-backed Gull <i>Larus fuscus</i> , Little Tern <i>Sterna albifrons</i> , Sandwich Tern	n/a	✓d	n/a	*e	*e	*e	n/a	*f	n/a

<i>Sterna sandvicensis</i>									
Marsh Harrier, <i>Circus aeruginosus</i>	xj	xj	xj	xj	xj	xj	xj	xj	xj
Ruff, <i>Philomachus pugnax</i>	xj	xj	xj	xj	xj	xj	xj	xj	xj
Avocet, <i>Recurvirostra avosetta</i>	xj	xj	xj	xj	xj	xj	xj	xj	xj
Little Tern, <i>Sterna albifrons</i>	xj	xj	xj	xj	xj	xj	xj	xj	xj
Sandwich Tern, <i>Sterna sandvicensis</i>	xj	xj	xj	xj	xj	xj	xj	xj	xj
Common Redshank, <i>Tringa totanus</i>	xj	xj	xj	xj	xj	xj	xj	xj	xj
A waterfowl assemblage including Black-tailed Godwit <i>Limosa limosa</i>	n/a	xg	n/a	xh	xh	xh	n/a	xg	n/a

<i>islandica</i> , Dunlin <i>Calidris</i> <i>alpina alpina</i> , Lapwing <i>Vanellus vanellus</i> , Shoveler <i>Anas clypeata</i> , Teal <i>Anas crecca</i> , Wigeon <i>Anas penelope</i> , Shelduck <i>Tadorna tadorna</i> , White- fronted Goose <i>Anser</i> <i>albifrons albifrons</i> , Redshank <i>Tringa totanus</i> , Avocet <i>Recurvirostra</i> <i>avosetta</i>									
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- a During the EIA (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**) the Applicant completed a CRM exercise for lesser black-backed gull; this assumed 98% avoidance, a proportion of birds at flight height of 26.3%, and that 78% of birds were adult birds. The annual mean predicted mortality rates for birds from the Alde-Ore Estuary SPA was 14 adults during the breeding season, 1 adult during autumn and 1 adult during winter (16 birds in total). Incorporation into the PVA model showed that the removal of 16 birds would have a negligible effect on the number of breeding pairs of lesser black-backed gulls expected to be at the Alde-Ore Estuary SPA after 25 years under the medium scenario. The medium scenario assumes site management measures are implemented which reduce predation – this was considered to be a reasonable assumption as it is Natural England’s responsibility, as landowners, to restore the site’s condition from ‘unfavourable declining’ to ‘unfavourable increasing’ and it is understood that such measures are currently under discussion with the relevant parties. On this basis, it was considered that there will be no likely significant effect on this interest feature of the Alde-Ore Estuary SPA, due to collision mortality from the operation of East Anglia One alone (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**).

Following submission of the application documents, newly available tagging data of birds from Orfordness, part of the Alde-Ore Estuary SPA, was analysed by the Applicant (**EOAL – Less Black Backed Gull Tagging Data Analysis as part of the Applicant's response to the Examining Authority's first questions, 30 July 2013 (REP-227)**) to assess the time spent by birds during the breeding season within the East Anglia One site. The Applicant revised the CRM and the predicted mortality during the breeding season was calculated to be less than one bird (**EOAL – Lesser Black Backed Gull Technical Clarification Note as part of the Applicant's response to the Examining Authority's first questions, 30 July 2013 (REP-228)**). With the inclusion of mortality during the autumn and winter periods, the annual predicted mortality through collision is <3 individuals. No likely significant effect on this interest feature of the Alde-Ore Estuary SPA, due to collision mortality from the operation of East Anglia One alone is therefore predicted (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 151**).

NE's advice on potential impacts on lesser black backed gulls arising from this development is set out in **Annex D Dr Richard Caldow expert report on Coastal and Offshore Ornithology HRA of NE and JNCC's Written Representation, 30 July 2013 (REP-155)**. Dr Caldow confirmed at the hearing that he had adopted a different approach to the apportionment of collision mortality to that used by the Applicant. Based on its assessment of the data, NE could not exclude a significant effect arising from the proposed development alone on the Alde-Ore Estuary SPA due to collision risk mortality on lesser black backed gulls associated with that site. An appropriate assessment would therefore be required by the Competent Authority in respect of potential impacts arising from the East Anglia One development on this SPA. Following further assessment, NE concluded that no reasonable scientific doubt remains as to the absence of an adverse effect on the integrity of the Alde-Ore Estuary SPA arising from the development alone (**Natural England Representation received on 18 October 2013 for Deadline III (Doc Ref: REP-276)**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone would not have a likely significant effect on the Alde-Ore Estuary SPA in relation to lesser black backed gulls (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6c**).

- b The Applicant provided evidence in the ES (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**) that disturbance of lesser black-backed gulls due to human activity is most likely to occur at the construction and

decommissioning phases of the development. Large gulls are among the most flexible species in terms of habitat use (Garthe & Hüppop, 2004; Furness & Wade, 2012) and may be observed to take advantage of new foraging opportunities created by human activity. Gulls are expected to tolerate installation activities; birds have rapidly colonised industrial sites across the UK despite high intensity construction activity (Royal Haskoning, 2011). Survey data from Greater Gabbard OWF observed lesser black-backed gulls in association with the construction vessels; this is likely to be a reflection of gulls' foraging strategy of taking discards close to fishing vessels (Camphuysen, 1995; Hüppop and Wurm, 2000; Buckley, 2009). Owing to this tolerance, the Applicant predicts that there would be no likely significant effect from displacement and disturbance on this interest feature of the Alde-Ore Estuary SPA from East Anglia One alone (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 144**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone would not have a likely significant effect on the Alde-Ore Estuary SPA in relation to lesser black backed gulls (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6c**).

- c In their ES (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**), the Applicant stated that the turbine array of East Anglia One is 54 km from the Alde-Ore Estuary SPA and is therefore within the mean maximum foraging range of 141 km (Thaxter, 2012) and the 91km mean maximum breeding season foraging range (Thaxter, 2012) for lesser black-backed gulls. Tagging data show that a large proportion of birds from the Alde-Ore Estuary SPA forage inland and within inshore waters with a very low proportion in East Anglia One during the breeding season (**EOAL – Less Black Baccked Gull Tagging Data Analysis as part of the Applicant's response to the Examining Authority's first questions, 30 July 2013 (REP-227)**). During spring and autumn migration, indications are that lesser black-backed gulls may be tolerant of turbines and therefore long term impacts from avoidance are unlikely. The Applicant believes that any barrier effects will not result in a likely significant effect on this interest feature of the Alde-Ore Estuary SPA as a result of East Anglia One alone (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 157**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone would not have a likely significant effect on the Alde-Ore Estuary SPA in relation to lesser black backed gulls (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6c**).

- d The Applicant, in their ES, has concluded that there is unlikely to be a significant effect on herring gull resulting from collision risk (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**)

In contrast to the Applicant's position NE, in their Statement of Common Ground, has stated that there is potential for a LSE on herring gull features and have requested further clarification from the Applicant, particularly in relation to methods for apportionment to confirm no likely significant effect on this interest feature of the Alde-Ore Estuary SPA and no adverse effect on the integrity of the Alde-Ore Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184)m Section 3.3, 6e**).

As a result, this feature has been taken forward by the Applicant to the Appropriate Assessment stage. Please refer to the corresponding Integrity matrix.

- e The Applicant has provided evidence in their ES (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**) that herring gulls are expected to tolerate installation activities; birds have rapidly colonised industrial sites across the UK despite high intensity construction activity (Royal Haskoning, 2011). Large gulls are among the most flexible species in terms of habitat use (Garthe & Hüppop, 2004; Furness & Wade, 2012) and may be observed to take advantage of new foraging opportunities created by human activity. Herring gulls nest on buildings away from traditional colonies across the UK, nesting on warehouse roofs for example, and are commonly seen in association with fishing vessels. Owing to this tolerance, no likely significant effect from displacement and disturbance of this interest feature of the Alde-Ore Estuary SPA as a result of East Anglia One alone is predicted (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 146**).

In their Written Representation NE/JNCC list the SPA bird species where they have concerns regarding likely significant effects resulting from disturbance/displacement. Herring gull does not form part of this list and was screened out of further consideration by NE/JNCC at this stage (**Natural England and JNCC Written Representation (Doc Ref: REP-150) paragraph 6.3.2**).

- f The Applicant has stated that there is no indication that the East Anglia One site would present a barrier to herring gull movements either during foraging (the site is outside the main foraging range from the Alde-Ore Estuary SPA (Thaxter, 2012)) or during the spring and autumn passage of birds originating from this SPA and migrating to other areas. No likely significant effect from a barrier effect on this interest feature of the Alde-Ore Estuary SPA as a result of East Anglia One alone is predicted (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 159**).

In their Written Representation NE/JNCC raise no concern over the Applicant's conclusion of no LSE resulting from barrier effects (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- g The Applicant in the ES (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**) carried out an assessment of potential barrier effects and collision risk modelling of the potential effects on these waterfowl and wader species as they pass through the East Anglia One site on spring and autumn migration. In all cases the results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269) paragraphs 155 and 161**).

In their Written Representation NE/JNCC list the SPA bird species where they have concerns regarding likely significant effects resulting from collision risk. Waterfowl and wader species do not form part of this list. In addition, no concern is raised over the Applicant's conclusion of no LSE resulting from barrier effects (**Natural England and JNCC Written Representation (Doc Ref: REP-150) Section 6.3**).

- h The Applicant in the ES (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**) carried out an assessment of potential disturbance and displacement effects as a result of the construction, operation and

dismantling of the East Anglia One development considered alone. In all cases the results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 148**).

In their Written Representation NE/JNCC list the SPA bird species where they have concerns regarding likely significant effects resulting from disturbance/displacement. Waterfowl and wader species do not form part of this list (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- i In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on this designated feature of Alde-Ore Estuary SPA alone or in combination (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6g**).

Stage 1 Matrix 3.18: Alde-Ore Estuary SPA (in-combination)

Site Code: UK9009112

Distance to project: 54km

European site features	Likely Effects of NSIP								
	Collision Risk			Disturbance / Displacement			Barrier Effect		
	<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>
Lesser Black Backed Gull, <i>Larus fuscus</i>	n/a	✓a	n/a	*b	*b	*b	n/a	*c	n/a
Herring Gull as part of a seabird assemblage of international importance including: Herring Gull <i>Larus argentatus</i> , Black-headed Gull <i>Larus ridibundus</i> , Lesser Black-backed Gull <i>Larus fuscus</i> , Little Tern <i>Sterna albifrons</i> , Sandwich Tern <i>Sterna sandvicensis</i>	n/a	✓d	n/a	*e	*e	*e	n/a	*f	n/a
A waterfowl assemblage	n/a	*g	n/a	*h	*h	*h	n/a	*g	n/a

including Black-tailed Godwit <i>Limosa limosa islandica</i> , Dunlin <i>Calidris alpina alpina</i> , Lapwing <i>Vanellus vanellus</i> , Shoveler <i>Anas clypeata</i> , Teal <i>Anas crecca</i> , Wigeon <i>Anas penelope</i> , Shelduck <i>Tadorna tadorna</i> , White-fronted Goose <i>Anser albifrons albifrons</i> , Redshank <i>Tringa totanus</i> , Avocet <i>Recurvirostra avosetta</i>									
Marsh Harrier, <i>Circus aeruginosus</i>	xj	xj	xj	xj	xj	xj	xj	xj	xj
Ruff, <i>Philomachus pugnax</i>	xj	xj	xj	xj	xj	xj	xj	xj	xj
Avocet, <i>Recurvirostra avosetta</i>	xj	xj	xj	xj	xj	xj	xj	xj	xj
Little Tern, <i>Sterna albifrons</i>	xj	xj	xj	xj	xj	xj	xj	xj	xj
Sandwich Tern, <i>Sterna sandvicensis</i>	xj	xj	xj	xj	xj	xj	xj	xj	xj
Common Redshank, <i>Tringa totanus</i>	xj	xj	xj	xj	xj	xj	xj	xj	xj

- a The Applicant, in their ES, has concluded that there is unlikely to be a significant in-combination effect on lesser black backed gulls resulting from collision risk (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**).

NE, in their Statement of Common Ground, has stated that there is a LSE on the LBBG interest feature and that this should be taken through an appropriate assessment. Figures presented by EAOL have been recalculated by Natural England and while not representing a de minimis level of impact, NE has stated that East Anglia One makes a relatively small contribution to an existing in combination total from consented and built developments that to them is unacceptably high (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6d**).

As a result, this feature has been taken forward by the Applicant to the Appropriate Assessment stage. Please refer to the corresponding Integrity matrix.

- b For the same reasons as given in footnote b to the screening matrix 3.17 above the Applicant considers that there would be no likely significant effect from displacement and disturbance on this interest feature of the Alde-Ore Estuary SPA in combination with other plans or projects.

In their Written Representation NE/JNCC list the SPA bird species where they have concerns regarding likely significant effects resulting from disturbance/displacement. Lesser black backed gulls does not form part of this list and was screened out of further consideration by NE/JNCC at this stage (**Natural England and JNCC Written Representation (Doc Ref: REP-150), paragraph 6.3.2**).

- c For the same reasons as given in footnote c to the screening matrix 3.17 above the Applicant considers that there would be no likely significant effect from a barrier effect on this interest feature of the Alde-Ore Estuary SPA in combination with other plans or projects.

In their Written Representation NE/JNCC raise no concern over the Applicant's conclusion of no LSE resulting from barrier effects (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- d The Applicant, in their ES, has concluded that there is unlikely to be a significant in-combination effect on herring gull resulting from collision risk (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**).

In contrast to the Applicant's position NE, in their Statement of Common Ground, has stated that there is potential for a LSE on herring gull features and have requested further clarification from the Applicant, particularly in relation to methods for apportionment to confirm no likely significant effect on this interest feature of the Alde-Ore Estuary SPA and no adverse effect on the integrity of the Alde-Ore Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6e**).

As a result, this feature has been taken forward by the Applicant to the Appropriate Assessment stage. Please refer to the corresponding Integrity matrix.

- e For the same reasons as given in footnote e to the screening matrix 3.17 above the Applicant considers that there would be no likely significant effect from displacement and disturbance on this interest feature of the Alde-Ore Estuary SPA in combination with other plans or projects.

In their Written Representation NE/JNCC list the SPA bird species where they have concerns regarding likely significant effects resulting from disturbance/displacement. Herring gull does not form part of this list and was screened out of further consideration by NE/JNCC at this stage (**Natural England and JNCC Written Representation (Doc Ref: REP-150), paragraph 6.3.2**).

- f For the same reasons as given in footnote f to the screening matrix 3.17 above the Applicant considers that there would be no likely significant effect from a barrier effect on this interest feature of the Alde-Ore Estuary SPA in combination with other plans or projects.

In their Written Representation NE/JNCC raise no concern over the Applicant's conclusion of no LSE resulting from barrier effects (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3, NE/JNCC**).

- g For the same reasons as given in footnote g to the screening matrix 3.17 above the Applicant considers that there would be no likely significant effect from collision risk or a barrier effect on this interest feature of the Alde-Ore Estuary SPA in combination with other plans or projects.

In their Written Representation NE/JNCC list the SPA bird species where they have concerns regarding likely significant effects resulting from collision risk. Waterfowl and wader species do not form part of this list. In addition, no concern is raised over the Applicant's conclusion of no LSE resulting from barrier effects (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- h For the same reasons as given in footnote h to the screening matrix 3.4 above the Applicant considers that there would be no likely significant effect from displacement and disturbance on this interest feature of the Alde-Ore Estuary SPA in combination with other plans or projects.

In their Written Representation NE/JNCC list the SPA bird species where they have concerns regarding likely significant effects resulting from disturbance/displacement. Waterfowl and wader species do not form part of this list (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- i In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on this designated feature of Alde-Ore Estuary SPA alone or in combination (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 3.3, 6g**).

Stage 1 Matrix 3.19: Alde-Ore Estuary Ramsar (project alone and in-combination)

Site Code: UK11002

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Ramsar criterion 6 – species/populations occurring at levels of international importance. Lesser black-backed gull <i>Larus fuscus</i>		n/a	✓a	n/a	*b	*b	*b	n/a	*c	n/a	✓a
Ramsar criterion 2 The site supports a number of nationally-scarce plant species and		*d	*d	*d	*d	*d	*d	*d	*d	*d	*d

British Red Data Book invertebrates.											
Ramsar criterion 3 The site supports a notable assemblage of breeding and wintering wetland birds.	x	d	x	d	x	d	x	d	x	d	x
Ramsar criterion 6 – species/populations occurring at levels of international importance. Avocet, <i>Recurvirostra avosetta</i>	x	d	x	d	x	d	x	d	x	d	x
Ramsar criterion 6 – species/populations occurring at levels of international importance. Common redshank, <i>Tringa totanus</i>	x	d	x	d	x	d	x	d	x	d	x

- a Refer to footnote 'a' in matrices 3.17 and 3.18
- b Refer to footnote 'b' in matrices 3.17 and 3.18

- c Refer to footnote 'c' in matrices 3.17 and 3.18
- d Refer to footnote 'i' in matrices 3.17 and 3.18

Stage 1 Matrix 3.20: Benfleet and Southend Marshes SPA (project alone and in-combination)

Site Code: UK9009171

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Dark-bellied Goose <i>Branta bernicla bernicla</i>		n/a	*a	n/a	n/a	n/a	n/a	n/a	*d	n/a	*a
Ringed Plover <i>Charadrius hiaticula</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Grey Plover <i>Pluvialis squatarola</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Knot <i>Calidris canutus</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
A waterfowl assemblage		*c	*c	*c	*c	*c	*c	*c	*c	*c	*c

including Dunlin <i>Calidris alpina</i> <i>alpina</i> , Ringed Plover <i>Charadrius</i> <i>hiaticula</i> , Oystercatcher <i>Haematopus</i> <i>ostralegus</i> , Knot <i>Calidris canutus</i> , Grey Plover <i>Pluvialis squatarola</i> , Dark-bellied Brent Goose <i>Branta</i> <i>bernicla bernicla</i>											
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- a The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Benfleet and Southend Marshes SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of Benfleet and Southend Marshes SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- c With the exception of brent goose, the remaining features are identified within the site JNCC SAC description have not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE and JNCC (July 2013) it was agreed that East Anglia One would not have a likely significant effect on any designated feature of Benfleet and Southend Marshes SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- d An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in **Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**. The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Benfleet and Southend Marshes SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.21: Blackwater Estuary SPA (project alone and in-combination)

Site Code: UK9009245

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Dark-bellied Goose <i>Branta bernicla bernicla</i>	Brent	n/a	*a	n/a	n/a	n/a	n/a	n/a	*d	n/a	*a
Little Tern <i>Sterna albifrons</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Avocet <i>Recurvirostra avosetta</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Golden Plover <i>Pluvialis apricaria</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

Hen Harrier <i>Circus cyaneus</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Ruff <i>Philomachus pugnax</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Ringed Plover <i>Charadrius hiaticula</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Black-tailed Godwit <i>Limosa limosa islandica</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Dunlin <i>Calidris alpina alpina</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Grey Plover <i>Pluvialis squatarola</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Redshank <i>Tringa totanus</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Shelduck <i>Tadorna tadorna</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
A waterfowl assemblage including Great Crested Grebe <i>Podiceps cristatus</i> , Golden Plover <i>Pluvialis apricaria</i> , Ruff <i>Philomachus</i>	x c	x c	x c	x c	x c	x c	x c	x c	x c	x c	x c

<p><i>pugnax</i>, Dark-bellied Brent Goose <i>Branta bernicla</i> <i>bernicla</i>, Shelduck <i>Tadorna tadorna</i>, Ringed Plover <i>Charadrius hiaticula</i>, Grey Plover <i>Pluvialis squatarola</i>, Dunlin <i>Calidris alpina</i>, Avocet <i>Recurvirostra avosetta</i>, Redshank <i>Tringa totanus</i>, Curlew <i>Numenius arquata</i>, Cormorant <i>Phalacrocorax carbo</i>, Wigeon <i>Anas penelope</i>, Teal <i>Anas crecca</i>, Pintail <i>Anas acuta</i>, Shoveler <i>Anas clypeata</i>, Goldeneye <i>Bucephala clangula</i>, Red-breasted Merganser <i>Mergus serrator</i>, Lapwing <i>Vanellus vanellus</i>, Black-tailed Godwit</p>										
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<i>Limosa limosa</i> <i>islandica.</i>											
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- a The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Blackwater Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of Blackwater Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- c With the exception of brent goose, the remaining features are identified within the site JNCC SAC description have not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE and JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of Blackwater Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- d An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc**

Ref: APP-081)). The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Blackwater Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.22: Chesil Beach and The Fleet SPA (project alone and in-combination)

Site Code: UK910091

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Dark-bellied Goose <i>Branta bernicla bernicla</i>		n/a	*a	n/a	n/a	n/a	n/a	n/a	*c	n/a	*a
Little Tern <i>Sterna albifrons</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

- a The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Chesil Beach and The Fleet SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of Chesil Beach and The Fleet SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- c An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Chesil Beach and Fleet SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.23: Chichester and Langstone Harbour SPA (project alone and in-combination)

Site Code: UK9011011

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Dark-bellied Goose <i>Branta bernicla bernicla</i>	Brent	n/a	*a	n/a	n/a	n/a	n/a	n/a	*d	n/a	*a
Little Tern <i>Sterna albifrons</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Sandwich Tern <i>Sterna sandvicensis</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Little Egret <i>Egretta garzetta</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Bar-tailed Godwit <i>Limosa lapponica</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

Ringed Plover <i>Charadrius hiaticula</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Black-tailed Godwit <i>Limosa limosa islandica</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Dunlin <i>Calidris alpina alpina</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Grey Plover <i>Pluvialis squatarola</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Common Redshank, <i>Tringa totanus</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Ringed Plover <i>Charadrius hiaticula</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
An assemblage of waterfowl including: including: Wigeon <i>Anas penelope</i> , Bar-tailed Godwit <i>Limosa lapponica</i> , Dark-bellied Brent Goose <i>Branta bernicla bernicla</i> , Ringed Plover <i>Charadrius hiaticula</i> , Grey	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c

Plover <i>Pluvialis squatarola</i> , Dunlin <i>Calidris alpina alpina</i> , Black-tailed Godwit <i>Limosa limosa islandica</i> , Redshank <i>Tringa totanus</i> , Little Grebe <i>Tachybaptus ruficollis</i> , Little Egret <i>Egretta garzetta</i> , Shelduck <i>Tadorna tadorna</i> , Curlew <i>Numenius arquata</i> , Teal <i>Anas crecca</i> , Pintail <i>Anas acuta</i> , Shoveler <i>Anas clypeata</i> , Red-breasted Merganser <i>Mergus serrator</i> , Oystercatcher <i>Haematopus ostralegus</i> , Lapwing <i>Vanellus vanellus</i> , Knot <i>Calidris canutus</i> , Sanderling <i>Calidris alba</i> , Cormorant <i>Phalacrocorax carbo</i> , Whimbrel											
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<i>Numenius phaeopus.</i>										
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- a The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Chichester and Langstone Harbour SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of the Chichester and Langstone Harbour SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- c With the exception of brent goose, the remaining features are identified within the site JNCC SAC description have not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE and JNCC (July 2013) it was agreed that East Anglia One would not have a likely significant effect on any designated feature of the Chichester and Langstone Harbour SPA (**EAOL –**

Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b).

- d An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in **Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**. The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Chichester and Langstone Harbour SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.24: Colne Estuary SPA (project alone and in-combination)

Site Code: UK9009243

Distance to project: Not Stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Dark-bellied Goose <i>Branta bernicla bernicla</i>	Brent	n/a	*a	n/a	n/a	n/a	n/a	n/a	*a	n/a	*a
Avocet, <i>Recurvirostra avosetta</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Golden Plover <i>Pluvialis apricaria</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Hen Harrier <i>Circus cyaneus</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

Common Redshank, <i>Tringa totanus</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
An assesmblage of waterfowl including: Black-tailed Godwit <i>Limosa limosa islandica</i> , Dunlin <i>Calidris alpina alpina</i> , Lapwing <i>Vanellus vanellus</i> , Grey Plover <i>Pluvialis squatarola</i> , Ringed Plover <i>Charadrius hiaticula</i> , Shelduck <i>Tadorna tadorna</i> , Cormorant <i>Phalacrocorax carbo</i> , Great Crested Grebe <i>Podiceps cristatus</i> , Redshank <i>Tringa totanus</i> , Dark-bellied Brent Goose <i>Branta bernicla bernicla</i> , Golden Plover <i>Pluvialis apricaria</i> , Avocet <i>Recurvirostra</i>	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c

<i>avosetta.</i>										
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- a The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Colne Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b)**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of the Colne Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b)**).

- c With the exception of brent goose, the remaining features are identified within the site JNCC SAC description have not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE and JNCC (July 2013) it was agreed that East Anglia One would not have a likely significant effect on any designated feature of the Colne Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b)**).

- d An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in **Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc**

Ref: APP-081). The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Colne Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.25: Crouch and Roach Estuary SPA (project alone and in-combination)

Site Code: UK9009244

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Dark-bellied Goose <i>Branta bernicla bernicla</i>	Brent	n/a	*a	n/a	n/a	n/a	n/a	n/a	*c	n/a	*a
Hen Harrier <i>Circus cyaneus</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

- a The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Crouch and Roach Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of the Crouch and Roach Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- c An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in **Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**. The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Crouch and Roach Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.26: Deben Estuary SPA (project alone)

Site Code: UK9009261

Distance to project: 72km

European site features	Likely Effects of NSIP								
	Collision Risk			Disturbance / Displacement			Barrier Effect		
	<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>
Dark bellied brent goose <i>Branta bernicla bernicla</i>	n/a	*a	n/a	*b	n/a	*b	n/a	*c	n/a
Avocet <i>Recurvirostra avosetta</i>	n/a	*d	n/a	*b	n/a	*b	n/a	*c	n/a

- a There is no risk of collision directly within the Deben Estuary SPA itself, however the Applicant recognises that birds associated with the Deben Estuary SPA may potentially migrate through the East Anglia One site en route to breeding or staging areas in continental Europe and beyond. A 'migration model' was run for brent goose and reported on in the ES. The predicted collision mortality rate (at 98% avoidance rate) of 34 and 17 individuals in spring and autumn respectively, would create an increase of 0.37% and 0.19% relative to the baseline mortality rate at a national level, and an increase of 0.17% and 0.09% relative to the baseline mortality rate at the international level, both of which are considered to be of negligible magnitude and not to result in a likely significant effect on this interest feature of

the Deben Estuary SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 218**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on the Deben Estuary SPA (**EAOL – Statement of Common Ground with Suffolk County Council and Mid Suffolk District Council and Suffolk Coastal District Council and Environment Agency and Internal Drainage Board and Natural England and Suffolk Wildlife Turst (Doc Ref: REP-188), Section 4.14**), however this is on the basis that an Ecological Mitigation Plan is developed to reduce impacts on brent goose (**EAOL – Statement of Common Ground with Suffolk County Council and Mid Suffolk District Council and Suffolk Coastal District Council and Environment Agency and Internal Drainage Board and Natural England and Suffolk Wildlife Turst (Doc Ref: REP-188), Section 4.13**). The Ecological Mitigation Plan is secured as Requirement 26 in the **EAOL - Draft Development Consent Order (Version 5 – October 2013) (Doc Ref: APP-246**).

- b An Outline Landscape and Ecological Mitigation Strategy has been developed that includes measures related to the interest features of the Deben Estuary SPA. This Strategy details mitigation measures to reduce the impact on Deben Estuary SPA birds (dark bellied brent goose and avocet) to ensure no likely significant effect and no adverse effect on the integrity of the site should an Appropriate Assessment have been required as part of the Habitat Regulations Assessment process. With the implementation of the measures in the Strategy, there will be no likely significant effect on this interest feature of the Deben Estuary SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraphs 214 and 216**).

NE, in their Statement of Common Ground, has stated the residual effect, i.e. post-mitigation, of the development is not expected to result in an impact on Deben Estuary SPA birds alone. Sufficient information has now been presented that, should it have been provided in the HRA, it is likely that the conclusion reached would have been no likely significant effect (**EAOL – Statement of Common Ground with Suffolk County Council and Mid Suffolk District Council and Suffolk Coastal District Council and Environment Agency and Internal Drainage Board and Natural England and Suffolk Wildlife Turst (Doc Ref: REP-188), Section 4.14**).

- c The Applicant has stated that barrier effects are more likely to have a greater impact on birds that regularly commute around the windfarm (e.g. birds heading to / from foraging grounds and roosting / nesting sites - which is not the case

with this development) rather than passage migrants that will have to negotiate the site once per migratory season – as is the case for this development. Speakman et al. 2009 found that for one-off avoidances of up to 30 km during migration, the impact of detours around windfarms had a minimal effect on bird energy requirements (less than 2% of available fat reserves). These one off impacts during migration are unlikely to have a significant impact on the birds' fitness and a conclusion of no likely significant effect on this interest feature of the Deben Estuary SPA can be made (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraphs 222 and 224**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on the Deben Estuary SPA (**EAOL – Statement of Common Ground with Suffolk County Council and Mid Suffolk District Council and Suffolk Coastal District Council and Environment Agency and Internal Drainage Board and Natural England and Suffolk Wildlife Turst (Doc Ref: REP-188), Section 4.14**), however this is on the basis that an Ecological Mitigation Plan is developed to reduce impacts on brent goose ((**EAOL – Statement of Common Ground with Suffolk County Council and Mid Suffolk District Council and Suffolk Coastal District Council and Environment Agency and Internal Drainage Board and Natural England and Suffolk Wildlife Turst (Doc Ref: REP-188), Section 4.13**).

- d There is no risk of collision directly within the Deben Estuary SPA itself, however the Applicant recognises that avocet associated with the SPA may potentially migrate through the East Anglia One site en route to breeding or staging areas in continental Europe and beyond. A 'migration model' was run for avocet and reported in the ES. Collision risk predicted mortality was for two birds during each migration period (two in spring and two during autumn) at 98% avoidance rate. This is an increase of 0.12% relative to the baseline mortality rate at the national population level during both the spring and autumn migration periods and an increase of 0.01% relative to the baseline mortality rates at the international population level for both the spring and autumn migration periods. This is not considered to be a likely significant effect on this interest feature of the Deben Estuary SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraphs 218 and 220**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on the Deben Estuary SPA (**EAOL – Statement of Common Ground with Suffolk County Council and Mid Suffolk District Council and Suffolk Coastal District Council and Environment Agency and Internal**

Drainage Board and Natural England and Suffolk Wildlife Turst (Doc Ref: REP-188), Section 4.14), however this is on the basis that an Ecological Mitigation Plan is developed to reduce impacts on brent goose (EAOL – Statement of Common Ground with Suffolk County Council and Mid Suffolk District Council and Suffolk Coastal District Council and Environment Agency and Internal Drainage Board and Natural England and Suffolk Wildlife Turst (Doc Ref: REP-188), Section 4.13).

Stage 1 Matrix 3.27: Deben Estuary SPA (in-combination)

Site Code: UK9009261

Distance to project: 72km

European site features	Likely Effects of NSIP								
	Collision Risk			Disturbance / Displacement			Barrier Effect		
	<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>
Dark bellied brent goose <i>Branta bernicla bernicla</i>	n/a	*a	n/a	*b	n/a	*b	n/a	*c	n/a
Avocet <i>Recurvirostra avosetta</i>	n/a	*d	n/a	*b	n/a	*b	n/a	*c	n/a

- a There is no risk of collision directly within the Deben Estuary SPA itself, but the Applicant recognises that birds associated with the SPA may potentially migrate through the East Anglia One site and other windfarms en route to breeding or staging areas in continental Europe and beyond. A 'migration model' was run for brent goose and reported in the ES. Predicted collision mortality was not considered to result in a likely significant effect on this interest feature of the Deben Estuary SPA in combination with other plans and projects (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 230**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on the Deben Estuary SPA (**EAOL – Statement of Common Ground with Suffolk County Council and Mid Suffolk District Council and Suffolk Coastal District Council and Environment Agency and Internal Drainage Board and Natural England and Suffolk Wildlife Turst (Doc Ref: REP-188), Section 4.14**), however this is on the basis that an Ecological Mitigation Plan is developed to reduce impacts on brent goose (**EAOL – Statement of Common Ground with Suffolk County Council and Mid Suffolk District Council and Suffolk Coastal District Council and Environment Agency and Internal Drainage Board and Natural England and Suffolk Wildlife Turst (Doc Ref: REP-188), Section 4.15**). The Ecological Mitigation Plan is secured as Requirement 26 in the **EAOL - Draft Development Consent Order (Version 5 – October 2013) (Doc Ref: APP-246)**.

- b An Outline Landscape and Ecological Mitigation Strategy has been developed that includes measures related to the interest features of the Deben Estuary SPA. This Strategy details mitigation measures to reduce the impact on Deben Estuary SPA birds (dark bellied brent goose and avocet) to ensure no likely significant effect and no adverse effect on the integrity of the site should an Appropriate Assessment have been required as part of the Habitat Regulations Assessment process. With the implementation of the measures in the Strategy, there will be no likely significant effect on this interest feature of the Deben Estuary SPA and no effects on integrity in combination with other plans and projects (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraphs 226 and 228**).

NE, in their Statement of Common Ground, has stated the residual effect, ie post mitigation, of the development is not expected to result in an impact on Deben Estuary SPA birds in-combination. Sufficient information has now been presented that, should it have been provided in the HRA, it is likely that the conclusion reached would have been no likely significant effect and no adverse effect on integrity in combination with other plans and projects (**EAOL – Statement of Common Ground with Suffolk County Council and Mid Suffolk District Council and Suffolk Coastal District Council and Environment Agency and Internal Drainage Board and Natural England and Suffolk Wildlife Turst (Doc Ref: REP-188), Section 4.15**).

- c The Applicant has stated that barrier effects are more likely to have a greater impact on birds that regularly commute around the windfarm (e.g. birds heading to / from foraging grounds and roosting / nesting sites) than passage migrants that will have to negotiate the site once per migratory season (Speakman et al. 2009) found that for one-off

avoidances of up to 30 km during migration, the impact of detours around windfarms had a minimal effect on bird energy requirements (less than 2% of available fat reserves). Such impacts, when taken in-combination with other windfarms that potentially might lie on the migratory route of brent goose are unlikely to have a significant impact on the birds' fitness and a conclusion of no likely significant effect on this interest feature of the Deben Estuary SPA can be made in combination with other plans and projects (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraphs 234 and 236**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on the Deben Estuary SPA (**EAOL – Statement of Common Ground with Suffolk County Council and Mid Suffolk District Council and Suffolk Coastal District Council and Environment Agency and Internal Drainage Board and Natural England and Suffolk Wildlife Turst (Doc Ref: REP-188), Section 4.14**), however this is on the basis that an Ecological Mitigation Plan is developed to reduce impacts on brent goose (**EAOL – Statement of Common Ground with Suffolk County Council and Mid Suffolk District Council and Suffolk Coastal District Council and Environment Agency and Internal Drainage Board and Natural England and Suffolk Wildlife Turst (Doc Ref: REP-188), Section 4.15**). The Ecological Mitigation Plan is secured as Requirement 26 in the **EAOL - Draft Development Consent Order (Version 5 – October 2013) (Doc Ref: APP-246**).

- d Avocet from the Deben Estuary SPA do not forage in offshore areas of sea within the East Anglia One site, which is located 72km from the SPA, is situated. There is no risk of collision directly within the Deben Estuary SPA itself, however the Applicant recognises that avocet associated with the SPA may potentially migrate through the East Anglia One site and other windfarms en route to breeding or staging areas in continental Europe and beyond. A 'migration model' was run for avocet and reported in the ES (4 birds 98% avoidance). Considering the very low number of birds predicted for East Anglia One alone, any contribution to an in-combination assessment is considered negligible and mortality from collision risk in-combination is not considered to be a likely significant effect on this interest feature of the Deben Estuary SPA in combination with other plans and projects (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 232**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on the Deben Estuary SPA (**EAOL – Statement of Common Ground with Suffolk County Council**

and Mid Suffolk District Council and Suffolk Coastal District Council and Environment Agency and Internal Drainage Board and Natural England and Suffolk Wildlife Turst (Doc Ref: REP-188), Section 4.14), however this is on the basis that an Ecological Mitigation Plan is developed to reduce impacts on brent goose (EAOL – Statement of Common Ground with Suffolk County Council and Mid Suffolk District Council and Suffolk Coastal District Council and Environment Agency and Internal Drainage Board and Natural England and Suffolk Wildlife Turst (Doc Ref: REP-188), Section 4.15). The Ecological Mitigation Plan is secured as Requirement 26 in the EAOL - Draft Development Consent Order (Version 5 – October 2013) (Doc Ref: APP-246.

Stage 1 Matrix 3.28: Deben Estuary Ramsar (project alone and in-combination)

Site Code: UK11017

Distance to project: Not stated

European site features	Likely Effects of NSIP								
	Collision Risk			Disturbance / Displacement			Barrier Effect		
	<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>
Ramsar criterion 2 Supports a population of the mollusc <i>Vertigo angustior</i> (Habitats Directive Annex II (S1014); British Red Data Book Endangered).	*a	*a	*a	*a	*a	*a	*a	*a	*a
Ramsar criterion 6 – species/populations occurring at levels of international importance. Dark bellied brent goose, <i>Branta bernicla bernicla</i>	n/a	*b	n/a	*b	n/a	*b	n/a	*b	n/a

- a The potential for likely significant effects on this feature that been screened out of the assessment on the basis that it is known to occur in Martlesham Creek, a location where the proposed onshore transmission cable will be placed under the Ramsar site using HDD thus avoiding damage to the habitat feature (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 244**).
- b See footnotes for Screening Matrices 3.26 and 3.26 in relation to the assessment of potential impacts on dark bellied brent goose.

Stage 1 Matrix 3.29: Exe Estuary SPA (project alone and in-combination)

Site Code: 9010081

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Dark-bellied Goose <i>Branta bernicla bernicla</i>		n/a	*a	n/a	n/a	n/a	n/a	n/a	*d	n/a	*a
Dunlin <i>Calidris alpina alpina</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Oystercatcher <i>Haematopus ostralegus</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Godwit <i>Limosa limosa islandica</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

Grey Plover <i>Pluvialis squatarola</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Horned Grebe, <i>Podiceps auritus</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Avocet, <i>Recurvirostra avosetta</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
A waterfowl assemblage including Dark-bellied Brent Goose <i>Branta bernicla</i> , Dunlin <i>Calidris alpina</i> , Oystercatcher <i>Haematopus ostralegus</i> , Godwit <i>Limosa limosa islandica</i> , Grey Plover <i>Pluvialis squatarola</i> , Horned Grebe, <i>Podiceps auritus</i> , Avocet, <i>Recurvirostra avosetta</i>	x c	x c	x c	x c	x c	x c	x c	x c	x c	x c	x c

- a The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine**

and Coastal) of the ES (Doc Ref: APP-081)). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Exe Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of the Exe Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- c With the exception of brent goose, the remaining features are identified within the site JNCC SAC description have not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE and JNCC (July 2013) it was agreed that East Anglia One would not have a likely significant effect on any designated feature of the Exe Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- d An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in **Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**. The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations**

Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354, HRA Report).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Exe Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.30: Flamborough Head and Bempton Cliffs SPA (project alone)

Site Code: UK9006101

Distance to project: 254 km

European site features	Likely Effects of NSIP								
	Collision Risk			Disturbance / Displacement			Barrier Effect		
	<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>
Kittiwake <i>Rissa tridactyla</i>	n/a	*a	n/a	*b	*b	*b	n/a	*c	n/a
A seabird assemblage of international importance. Kittiwake <i>Rissa tridactyla</i>	n/a	*a	n/a	*b	*b	*b	n/a	*c	n/a
A seabird assemblage of international importance. Gannet <i>Morus bassanus</i>	n/a	*d	n/a	*e	*e	*e	n/a	*f	n/a
A seabird assemblage of international importance. Herring Gull <i>Larus argentatus</i>	n/a	*g	n/a	*h	*h	*h	n/a	*i	n/a
A seabird assemblage of international importance. Razorbill <i>Alca torda</i> , Guillemot <i>Uria aalge</i> and	n/a	*j	n/a	*k	*k	*k	n/a	*l	n/a

Puffin <i>Fratercula arctica</i>									
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- a Given that Flamborough Head and Bempton Cliffs SPA is approximately 259 km from the East Anglia One site, and based on the mean maximum foraging range of 60km for kittiwake given in Thaxter (2012), the Applicant considers that it is unlikely that breeding birds from this SPA will regularly reach the East Anglia One site. RSPB tagging data also show that birds do not forage from this colony to the East Anglia One site. Within the ES, a highly precautionary approach was taken which assumed that all the birds found in East Anglia One during the breeding season were from the FHBC SPA. Using this assumption, the overall estimated collision risk provided in the ES represents an increase to baseline mortality of less than 1% from the current baseline mortality and was therefore judged not to result in a likely significant effect on the FHBC SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 271**).

During the passage and winter periods, predicted mortality rates from collision within the Applicant's ES are much higher. Calculations within the ES were done assuming that the SPA population was around 0.9% of the wider southern North Sea population. Assuming a similar proportion of the predicted additional mortality is of SPA birds, this would equate to a collision rate of 9 birds. It is considered unlikely that this would result in a likely significant effect on the FHBC SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 272**).

Following an NE/JNCC request, the Applicant re-considered kittiwake population apportionment and collision risk was modelled using three model types – the basic Band model with site-specific data, the basic Band model with flight data from Cook et al 2012 (the BTO SOSS-02 Report), and the extended Band model with flight height distribution data from Cook et al 2012 (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement (Section J), September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**). All models were run using a precautionary 98% avoidance rate. The assessment of the outputs from the three CRM Type models concluded that the predicted relative change in the number of adult birds subject to mortality each year would not exceed an increase of 0.48%. This change in annual baseline mortality does not approach a one percentage point difference. The applicant believes that the CRM predictions provide evidence that the impacts through collision mortality from the proposed East Anglia One wind farm alone will not have a likely significant effect on the FHBC SPA

population of kittiwakes (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 273**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone would not have a likely significant effect on kittiwake as a designated feature of the Flamborough Head and Bempton Cliffs SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184) Section 3.3, 6k**).

- b The applicant has asserted that available evidence shows that any potential effects from disturbance and displacement of kittiwake would be negligible and would not lead to a likely significant effect on this interest feature of the FHBC SPA (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**).

In their Written Representation NE/JNCC list the SPA bird species where they have concerns regarding likely significant effects resulting from disturbance/displacement. Kittiwake do not form part of this list (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- c The Applicant has stated that there is no indication that East Anglia One presents a barrier to the movement of kittiwakes as the site is outside the foraging range for FHBC SPA and will not restrict the movement of birds originating from the SPA to other habitats (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 283**).

In their Written Representation NE/JNCC raise no concern over the Applicant's conclusion of no LSE resulting from barrier effects (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- d Data provided by the Applicant within the **Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)** show that the mean maximum foraging range presented for gannet in Thaxter (2012) is 229.4km and the maximum range is 590km. It is therefore possible that gannets from the FHBC SPA could reach the East Anglia One site. The predicted collision rate for gannet at East Anglia One during the breeding season has been calculated as 16 birds per annum. A recent PVA for gannets indicated that, for FHBC, an additional mortality of 150 birds per annum would be

sustainable based on the 2004 population. Using more recent population data published by JNCC on its website, the level of sustainable additional mortality would be 303 birds per annum. On this basis, the Applicant considers that East Anglia One will not result in a likely significant effect on the breeding gannet of FHBC SPA, or adversely affect site integrity (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 275**).

During the passage and winter periods, predicted mortality rates from collision are much higher. Within the Environmental Statement (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**), calculations were done assuming that the SPA population was around 3.5 % of the wider southern North Sea population. Assuming a similar proportion of the predicted additional mortality is of SPA birds, this would equate to a collision rate of 29 birds. The Applicant has concluded that it is unlikely that this would result in a likely significant effect on this interest feature of the SPA, or to adversely affect site integrity (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 276**).

Following an NE/JNCC request, gannet population apportionment was re-considered by the Applicant, and collision risk was modelled using three model types – the basic Band model with site-specific data, the basic Band model with flight data from Cook et al 2012, and the extended Band model with flight height distribution data from Cook et al 2012 (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement (Section B), September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**). All models were run using a realistic 99% avoidance rate. The assessment of the outputs from the three CRM Type models concluded that the predicted relative change in the number of adult birds subject to mortality each year would not exceed an increase of 1.6%. This level of additional mortality, based on the published PVA model for gannet, would not cause the colony at FHBC to change from growth to stagnation or decline for 95% of the model runs. The Applicant believes that this provides evidence that the impacts through collision mortality from the proposed East Anglia One wind farm alone will not have a likely significant effect on the FHBC SPA population of gannets (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 277**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone would not have a likely significant effect on gannet as a designated feature of the Flamborough Head and Bempton Cliffs SPA (**EAOL –**

Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6i).

- e Data from surveys undertaken by the Applicant and presented within the **Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)** shows that gannets were uncommon in the East Anglia One site during the breeding season with a peak mean count of 39 birds. Data from tracking studies show that gannets from FHBC do not forage in East Anglia One. Even if those gannets observed during the survey were displaced, this would not lead to a likely significant effect on the FHBC breeding population. Potential effects from displacement and disturbance are not predicted to result in a likely significant effect on gannets on spring and autumn passage associated with the FHBC SPA. Following submission, NE/JNCC requested more detailed analysis of the potential effects of displacement. An additional mortality estimate from displacement was calculated of a maximum of 30 birds across all four biological periods (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**). Using the same apportionment from the CRM modelling to estimate the number of displaced birds subject to mortality for each season from FHBC SPA, the maximum number of FHBC SPA birds subjected to mortality as a result of displacement is 2 adult birds (using the maximum displacement and mortality rates).

In order to measure the level of combined impact of East Anglia One on the FHBC SPA population from collision and displacement, the number of breeding birds (adults) subject to mortality from East Anglia One from collision risk has been combined with the maximum displacement mortality rates (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement (Section B), September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**). The Applicant has stated that the potential effects of combined displacement induced mortality and collision mortality is not predicted to result in a likely significant effect on gannets that are an interest feature of the FHBC SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 263**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone would not have a likely significant effect on gannet as a designated feature of the Flamborough Head and Bempton Cliffs SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6i**).

- f The Applicant has stated that available evidence suggests that FHBC SPA gannets make their way towards Africa either via the English Channel or, to a lesser degree around the northern tip of the UK (Written Representation Appendix 2Q). Data from the Egmond an Zee operational windfarm (Krijgsveld et al 2011) show that gannets strongly avoided the windfarm. Given the large foraging ranges of gannet and the low densities observed during baseline surveys within East Anglia One, it is concluded that the site is not a key foraging area for gannets reducing the potential for significant barrier effects during flights from the colony. The Applicant has concluded that the development of the East Anglia One site would not result in a likely significant effect in the form of a barrier to the migratory movements or to foraging movements of gannets from the FHBC SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 285**).

In their Written Representation NE/JNCC raise no concern over the Applicant's conclusion of no LSE resulting from barrier effects (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- g The Applicant has concluded that it is unlikely that a significant number of breeding herring gulls present within the East Anglia One site are from the Flamborough Head and Bempton Cliffs SPA. The East Anglia One development is approximately 254km from the Flamborough Head and Bempton Cliffs SPA. This is significantly further than the maximum and mean maximum (92km and 61.1km respectively) foraging range for breeding herring gull as reported by Thaxter et al 2012 and therefore no likely significant effect on the SPA is predicted. During the EIA (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**), a CRM was completed; this assumed a 98% avoidance rate and that the proportion of birds flying at rotor swept height is 29.4%, and resulted in 221 birds predicted to collide with the turbines each year. Considering the distance from the colony, the Applicant believes that it is unlikely that a significant proportion of these birds will be from the Flamborough Head and Bempton Cliffs SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 279**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone would not have a likely significant effect on herring gull as a designated feature of the Flamborough Head and Bempton Cliffs SPA (**EAOL –**

Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6k).

- h The Applicant has stated in their ES (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**) that gulls are expected to tolerate installation activities; birds have rapidly colonised industrial sites across the UK despite high intensity construction activity (Royal Haskoning, 2011). Herring gulls nest on buildings away from traditional colonies across the UK, nesting on warehouse roofs for example, and are commonly seen in association with fishing vessels. They conclude that there will be no likely significant effects from displacement and disturbance on the Alde-Ore Estuary SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 266**).

In their Written Representation NE/JNCC list the SPA bird species where they have concerns regarding likely significant effects resulting from disturbance/displacement. Herring gull do not form part of this list (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- i The Applicant states that the East Anglia One site is approximately 254km from the Flamborough Head and Bempton Cliffs SPA which is greater than the maximum foraging range for herring gull (92km) (Thaxter, 2012) therefore it is unlikely that birds from the SPA will undertake regular foraging trips to the project area. It has therefore been concluded that during the breeding period there will not be a likely significant effect as a result of East Anglia One alone on this interest feature of the FHBC SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 287**).

In their Written Representation NE/JNCC raise no concern over the Applicant's conclusion of no LSE resulting from barrier effects (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- j Auks fly low over the water with only 1.8% guillemot and 1.0% razorbill flying at potential collision risk height (Cook et al 2012). The Applicant has concluded that it is highly unlikely that a significant proportion of these birds will be at risk of collision with offshore wind turbines (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 281**).

In their Written Representation NE/JNCC list the SPA bird species where they have concerns regarding likely significant effects resulting from collision risk. Auks do not form part of this list (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- k During the breeding period a mean peak of 47 guillemot was observed within the East Anglia One development area. East Anglia One is significantly further than the maximum and mean maximum foraging range (135km and 84.2km respectively) (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**), therefore the Applicant has stated that it is highly unlikely that guillemots present during the breeding period are breeding adults associated with the Flamborough Head and Bempton Cliffs SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 268**).

A mean peak of 23 razorbills was observed during the breeding period within the East Anglia One development area. The development area is significantly further than the maximum and mean maximum foraging range (95km and 48.5km respectively) (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**) therefore the Applicant has stated that it is highly unlikely that razorbills present during the breeding period are breeding adults associated with the Flamborough Head and Bempton Cliffs SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 269**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone would not have a likely significant effect on designated auk features of the Flamborough Head and Bempton Cliffs SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6k**).

- l Auks (guillemot and razorbill) are not considered at risk of barrier effects due to the significant distance of East Anglia One from their breeding colony. This means that it is highly unlikely that auks will undertake regular direct foraging trips within the East Anglia One site (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**). The Applicant has therefore concluded that the project will not be a barrier to bird movements and no likely significant effect on this interest feature as a result of East Anglia One alone is predicted (**Habitats Regulations**

Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 289,).

In their Written Representation NE/JNCC raise no concern over the Applicant's conclusion of no LSE resulting from barrier effects (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

Stage 1 Matrix 3.31: Flamborough Head and Bempton Cliffs SPA (in-combination)

Site Code: UK9006101

Distance to project: Approximately 254km

European site features	Likely Effects of NSIP								
	Collision Risk			Disturbance / Displacement			Barrier Effect		
	<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>
Kittiwake <i>Rissa tridactyla</i>	n/a	✓a	n/a	*b	*b	*b	n/a	*c	n/a
A seabird assemblage of international importance. Kittiwake <i>Rissa tridactyla</i>	n/a	✓a	n/a	*b	*b	*b	n/a	*c	n/a
A seabird assemblage of international importance. Gannet <i>Morus bassanus</i>	n/a	✓d	n/a	*e	*e	*e	n/a	*f	n/a
A seabird assemblage of international importance. Herring Gull <i>Larus argentatus</i>	n/a	*g	n/a	*h	*h	*h	n/a	*i	n/a
A seabird assemblage of international importance. Razorbill <i>Alca torda</i> , Guillemot <i>Uria aalge</i> and	n/a	*j	n/a	*k	*k	*k	n/a	*l	n/a

Puffin <i>Fratercula arctica</i>									
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- a The Applicant, in their ES, has concluded that there is unlikely to be a significant in-combination effect on kittiwake resulting from collision risk (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**).

In contrast to the Applicants position, NE, in their Statement of Common Ground, state that the project will potentially have a LSE on kittiwake in-combination depending on the suite of projects included in the assessment and needs to be subject to appropriate assessment (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6k**).

As a result, this feature has been taken forward by the Applicant to the Appropriate Assessment stage. Please refer to the corresponding Integrity matrix.

- b The Applicant has stated that available evidence suggests that any potential effects from disturbance and displacement would be negligible and would not lead to a likely significant effect on this interest feature of the FHBC SPA (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**).

In their Written Representation NE/JNCC list the SPA bird species where they have concerns regarding likely significant effects resulting from disturbance/displacement. Kittiwake do not form part of this list (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- c The Applicant has stated that there is no indication that East Anglia One presents a barrier to the movement of kittiwakes as the site is outside the foraging range for FHBC SPA and will not restrict the movement of birds originating from the SPA to other areas. This effect would not lead to a likely significant effect on this interest feature of the FHBC SPA in combination with other plans and projects (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 311**).

In their Written Representation NE/JNCC raise no concern over the Applicant's conclusion of no LSE resulting from barrier effects (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- d The Applicant, in their ES, has concluded that there is unlikely to be a significant in-combination effect on gannet resulting from collision risk (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**).

In contrast to the Applicant's position, NE, in their Statement of Common Ground, advises that the project will potentially have a LSE on gannet in combination and needs to be subject to appropriate assessment (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6j**).

As a result, this feature has been taken forward by the Applicant to the Appropriate Assessment stage. Please refer to the corresponding Integrity matrix.

- e The applicant has stated that data from tracking studies show that gannets from the FHBC SPA do not forage in East Anglia One during the breeding season (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**). Even if the gannets observed during the survey were displaced, this would not lead to a likely significant effect on the FHBC breeding population. Potential effects from displacement and disturbance in-combination with other windfarms are not predicted to result in a likely significant effect on gannets with the FHBC SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 293**).

In their Written Representation NE/JNCC list the SPA bird species where they have concerns regarding likely significant effects resulting from disturbance/displacement. Gannet do not form part of this list (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- f The Applicant has stated that available evidence suggests that FHBC SPA gannets make their way towards Africa either via the English Channel or, to a lesser degree, around the northern tip of the UK (APEM 2013e) (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013**

Submitted in response to Rule 17 request (Doc Ref: REP-269)). Data from the Egmond an Zee operational windfarm (Krijgsveld et al 2011) show that gannets strongly avoided the windfarm. Given the large foraging ranges of gannet and the low densities observed during baseline surveys within East Anglia One, the Applicant has concluded that the site is not a key foraging area for gannets reducing the potential for significant in-combination barrier effects during flights from the colony. The Applicant has therefore concluded that the East Anglia One site acting in-combination with other windfarms would not result in a likely significant effect in the form of a barrier to the migratory movements or to foraging movements of gannets from the FHBC SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 313**).

In their Written Representation NE/JNCC raise no concern over the Applicant's conclusion of no LSE resulting from barrier effects (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- g In the ES submitted with the application (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**), the Applicant has concluded that the East Anglia One site is approximately 254km from the Flamborough Head and Bempton Cliffs SPA which is greater than the maximum foraging range for Herring gull (92km) (Thaxter, 2012) therefore it is unlikely that birds from the SPA will undertake regular foraging trips to the project area and other projects and plans hindering bird movements (barrier effect). Therefore it is can be concluded that during the breeding period in-combination there will not be a significant impact on herring gull bird movements (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 307**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in-combination would not have a likely significant effect on herring gull as a designated feature of the Flamborough Head and Bempton Cliffs SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6k**).

- h The Applicant concluded that any potential effects from displacement and disturbance of herring gulls from the FHBC SPA would be negligible (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**). As the FHBC

SPA is 254km from the East Anglia One site, no further assessment of displacement and disturbance of herring gulls from the FHBC SPA was made and the conclusion was no likely significant effect on this interest feature of the FHBC SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 295**).

In their Written Representation NE/JNCC list the SPA bird species where they have concerns regarding likely significant effects resulting from disturbance/displacement. Herring Gull do not form part of this list (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- i The Applicant states that there is no indication that East Anglia One presents a barrier to the movement of herring gulls as the site is outside the species' foraging range from the FHBC SPA and will not restrict the passage of birds originating from the SPA to other habitats outside of the breeding season and the conclusion was no likely significant effect on this interest feature of the FHBC SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 315**).

In their Written Representation NE/JNCC raise no concern over the Applicant's conclusion of no LSE resulting from barrier effects (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- j Auks fly low over the water with only 1.8% guillemot and 1% razorbill at collision risk height (Cook et al 2012). Therefore it is highly unlikely that a significant proportion will be at risk of collision with East Anglia One and other project and plans and the conclusion was no likely significant effect on this interest feature of the FHBC SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 309**).

In their Written Representation NE/JNCC list the SPA bird species where they have concerns regarding likely significant effects resulting from collision risk. Auks do not form part of this list (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

- k The Applicant has predicted limited effects on auks within East Anglia One and none directly relating to the FHBC SPA population during the breeding season. Guillemots and razorbills are widely dispersed throughout the autumn and winter with low densities (0.01 to 1.99 birds/km²) expected within most offshore wind farm locations across the North

Sea (Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in-combination would not have a likely significant effect on designated auk features of the Flamborough Head and Bempton Cliffs SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6k**).

- I Auks (guillemot and razorbill) are not considered at risk of barrier effects due to their significant distance of East Anglia One from their breeding colony. It is highly unlikely that auks will undertake regular direct foraging trips within the East Anglia One site and other projects / plans and therefore in-combination barrier effects are not predicted (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 317**).

In their Written Representation NE/JNCC raise no concern over the Applicant's conclusion of no LSE resulting from barrier effects (**Natural England and JNCC Written Representation (Doc Ref: REP-150), Section 6.3**).

Stage 1 Matrix 3.32: Foulness SPA (project alone and in-combination)

Site Code: UK9009246

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		C	O	D	C	O	D	C	O	D	
Dark-bellied Goose <i>Branta bernicla bernicla</i>	Brent	n/a	*a	n/a	n/a	n/a	n/a	n/a	*d	n/a	*a
Avocet <i>Recurvirostra avosetta</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Common Tern <i>Sterna hirundo</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Little Tern, <i>Sterna albifrons</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

Sandwich Tern, <i>Sterna sandvicensis</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Avocet, <i>Recurvirostra avosetta</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Bar-tailed Godwit <i>Limosa lapponica</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Golden Plover <i>Pluvialis apricaria</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Hen Harrier <i>Circus cyaneus</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Common Redshank, <i>Tringa totanus</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Grey Plover <i>Pluvialis squatarola</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Knot <i>Calidris canutus</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Oystercatcher <i>Haematopus ostralegus</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
A waterfowl assemblage including: Redshank <i>Tringa totanus</i> , Curlew	x c	x c	x c	x c	x c	x c	x c	x c	x c	x c	x c

<i>Numenius arquata</i> , Black-tailed Godwit <i>Limosa limosa</i> <i>islandica</i> , Dunlin <i>Calidris alpina</i> <i>alpina</i> , Lapwing <i>Vanellus vanellus</i> , Wigeon <i>Anas</i> <i>penelope</i> , Shelduck <i>Tadorna tadorna</i> , Little Grebe <i>Tachybaptus</i> <i>ruficollis</i> , Knot <i>Calidris canutus</i> , Grey Plover <i>Pluvialis squatarola</i> , Oystercatcher <i>Haematopus</i> <i>ostralegus</i> , Dark- bellied Brent Goose <i>Branta bernicla</i> <i>bernicla</i> , Bar-tailed Godwit <i>Limosa</i> <i>lapponica</i> , Golden Plover <i>Pluvialis</i> <i>apricaria</i> , Avocet <i>Recurvirostra</i> <i>avosetta</i>										
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- a The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Foulness SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of the Foulness SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- c With the exception of brent goose, the remaining features are identified within the site JNCC SAC description have not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**

In the Statement of Common Ground with NE and JNCC (July 2013) it was agreed that East Anglia One would not have a likely significant effect on any designated feature of the Foulness SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- d An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in **Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**. The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Foulness SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.33: Hamford Water SPA (project alone and in-combination)

Site Code: UK9009131

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Dark-bellied Brent Goose <i>Branta bernicla bernicla</i>		n/a	*a	n/a	n/a	n/a	n/a	n/a	*d	n/a	*a
Avocet, <i>Recurvirostra avosetta</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Golden Plover <i>Pluvialis apricaria</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Ruff, <i>Philomachus pugnax</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

Ringed Plover <i>Charadrius hiaticula</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Black-tailed Godwit <i>Limosa limosa islandica</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Grey Plover <i>Pluvialis squatarola</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Teal <i>Anas crecca</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
An assemblage of waterfowl: Redshank <i>Tringa totanus</i> , Dunlin <i>Calidris alpina</i> , Lapwing <i>Vanellus vanellus</i> , Wigeon <i>Anas penelope</i> , Shelduck <i>Tadorna tadorna</i> , Black-tailed Godwit <i>Limosa limosa islandica</i> , Grey Plover <i>Pluvialis squatarola</i> , Ringed Plover <i>Charadrius hiaticula</i> , Teal <i>Anas crecca</i> , Dark-bellied Brent Goose <i>Branta</i>	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c

<i>bernicle bernicle,</i> Ruff <i>Philomachus</i> <i>pugnax,</i> Golden Plover <i>Pluvialis</i> <i>apricaria,</i> Avocet <i>Recurvirostra</i> <i>avosetta</i>											
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- a The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Hamford Water SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of Hamford Water SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- c With the exception of brent goose, the remaining features are identified within the site JNCC SAC description have not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE and JNCC (July 2013) it was agreed that East Anglia One would not have a likely significant effect on any designated feature of Hamford Water SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

d An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in **Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**. The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Hamford Water SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.34: Humber Estuary SPA (project alone and in-combination)

Site Code: UK9006111

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Dark-bellied Goose <i>Branta bernicla bernicla</i>	Brent	n/a	*a	n/a	n/a	n/a	n/a	n/a	*d	n/a	*a
Teal	<i>Anas crecca</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Wigeon	<i>Anas penelope</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Mallard,	<i>Anas platyrhynchos</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Ruddy Turnstone,	<i>Arenaria interpres</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

Common Pochard, <i>Aythya ferina</i>	x	b	x	b	x	b	x	b	x	b	x	b
Greater Scaup, <i>Aythya marila</i>	x	b	x	b	x	b	x	b	x	b	x	b
Eurasian Bittern, <i>Botaurus stellaris</i>	x	b	x	b	x	b	x	b	x	b	x	b
Common Golden Eye, <i>Bucephala clangula</i>	x	b	x	b	x	b	x	b	x	b	x	b
Sanderling <i>Calidris alba</i>	x	b	x	b	x	b	x	b	x	b	x	b
Dunlin <i>Calidris alpina alpina</i>	x	b	x	b	x	b	x	b	x	b	x	b
Knot <i>Calidris canutus</i>	x	b	x	b	x	b	x	b	x	b	x	b
Ringed Plover <i>Charadrius hiaticula</i>	x	b	x	b	x	b	x	b	x	b	x	b
Marsh Harrier, <i>Circus aeruginosus</i>	x	b	x	b	x	b	x	b	x	b	x	b
Hen Harrier <i>Circus cyaneus</i>	x	b	x	b	x	b	x	b	x	b	x	b

Oystercatcher <i>Haematopus ostralegus</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Bar-tailed Godwit <i>Limosa lapponica</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Black-tailed Godwit <i>Limosa limosa islandica</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Curlew <i>Numenius arquata</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Whimbrel <i>Numenius phaeopus.</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Ruff, <i>Philomachus pugnax</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Golden Plover <i>Pluvialis apricaria</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Grey Plover <i>Pluvialis squatarola</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Avocet, <i>Recurvirostra avosetta</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Little Tern, <i>Sterna albifrons</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

Shelduck <i>Tadorna tadorna</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Common Greenshank, <i>Tringa nebularia</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Common Redshank, <i>Tringa totanus</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Northern Lapwing, <i>Vanellus vanellus</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
A waterfowl assemblage including: Teal <i>Anas crecca</i> , Wigeon <i>Anas penelope</i> , Mallard, <i>Anas platyrhynchos</i> , Ruddy Turnstone, <i>Arenaria interpres</i> , Common Pochard, <i>Aythya farina</i> , Greater Scaup, <i>Aythya marila</i> , Eurasian Bittern, <i>Botaurus stellaris</i> , Dark-bellied Brent Goose <i>Branta bernicla</i>	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c

Common Eye, <i>Bucephala clangula</i> , Sanderling <i>Calidris alba</i> , Dunlin <i>Calidris alpina alpina</i> . Knot <i>Calidris canutus</i> , Ringed Plover <i>Charadrius hiaticula</i> , Oystercatcher <i>Haematopus ostralegus</i> , Bar-tailed Godwit <i>Limosa lapponica</i> , Black-tailed Godwit <i>Limosa limosa islandica</i> , Curlew <i>Numenius arquata</i> , Whimbrel <i>Numenius phaeopus</i> . Ruff, <i>Philomachus pugnax</i> , Golden Plover <i>Pluvialis apricaria</i> , Grey Plover <i>Pluvialis squatarola</i> , Avocet, <i>Recurvirostra avosetta</i> , Shelduck										
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<i>Tadorna tadorna</i> , Common Greenshank, <i>Tringa nebularia</i> , Common Redshank, <i>Tringa tetanus</i> , Northern Lapwing, <i>Vanellus vanellus</i>											
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- a The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Humber Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of the Humber Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- c With the exception of brent goose, the remaining features are identified within the site JNCC SAC description have not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE and JNCC (July 2013) it was agreed that East Anglia One would not have a likely significant effect on any designated feature of the Humber Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- d An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in **Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**. The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Humber Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.35: Lough Foyle SPA (project alone and in-combination)

Site Code: UK9020031

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Light-bellied Goose <i>Branta bernicla hrota</i>	Brent	n/a	*a	n/a	n/a	n/a	n/a	n/a	*d	n/a	*a
Bar-tailed Godwit <i>Limosa lapponica</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Bewick's Swan <i>Cygnus columbianus bewickii</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Golden Plover <i>Pluvialis apricaria</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

Whooper Swan <i>Cygnus cygnus</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
A waterfowl assemblage of Teal <i>Anas crecca</i> , Whooper Swan <i>Cygnus cygnus</i> , Golden Plover <i>Pluvialis apricaria</i> , Bar-tailed Godwit <i>Limosa lapponica</i> , Light-bellied Brent Goose <i>Branta bernicla hrota</i> , Great Crested Grebe <i>Podiceps cristatus</i> , Cormorant <i>Phalacrocorax carbo</i> , Greylag Goose <i>Anser anser</i> , Bewick's Swan <i>Cygnus columbianus bewickii</i> , Wigeon <i>Anas penelope</i> , Redshank <i>Tringa totanus</i> , Mallard <i>Anas platyrhynchos</i> ,	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c

Eider <i>Somateria mollissima</i> , Red-breasted Merganser <i>Mergus serrator</i> , Oystercatcher <i>Haematopus ostralegus</i> , Lapwing <i>Vanellus vanellus</i> , Knot <i>Calidris canutus</i> , Dunlin <i>Calidris alpina</i> , Curlew <i>Numenius arquata</i> , Shelduck <i>Tadorna tadorna</i> .											
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- a The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Lough Foyle SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of Lough Foyle SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- c With the exception of brent goose, the remaining features are identified within the site JNCC SAC description have not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE and JNCC (July 2013) it was agreed that East Anglia One would not have a likely significant effect on any designated feature of Lough Foyle SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- d An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in **Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**. The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Lough Foyle SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.36: Medway Estuary and Marshes SPA (project alone and in-combination)

Site Code: UK0912031

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Dark-bellied Goose <i>Branta bernicla bernicla</i>	Brent	n/a	*a	n/a	n/a	n/a	n/a	n/a	*d	n/a	*a
Avocet, <i>Recurvirostra avosetta</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Little Tern, <i>Sterna albifrons</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Ringed Plover <i>Charadrius hiaticula</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

Black-tailed Godwit <i>Limosa limosa islandica</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Dunlin <i>Calidris alpina alpina</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Grey Plover <i>Pluvialis squatarola</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Pintail <i>Anas acuta</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Common Redshank, <i>Tringa totanus</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Ringed Plover <i>Charadrius hiaticula</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Shelduck <i>Tadorna tadorna</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
A waterfowl assemblage including: Little Grebe <i>Tachybaptus ruficollis</i> , Dark-bellied Brent Goose <i>Branta bernicla bernicla</i> , Shelduck <i>Tadorna tadorna</i> , Pintail <i>Anas acuta</i> ,	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c

Ringed Plover <i>Charadrius hiaticula</i> , Grey Plover <i>Pluvialis squatarola</i> , Dunlin <i>Calidris alpina</i> , Avocet <i>Recurvirostra avosetta</i> , Redshank <i>Tringa totanus</i> , Curlew <i>Numenius arquata</i> , Great Crested Grebe <i>Podiceps cristatus</i> , Cormorant <i>Phalacrocorax carbo</i> , Wigeon <i>Anas penelope</i> , Teal <i>Anas crecca</i> , Oystercatcher <i>Haematopus ostralegus</i> , Lapwing <i>Vanellus vanellus</i> , Black-tailed Godwit <i>Limosa limosa islandica</i> , Whimbrel <i>Numenius phaeopus</i>											
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- a The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Medway Estuary and Marshes SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**,.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of Lough Foyle SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- c With the exception of brent goose, the remaining features are identified within the site JNCC SAC description have not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**,.

In the Statement of Common Ground with NE and JNCC (July 2013) it was agreed that East Anglia One would not have a likely significant effect on any designated feature of Medway Estuary and Marshes SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- d An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in **Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**. The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Medway Estuary and Marshes SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.37: North Norfolk Coast SPA (project alone and in-combination)

Site Code: UK9009031

Distance to project: Not stated

European features site	Likely Effects of NSIP									
	Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
	<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>	
Dark bellied brent goose <i>Branta bernicla bernicla</i>	n/a	*a	n/a	n/a	n/a	n/a	n/a	*d	n/a	*a
Avocet, <i>Recurvirostra avosetta</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Eurasian Bittern, <i>Botaurus stellaris</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Common Tern <i>Sterna hirundo</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

Little Tern, <i>Sterna albifrons</i>	x	b	x	b	x	b	x	b	x	b	x	b
Marsh Harrier, <i>Circus aeruginosus</i>	x	b	x	b	x	b	x	b	x	b	x	b
Mediterranean Gull <i>Larus melanocephalus</i>	x	b	x	b	x	b	x	b	x	b	x	b
Roseate Tern <i>Sterna dougallii</i>	x	b	x	b	x	b	x	b	x	b	x	b
Sandwich Tern, <i>Sterna sandvicensis</i>	x	b	x	b	x	b	x	b	x	b	x	b
Bar-tailed Godwit <i>Limosa lapponica</i>	x	b	x	b	x	b	x	b	x	b	x	b
Golden Plover <i>Pluvialis apricaria</i>	x	b	x	b	x	b	x	b	x	b	x	b
Hen Harrier <i>Circus cyaneus</i>	x	b	x	b	x	b	x	b	x	b	x	b
Ruff, <i>Philomachus pugnax</i>	x	b	x	b	x	b	x	b	x	b	x	b
Common Redshank, <i>Tringa totanus</i>	x	b	x	b	x	b	x	b	x	b	x	b

Ringed Plover <i>Charadrius hiaticula</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Knot <i>Calidris canutus</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Pink-footed Goose <i>Anser brachyrhynchus</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Pintail <i>Anas acuta</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Common Redshank, <i>Tringa totanus</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
Wigeon <i>Anas penelope</i>	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b	x b
A waterfowl assemblage including: Shelduck <i>Tadorna tadorna</i> , Avocet <i>Recurvirostra avosetta</i> , Golden Plover <i>Pluvialis apricaria</i> , Ruff <i>Philomachus pugnax</i> , Bar-tailed Godwit <i>Limosa lapponica</i> , Pink-	x c	x c	x c	x c	x c	x c	x c	x c	x c	x c	x c

footed Goose <i>Anser brachyrhynchus,</i> Dark-bellied Brent Goose <i>Branta bernicla bernicla,</i> Wigeon <i>Anas penelope,</i> Pintail <i>Anas acuta,</i> Knot <i>Calidris canutus,</i> Redshank <i>Tringa totanus,</i> Bittern <i>Botaurus stellaris,</i> White-fronted Goose <i>Anser albifrons albifrons,</i> Dunlin <i>Calidris alpina alpina,</i> Gadwall <i>Anas strepera,</i> Teal <i>Anas crecca,</i> Shoveler <i>Anas clypeata,</i> Common Scoter <i>Melanitta nigra,</i> Velvet Scoter <i>Melanitta fusca,</i> Oystercatcher <i>Haematopus ostralegus,</i> Ringed Plover <i>Charadrius hiaticula,</i> Grey										
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Plover <i>Pluvialis squatarola</i> , Lapwing <i>Vanellus vanellus</i> , Sanderling <i>Calidris alba</i> , Cormorant <i>Phalacrocorax carbo</i>											
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- a The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the North Norfolk Coast SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of the North Norfolk Coast SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- c With the exception of brent goose, the remaining features are identified within the site JNCC SAC description have not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE and JNCC (July 2013) it was agreed that East Anglia One would not have a likely significant effect on any designated feature of the North Norfolk Coast SPA (**EAOL – Statement of**

Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b).

- d An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in **Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**. The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the North Norfolk Coast SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.38: Outer Thames Estuary SPA (project alone)

Site Code: UK9020309

Distance to project: Approximately 7km to proposed wind farm array with the transmission cable crossing the designated site

European site features	Likely Effects of NSIP								
	Collision Risk			Disturbance / Displacement			Barrier Effect		
	<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>
Red throated diver, <i>Gavia stellata</i>	n/a	*a	n/a	*b	*c	*b	n/a	*d	n/a

- a The Applicant states that research and monitoring studies indicate that red-throated divers generally avoid windfarms (Garthe & Hüppop, 2004; Furness & Wade, 2012; Schwemmer et al 2011). Site-specific aerial survey data collected by the Applicant recorded only one individual red-throated diver in flight within the windfarm site and thus collision risk modelling could not be conducted on these data. Recent work carried out by SOSS reported only 2% of red-throated diver flights are at collision risk height at 98% avoidance rate (Cook et al 2012) further reducing the potential for impacts on this species. Collision risk from rotors is considered not to have a likely significant effect on this interest feature of the Outer Thames Estuary SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 334**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Outer Thames Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6h**).

- b With respect to the installation of the export cables, the Applicant has stated that cable laying vessels are static for long periods of time and move short distances as cable laying progresses. The East Anglia One cable route area is in a busy shipping area and the Applicant considers it likely that a reduction in commercial vessel movements during construction activities would offset the potential temporary disturbance and displacement effects of cable installation. The Applicant considers that cable installation activities leading to disturbance and displacement will not result in a likely significant effect on this interest feature of the Outer Thames Estuary SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 328**).

With respect to the East Anglia One site, construction activity is expected to be concentrated in small areas of the site and over a relatively short time period, with turbines installed in sequence. The density of red-throated divers within the East Anglia One site is low (0.5 birds / km²) and this supports an assumption that the habitat within the site is sub-optimal for foraging during the winter. Given the sequential nature of offshore turbine/foundation installation, the concentrated location for construction activity and the time frame for construction, the Applicant considers that potential disturbance and displacement will not have a likely significant effect on this interest feature of the Outer Thames Estuary SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 329**).

Subsequent to the application submission, and at NE and JNCC 's request, the applicant has undertaken further consideration of potential displacement effects in relation to vessel presence during the export cable installation period (on the assumption that this takes place during the wintering period) (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement (Section J), September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**). A 'worst case' circle of influence of 2km around the cable laying vessel during the wintering period, an area of 12.6km², was considered (7.4 birds). Assuming the cited SPA population of 6,466 birds during the peak wintering period across an area of 3,793km², the average density of birds has been calculated as 1.7 birds / km² within the SPA; the average density of birds in the East Anglia One offshore cable corridor and 2km buffer is 0.7 birds / km². If the 'worst case' area is not available to red-throated divers and the 7.4

birds displaced were re-distributed to other areas of the SPA, this would increase the density of the remaining SPA area by 0.01 birds / km². The Applicant considers that this level of displacement would not have a likely significant effect on the Outer Thames Estuary SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 330**).

NE, within **Annex D Dr Richard Caldow expert report on Coastal and Offshore Ornithology HRA of NE and JNCC's Written Representation, 30 July 2013 (REP-155)** agree with the conclusions made by the Applicant within the ES and the further information presented within **EOAL – Diver Displacement Technical Note as part of the Applicant's response to the Examining Authority's first questions, 30 July 2013 (REP-216)**

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Outer Thames Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6h**).

- c The extent of potential displacement of red-throated divers from operational windfarms and their surrounding buffer zones has been considered within the Applicant's ES. Monitoring studies at Kentish Flats offshore windfarm found an observable shift of birds away from the turbines particularly within 500m of the site. The assessment for East Anglia One has utilised displacement values for both the site footprint and within distance bands away from the site boundary, as agreed with Natural England for the Kentish Flats Extension Offshore Windfarm. Displacement effects of East Anglia One have been calculated based on estimated mean peak numbers of divers (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 332**).

Assuming an SPA area of 3,793km², a diver population of 6,466 birds and displacement values used in the Kentish Flats Extension assessment, the SPA bird density post-displacement would change from 1.7 birds / km² to 1.73 birds / km². This level of displacement is not considered by the Applicant to have a likely significant adverse effect on this interest feature of the Outer Thames Estuary SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 333**).

NE, within **Annex D Dr Richard Caldow expert report on Coastal and Offshore Ornithology HRA of NE and JNCC's Written Representation, 30 July 2013 (REP-155)** agree with the conclusions made by the Applicant

within the ES and the further information presented within **EOAL – Diver Displacement Technical Note as part of the Applicant’s response to the Examining Authority’s first questions, 30 July 2013 (REP-216)**

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Outer Thames Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6h**).

- d The Applicant has stated that the East Anglia One turbine array is approximately 7km from the SPA and that it is not likely that divers will undertake regular direct foraging trips within the East Anglia One site as the water depths at site are much deeper ($\geq 30\text{m}$) than that preferred by divers ($< 10\text{m}$, London Array I ES, 2005) during the winter period (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 336**).

NE, within **Annex D Dr Richard Caldwor expert report on Coastal and Offshore Ornithology HRA of NE and JNCC’s Written Representation, 30 July 2013 (REP-155)** agree with the conclusions made by the Applicant within the ES and the further information presented within **EOAL – Diver Displacement Technical Note as part of the Applicant’s response to the Examining Authority’s first questions, 30 July 2013 (REP-216)**

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Outer Thames Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6h**).

Stage 1 Matrix 3.39: Outer Thames Estuary SPA (in-combination)

Site Code: UK9020309

Distance to project: Approximately 7km to proposed wind farm array with the transmission cable crossing the designated site

European site features	Likely Effects of NSIP								
	Collision Risk			Disturbance / Displacement			Barrier Effect		
	<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>
Red throated diver, <i>Gavia stellata</i>	n/a	*a	n/a	*b	*c	*b	n/a	*d	n/a

- a The Applicant has advised that red-throated divers generally avoid windfarms (Garthe & Hüppop, 2004; Furness & Wade, 2012; Schwemmer et al 2011). Site-specific aerial survey data collected by the Applicant recorded only one individual red-throated diver in flight within the windfarm site and thus collision risk modelling could not be conducted on these data. The Applicant considers that collision risk from rotors from East Anglia One will not have a likely significant effect on this interest feature of the Outer Thames Estuary SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 342**).

NE, within **Annex D Dr Richard Caldwor expert report on Coastal and Offshore Ornithology HRA of NE and JNCC's Written Representation, 30 July 2013 (REP-155)** agree with the conclusions made by the Applicant

within the ES and the further information presented within **EOAL – Diver Displacement Technical Note as part of the Applicant’s response to the Examining Authority’s first questions, 30 July 2013 (REP-216)**

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Outer Thames Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6h**).

- b The Applicant considers that the levels of displacement predicted will not have a likely significant effect on the Outer Thames Estuary SPA (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 338**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Outer Thames Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6h**).

- c The Applicant has stated that studies at other operational windfarm sites indicate that the most likely in-combination effect on wintering red-throated diver of the Outer Thames Estuary SPA would be through displacement from the windfarm and the buffer surrounding it. In general, previous assessments have considered that windfarms within the SPA (or pSPA as it was when some studies were conducted) boundary would have a greater contribution to in-combination impacts. As the East Anglia One Offshore Windfarm is outside the SPA boundary and is a sub-optimal habitat for red-throated divers in the main mid-winter period, it is considered that East Anglia One will not make a significant contribution to any effects of displacement to red-throated divers. The Applicant concludes that the East Anglia One will not have a likely significant effect on this interest feature of the SPA in-combination with other plans and projects (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 340**

NE, within **Annex D Dr Richard Caldwor expert report on Coastal and Offshore Ornithology HRA of NE and JNCC’s Written Representation, 30 July 2013 (REP-155)** agree with the conclusions made by the Applicant within the ES and the further information presented within **EOAL – Diver Displacement Technical Note as part of the Applicant’s response to the Examining Authority’s first questions, 30 July 2013 (REP-216)**

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Outer Thames Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6h**).

- d The Applicant has stated that the East Anglia One turbine array is approximately 7km from the SPA and that it is not likely that divers will undertake regular direct foraging trips within the East Anglia One site as the water depths at site are much deeper ($\geq 30\text{m}$) than that preferred by divers ($< 10\text{m}$, London Array I ES, 2005) during the winter period (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 344**).

NE, within **Annex D Dr Richard Caldwor expert report on Coastal and Offshore Ornithology HRA of NE and JNCC's Written Representation, 30 July 2013 (REP-155)** agree with the conclusions made by the Applicant within the ES and the further information presented within **EOAL – Diver Displacement Technical Note as part of the Applicant's response to the Examining Authority's first questions, 30 July 2013 (REP-216)**

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Outer Thames Estuary SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6h**).

Stage 1 Matrix 3.40: Portsmouth Harbour SPA (project alone and in combination)

Site Code: UK9011051

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Dark-bellied Goose <i>Branta bernicla bernicla</i>		n/a	*a	n/a	n/a	n/a	n/a	n/a	*c	n/a	*a
Dunlin <i>Calidris alpina alpina</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Black-tailed Godwit <i>Limosa islandica limosa</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Red-breasted Merganser <i>Mergus</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

<i>serrator,</i>										
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- a The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Medway Estuary and Marshes SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of Lough Foyle SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- c An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in **Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**. The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Medway Estuary and Marshes SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.41: Solent and Southampton Water SPA (project alone and in-combination)

Site Code: UK9011061

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Dark-bellied Goose <i>Branta bernicla bernicla</i>		n/a	*a	n/a	n/a	n/a	n/a	n/a	*d	n/a	*a
Common Tern <i>Sterna hirundo</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Little Tern, <i>Sterna albifrons</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Mediterranean Gull <i>Larus melanocephalus</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

Roseate Tern <i>Sterna dougallii</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Sandwich Tern, <i>Sterna sandvicensis</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Black-tailed Godwit <i>Limosa limosa islandica</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Ringed Plover <i>Charadrius hiaticula</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Teal <i>Anas crecca</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
A waterfowl assemblage including: Gadwall <i>Anas strepera</i> , Teal <i>Anas crecca</i> , Ringed Plover <i>Charadrius hiaticula</i> , Black-tailed Godwit <i>Limosa limosa islandica</i> , Little Grebe <i>Tachybaptus ruficollis</i> , Great Crested Grebe <i>Podiceps cristatus</i> , Cormorant <i>Phalacrocorax</i>	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c

<i>carbo</i> , Dark-bellied Brent Goose <i>Branta</i> <i>bernicla</i> <i>bernicla</i> , Wigeon <i>Anas</i> <i>penelope</i> , Redshank <i>Tringa</i> <i>totanus</i> , Pintail <i>Anas</i> <i>acuta</i> , Shoveler <i>Anas</i> <i>clypeata</i> , Red- breasted Merganser <i>Mergus</i> <i>serrator</i> , Grey Plover <i>Pluvialis squatarola</i> , Lapwing <i>Vanellus</i> <i>vanellus</i> , Dunlin <i>Calidris alpina</i> <i>alpina</i> , Curlew <i>Numenius arquata</i> , Shelduck <i>Tadorna</i> <i>tadorna</i>										
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- a The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Solent and Southampton Water SPA (**EAOL – Statement of**

Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269),**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of Solent and Southampton Water SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b).**

- c With the exception of brent goose, the remaining features are identified within the site JNCC SAC description have not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269),**.

In the Statement of Common Ground with NE and JNCC (July 2013) it was agreed that East Anglia One would not have a likely significant effect on any designated feature of Solent and Southampton Water SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b).**

- d An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in **Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**. The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354).**

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Solent and Southampton Water SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.42: Stour and Orwell Estuaries SPA (project alone and in-combination)

Site Code: UK9009121

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Hen Harrier <i>Circus cyaneus</i>		*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Black-tailed Godwit <i>Limosa limosa islandica</i>		*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Dunlin <i>Calidris alpina alpina</i>		*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Grey Plover <i>Pluvialis squatarola</i>		*a	*a	*a	*a	*a	*a	*a	*a	*a	*a

Pintail <i>Anas acuta</i>	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Common Redshank, <i>Tringa totanus</i>	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Ringed Plover <i>Charadrius hiaticula</i>	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Shelduck <i>Tadorna tadorna</i>	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Turnstone, <i>Arenaria interpres</i>	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
A waterfowl assemblage including: Cormorant <i>Phalacrocorax carbo</i> , Pintail <i>Anas acuta</i> , Ringed Plover <i>Charadrius hiaticula</i> , Grey Plover <i>Pluvialis squatarola</i> , Dunlin <i>Calidris alpina alpina</i> , Black-tailed Godwit <i>Limosa limosa islandica</i> , Redshank <i>Tringa</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

<i>totanus,</i> Shelduck											
<i>Tadorna tadorna,</i> Great Crested Grebe											
<i>Podiceps cristatus,</i> Curlew											
<i>Numenius arquata,</i> Dark-bellied Brent Goose											
<i>Branta bernicla bernicla,</i> Wigeon											
<i>Anas penelope,</i> Goldeneye											
<i>Bucephala clangula,</i> Oystercatcher											
<i>Haematopus ostralegus,</i> Lapwing											
<i>Vanellus vanellus,</i> Knot											
<i>Calidris canutus,</i> Turnstone											
<i>Arenaria interpres</i>											

- a The feature is identified within the site JNCC SAC description but has not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**,.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of the Stour and Orwell Estuaries SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in **Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**. The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354**).

With the exception of brent goose, the remaining features are identified within the site JNCC SAC description have not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Stour and Orwell Estuaries SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.43: The Swale SPA (project alone and in-combination)

Site Code: UK9012011

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Avocet, <i>Recurvirostra avosetta</i>		*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Marsh Harrier, <i>Circus aeruginosus</i>		*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Mediterranean Gull <i>Larus melanocephalus</i>		*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Bar-tailed Godwit <i>Limosa lapponica</i>		*a	*a	*a	*a	*a	*a	*a	*a	*a	*a

Golden Plover <i>Pluvialis apricaria</i>	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Hen Harrier <i>Circus cyaneus</i>	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Ringed Plover <i>Charadrius hiaticula</i>	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Black-tailed Godwit <i>Limosa limosa islandica</i>	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Grey Plover <i>Pluvialis squatarola</i>	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Knot <i>Calidris canutus</i>	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Pintail <i>Anas acuta</i>	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Common Redshank, <i>Tringa totanus</i>	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Shoveler <i>Anas clypeata</i>	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
A waterfowl assemblage including: White-fronted Goose <i>Anser albifrons</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

<i>albifrons</i> , Golden Plover <i>apricaria</i> , Bar-tailed Godwit <i>lapponica</i> , Pintail <i>Anas acuta</i> , Shoveler <i>clypeata</i> , Grey Plover <i>squatarola</i> , Knot <i>Calidris canutus</i> , Black-tailed Godwit <i>Limosa limosa islandica</i> , Redshank <i>Tringa totanus</i> , Avocet <i>Recurvirostra avosetta</i> , Cormorant <i>Phalacrocorax carbo</i> , Curlew <i>Numenius arquata</i> , Dark-bellied Brent Goose <i>bernicla bernicla</i> , Shelduck <i>tadorna</i> , Wigeon <i>Anas penelope</i> , Gadwall <i>strepera</i> , Teal <i>Anas</i>										
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<i>crecca,</i> Oystercatcher <i>Haematopus</i> <i>ostralegus,</i> Lapwing <i>Vanellus vanellus,</i> Dunlin <i>Calidris</i> <i>alpina alpina,</i> Little Grebe <i>Tachybaptus</i> <i>ruficollis</i>										
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- a The feature is identified within the site JNCC SAC description but has not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of The Swale SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in **Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**. The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination

assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354 Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269),**).

With the exception of brent goose, the remaining features are identified within the site JNCC SAC description have not been considered within the Applicant's HRA Report (30 September 2013).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on The Swale SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.44: The Wash SPA (project alone and in-combination)

Site Code: UK9008021

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Dark-bellied Goose <i>Branta bernicla bernicla</i>	Brent <i>Branta bernicla</i>	n/a	*a	n/a	n/a	n/a	n/a	n/a	*d	n/a	*a
Common Tern <i>Sterna hirundo</i>	Tern <i>Sterna hirundo</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Little Tern <i>Sterna albifrons</i>	Tern, <i>Sterna albifrons</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Marsh Harrier <i>Circus aeruginosus</i>	Harrier, <i>Circus aeruginosus</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Avocet <i>Recurvirostra</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

<i>avosetta</i>											
Bar-tailed Godwit <i>Limosa lapponica</i>	x	b	x	b	x	b	x	b	x	b	x
Golden Plover <i>Pluvialis apricaria</i>	x	b	x	b	x	b	x	b	x	b	x
Whooper Swan <i>Cygnus cygnus</i>	x	b	x	b	x	b	x	b	x	b	x
Ringed Plover <i>Charadrius hiaticula</i>	x	b	x	b	x	b	x	b	x	b	x
Sanderling <i>Calidris alba</i>	x	b	x	b	x	b	x	b	x	b	x
Black-tailed Godwit <i>Limosa limosa islandica</i>	x	b	x	b	x	b	x	b	x	b	x
Curlew <i>Numenius arquata</i>	x	b	x	b	x	b	x	b	x	b	x
Dunlin <i>Calidris alpina alpina</i>	x	b	x	b	x	b	x	b	x	b	x
Grey Plover <i>Pluvialis squatarola</i>	x	b	x	b	x	b	x	b	x	b	x
Knot <i>Calidris canutus</i>	x	b	x	b	x	b	x	b	x	b	x

Oystercatcher <i>Haematopus ostralegus</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Pink-footed Goose <i>Anser brachyrhynchus</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Pintail <i>Anas acuta</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Common Redshank, <i>Tringa totanus</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Shelduck <i>Tadorna tadorna</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Turnstone, <i>Arenaria interpres</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
A waterfowl assemblage including: Black-tailed Godwit <i>Limosa limosa islandica</i> , Avocet <i>Recurvirostra avosetta</i> , Golden Plover <i>Pluvialis apricaria</i> , Bar-tailed Godwit <i>Limosa lapponica</i> , Pink-footed Goose <i>Anser</i>	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c

<i>brachyrhynchus,</i> Dark-bellied Brent Goose <i>Branta</i> <i>bernicla bernicla,</i> Shelduck <i>Tadorna</i> <i>tadorna,</i> Pintail <i>Anas acuta,</i> Oystercatcher <i>Haematopus</i> <i>ostralegus,</i> Grey Plover <i>Pluvialis</i> <i>squatarola,</i> Whooper Swan <i>Cygnus cygnus,</i> Dunlin <i>Calidris</i> <i>alpina alpina,</i> Sanderling <i>Calidris</i> <i>alba,</i> Curlew <i>Numenius arquata,</i> Redshank <i>Tringa</i> <i>totanus,</i> Turnstone <i>Arenaria interpres,</i> Little Grebe <i>Tachybaptus</i> <i>ruficollis,</i> Cormorant <i>Phalacrocorax</i> <i>carbo,</i> White- fronted Goose <i>Anser albifrons</i>										
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<i>albifrons,</i> Wigeon <i>Anas penelope,</i> Mallard <i>Anas</i> <i>platyrhynchos,</i> Ringed Plover <i>Charadrius</i> <i>hiaticula,</i> Lapwing <i>Vanellus vanellus,</i> Knot <i>Calidris</i> <i>canutus,</i> Whimbrel <i>Numenius</i> <i>phaeopus.</i>										
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- a The Applicant carried out modelling of the collision risk posed to brent goose passing across the North Sea in the spring or autumn which would be moving to or from estuarine SPAs (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the modelling concluded that there was no potential for a likely significant effect.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on The Wash SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One would not have a likely significant effect on any designated feature of The Wash SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- c With the exception of brent goose, the remaining features are identified within the site JNCC SAC description have not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE and JNCC (July 2013) it was agreed that East Anglia One would not have a likely significant effect on any designated feature of The Wash SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- d An assessment of the potential barrier effects on brent goose as they pass through the East Anglia One site on spring and autumn migration is reported in **Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**. The results of the assessment of East Anglia One alone concluded that there was no potential for a likely significant effect.

An in-combination assessment of barrier effects on brent goose was not carried out. The Applicant justifies that as the predicted effect for East Anglia One alone was so minimal as to make no material contribution to an in-combination assessment and this potential in-combination effect was screened out of further consideration (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 354**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on The Wash SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.45: Hermaness, Saxa Vord and Valla Field SPA (project alone and in-combination)

Site Code: UK9002011

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Gannet <i>bassanus</i>	<i>Morus</i>	n/a	*a	n/a	n/a	n/a	n/a	n/a	*a	n/a	*a
Great Skua <i>Catharacta skua</i>		n/a	*b	n/a	n/a	n/a	n/a	n/a	*b	n/a	*b
Red throated diver, <i>Gavia stellata</i>		*c	*c	*c	*c	*c	*c	*c	*c	*c	*c
Puffin <i>arctica</i>	<i>Fratercula</i>	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c

A seabird assemblage of international importance including: Guillemot <i>Uria aalge</i> , Kittiwake <i>Rissa tridactyla</i> , Shag <i>Phalacrocorax aristotelis</i> , Fulmar <i>Fulmarus glacialis</i> , Puffin <i>Fratercula arctica</i> , Great Skua <i>Catharacta skua</i> , Gannet <i>Morus bassanus</i>	*d	*d	*d	*d	*d	*d	*d	*d	*d	*d	*d
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- a The Applicant carried out an assessment of potential barrier effects and collision risk modelling of the potential effects on gannet from these SPAs foraging and passing through the East Anglia One site in the breeding season, on spring and autumn migration and in winter (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**). In all cases the results of the assessment concluded that there was no potential for a likely significant effect (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 367**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Hermaness, Saxa Vord and Valla Field SPA where gannet is an interest feature (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The Applicant in the ES carried out an assessment of potential barrier effects and collision risk modelling of the potential effects on great skua from these SPAs foraging and passing through the East Anglia One site in the breeding season, on spring and autumn migration and in winter (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the assessment concluded that there was no potential for a likely significant effect (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 377**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the listed SPAs where great skua is an interest feature (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b and 6c**).

- c The feature is identified within the site JNCC SAC description but has not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on any designated feature of the Hermaness, Saxa Vord and Valla Field SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- d With the exception of gannet and great skua, the remaining features identified within the site JNCC SAC description have not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on any designated feature of the Hermaness, Saxa Vord and Valla Field SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.46: Fair Isle SPA (project alone and in-combination)

Site Code: UK9002091

Distance to project: Not stated

European features	site	Likely Effects of NSIP										
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects	
		C	O	D	C	O	D	C	O	D		
Arctic Tern <i>Sterna paradisaea</i>		*a	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Fair Isle Wren <i>Troglodytes troglodytes fridariensis</i>		*a	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
Guillemot <i>Uria aalge</i>		*a	*a	*a	*a	*a	*a	*a	*a	*a	*a	*a
A seabird assemblage of international		n/a	*b,c,d	n/a	n/a	n/a	n/a	n/a	*b,c,d	n/a	*b,c,d	*b,c,d

importance including: Puffin <i>Fratercula arctica</i> , Razorbill <i>Alca torda</i> , Kittiwake <i>Rissa tridactyla</i> , Great Skua <i>Catharacta skua</i> , Arctic Skua <i>Stercorarius parasiticus</i> , Shag <i>Phalacrocorax aristotelis</i> , Gannet <i>Morus bassanus</i> , Fulmar <i>Fulmarus glacialis</i> , Guillemot <i>Uria aalge</i> , Arctic Tern <i>Sterna paradisaea</i>										
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- a The feature is identified within the site JNCC SAC description but has not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on any designated feature of the Fair Isle SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The Applicant in the ES carried out an assessment of potential barrier effects and collision risk modelling of the potential effects on great skua from these SPAs foraging and passing through the East Anglia One site in the breeding

season, on spring and autumn migration and in winter (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the assessment concluded that there was no potential for a likely significant effect (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 377**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Noss SPA where great skua is an interest feature (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b and 6c**).

- c With the exception of gannet and great skua, the remaining features identified within the site JNCC SAC description have not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**,

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on any designated feature of the Fair Isle SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- d The Applicant carried out an assessment of potential barrier effects and collision risk modelling of the potential effects on gannet from these SPAs foraging and passing through the East Anglia One site in the breeding season, on spring and autumn migration and in winter (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**). In all cases the results of the assessment concluded that there was no potential for a likely significant effect (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 367**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Fair Isle SPA where gannet is an interest feature (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.47: Firth of Forth Islands SPA (project alone and in-combination)

Site Code: UK9004171

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Gannet <i>bassanus</i>	<i>Morus</i>	n/a	*a	n/a	n/a	n/a	n/a	n/a	*a	n/a	*a
Arctic Tern <i>paradisaea</i>	<i>Sterna</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Common Tern <i>hirundo</i>	<i>Sterna</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Roseate Tern <i>dougallii</i>	<i>Sterna</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Sandwich Tern, <i>sandvicensis</i>	<i>Sterna</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

Lesser Black Backed Gull, <i>Larus fuscus</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Puffin <i>Fratercula arctica</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Shag <i>Phalacrocorax aristotelis</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
A seabird assemblage of international importance including: Razorbill <i>Alca torda</i> , Guillemot <i>Uria aalge</i> , Kittiwake <i>Rissa tridactyla</i> , Herring Gull <i>Larus argentatus</i> , Cormorant <i>Phalacrocorax carbo</i> , Fulmar <i>Fulmarus glacialis</i> , Puffin <i>Fratercula arctica</i> , Lesser Black-backed Gull <i>Larus fuscus</i> , Shag <i>Phalacrocorax aristotelis</i> , Gannet <i>Morus bassanus</i> ,	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c

Arctic Tern <i>Sterna paradisaea</i> , Common Tern <i>Sterna hirundo</i> , Roseate Tern <i>Sterna dougallii</i> , Sandwich Tern <i>Sterna sandvicensis</i>										
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- a The Applicant carried out an assessment of potential barrier effects and collision risk modelling of the potential effects on gannet from these SPAs foraging and passing through the East Anglia One site in the breeding season, on spring and autumn migration and in winter (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**). In all cases the results of the assessment concluded that there was no potential for a likely significant effect (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 367**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on the Fair Isle SPA where gannet is an interest feature (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on any designated feature of the Firth of Forth Islands SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- c With the exception of gannet, the remaining features identified within the site JNCC SAC description have not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on any designated feature of the Firth of Forth Islands SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.48: Noss SPA (project alone and in-combination)

Site Code: UK9002081

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Gannet <i>bassanus</i>	<i>Morus</i>	n/a	*a	n/a	n/a	n/a	n/a	n/a	*a	n/a	*a
Great <i>Catharacta skua</i>	Skua	n/a	*b	n/a	n/a	n/a	n/a	n/a	*b	n/a	*b
Guillemot <i>aalge</i>	<i>Uria</i>	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c
A seabird assemblage of international importance including: <i>Fratercula arctica</i> ,	Puffin	*d	*d	*d	*d	*d	*d	*d	*d	*d	*d

Kittiwake <i>Rissa tridactyla</i> , Fulmar <i>Fulmarus glacialis</i> , Guillemot <i>Uria aalge</i> , Great Skua <i>Catharacta skua</i> , Gannet <i>Morus bassanus</i>											
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- a The Applicant carried out an assessment of potential barrier effects and collision risk modelling of the potential effects on gannet from these SPAs foraging and passing through the East Anglia One site in the breeding season, on spring and autumn migration and in winter (**Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**). In all cases the results of the assessment concluded that there was no potential for a likely significant effect (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 367**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Noss SPA where gannet is an interest feature (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- b The Applicant in the ES carried out an assessment of potential barrier effects and collision risk modelling of the potential effects on great skua from these SPAs foraging and passing through the East Anglia One site in the breeding season, on spring and autumn migration and in winter (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the assessment concluded that there was no potential for a likely significant effect (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 377**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Noss SPA where great skua is an interest feature (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b and 6c**).

- c The feature is identified within the site JNCC SAC description but has not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on any designated feature of Noss SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

- d With the exception of gannet and great skua, the remaining features identified within the site JNCC SAC description have not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on any designated feature of Noss SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b**).

Stage 1 Matrix 3.49: Fetlar SPA (project alone and in-combination)

Site Code: UK9002031

Distance to project: Not stated

European features	site	Likely Effects of NSIP									In-combination Effects
		Collision Risk			Disturbance/ Displacement			Barrier Effect			
		<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>	
Great Skua <i>Catharacta skua</i>		n/a	*a	n/a	n/a	n/a	n/a	n/a	*a	n/a	*a
Arctic Tern <i>Sterna paradisaea</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Red-necked Phalarope <i>Phalaropus lobatus</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Dunlin <i>Calidris alpina alpina</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

Whimbrel <i>Numenius phaeopus</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
A seabird assemblage of international importance: Arctic Skua <i>Stercorarius parasiticus</i> , Fulmar <i>Fulmarus glacialis</i> , Great Skua <i>Catharacta skua</i> , Arctic Tern <i>Sterna paradisaea</i> , Red- necked Phalarope <i>Phalaropus lobatus</i> .	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c

- a The Applicant in the ES carried out an assessment of potential barrier effects and collision risk modelling of the potential effects on great skua from these SPAs foraging and passing through the East Anglia One site in the breeding season, on spring and autumn migration and in winter (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the assessment concluded that there was no potential for a likely significant effect (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 377**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Fetlar SPA where great skua is an interest feature ((**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b and 6c**)).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on any designated feature of Fetlar SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b and 6c**).

- c With the exception of great skua, the remaining features identified within the site JNCC SAC description have not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Fetlar SPA where great skua is an interest feature (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b and 6c**).

Stage 1 Matrix 3.50: Foula SPA (project alone and in-combination)

Site Code: UK9002061

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Great Skua <i>Catharacta skua</i>		n/a	*a	n/a	n/a	n/a	n/a	n/a	*a	n/a	*a
Arctic Tern <i>Sterna paradisaea</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Leach's Storm-petrel <i>Oceanodroma leucorhoa</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Red throated diver, <i>Gavia stellata</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b

Guillemot <i>Uria aalge</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Puffin <i>Fratercula arctica</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Shag <i>Phalacrocorax aristotelis</i>	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
A seabird assemblage of international importance: Leach's Storm-petrel <i>Oceanodroma leucorhoa</i> , Razorbill <i>Alca torda</i> , Kittiwake <i>Rissa tridactyla</i> , Arctic Skua <i>Stercorarius parasiticus</i> , Fulmar <i>Fulmarus glacialis</i> , Puffin <i>Fratercula arctica</i> , Guillemot <i>Uria aalge</i> , Great Skua <i>Catharacta skua</i> , Shag <i>Phalacrocorax aristotelis</i> , Arctic Tern <i>Sterna</i>	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c	*c

<i>paradisaea</i>										
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- a The Applicant in the ES carried out an assessment of potential barrier effects and collision risk modelling of the potential effects on great skua from these SPAs foraging and passing through the East Anglia One site in the breeding season, on spring and autumn migration and in winter (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the assessment concluded that there was no potential for a likely significant effect (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 377**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Foula SPA where great skua is an interest feature ((**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b and 6c**)).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on any designated feature of Foula SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b and 6c**)).

- c With the exception of great skua, the remaining features identified within the site JNCC SAC description have not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Foula SPA where great skua is an interest feature (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b and 6c**)).

Stage 1 Matrix 3.51: Hoy SPA (project alone and in-combination)

Site Code: UK9002141

Distance to project: Not stated

European features	site	Likely Effects of NSIP									
		Collision Risk			Disturbance/ Displacement			Barrier Effect			In-combination Effects
		<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>	
Great Skua <i>Catharacta skua</i>		n/a	*a	n/a	n/a	n/a	n/a	n/a	*a	n/a	*a
Peregrine <i>Falco peregrinus</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
Red throated diver, <i>Gavia stellata</i>		*b	*b	*b	*b	*b	*b	*b	*b	*b	*b
A seabird assemblage of international importance: Puffin <i>Fratercula arctica</i> ,		*c	*c	*c	*c	*c	*c	*c	*c	*c	*c

Guillemot <i>Uria</i> <i>aalge</i> , Kittiwake <i>Rissa tridactyla</i> , Great Black-backed Gull <i>Larus marinus</i> , Arctic Skua <i>Stercorarius</i> <i>parasiticus</i> , Fulmar <i>Fulmarus glacialis</i> , Great Skua <i>Catharacta skua</i>											
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- a The Applicant in the ES carried out an assessment of potential barrier effects and collision risk modelling of the potential effects on great skua from these SPAs foraging and passing through the East Anglia One site in the breeding season, on spring and autumn migration and in winter (**Volume 2 Chapter 12 (Ornithology Marine and Coastal) of the ES (Doc Ref: APP-081)**). In all cases the results of the assessment concluded that there was no potential for a likely significant effect (**Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269), paragraph 377**).

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Hoy SPA where great skua is an interest feature (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b and 6c**).

- b The feature is identified within the site JNCC SAC description but has not been considered within the Applicant’s **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on any designated feature of Hoy SPA (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b and 6c**).

- c With the exception of great skua, the remaining features identified within the site JNCC SAC description have not been considered within the Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request (Doc Ref: REP-269)**.

In the Statement of Common Ground with NE/JNCC it was agreed that East Anglia One alone and in combination would not have a likely significant effect on Hoy SPA where great skua is an interest feature (**EAOL – Statement of Common Ground with JNCC and Natural England (offshore), July 2013 (Doc Ref: REP-184), Section 3.3, 6b and 6c**).

4.0 STAGE 2: EFFECTS ON INTEGRITY

Background

The screening exercise has identified the potential for a likely significant effect on one or more features of the European sites considered. This section summarises the anticipated effects on the integrity of the European sites, in the context of their conservation objectives.

Stage 2 Matrices Key

✓ = Adverse effect on integrity cannot be excluded

× = Adverse effect on integrity can be excluded

C= construction

O = operation

D = decommissioning

Evidence supporting the conclusions is detailed in footnotes for each table with reference to relevant supporting documentation.

Where an impact is not considered relevant for a feature of a European site, the cell in the matrix is formatted as follows:

n/a

Integrity Matrices

Integrity Matrix 3.1: Alde-Ore Estuary SPA (project alone)

Site Code: UK9009112

Distance to NSIP: Approximately 54km to proposed wind farm array and less than 2km from the cable landfall

Conservation objectives: With regard to the individual species and/or assemblage of species for which the site has been classified (the Qualifying Features listed below);

Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive.

Subject to natural change, to maintain or restore:
The extent and distribution of the habitats of the qualifying features;
The structure and function of the habitats of the qualifying features;
The supporting processes on which the habitats of the qualifying features rely;
The populations of the qualifying features;
The distribution of the qualifying features within the site.

Qualifying Features:

A081 *Circus aeruginosus*; Eurasian marsh harrier (Breeding)
A132 *Recurvirostra avosetta*; Pied avocet (Non-breeding)
A132 *Recurvirostra avosetta*; Pied avocet (Breeding)
A151 *Philomachus pugnax*; Ruff (Non-breeding)
A162 *Tringa totanus*; Common redshank (Non-breeding)
A183 *Larus fuscus*; Lesser black-backed gull (Breeding)
A191 *Sterna sandvicensis*; Sandwich tern (Breeding)
A195 *Sterna albifrons*; Little tern (Breeding)

Additional Qualifying Features Identified by the 2001 UK SPA Review:

Seabird assemblage
Waterbird assemblage

European site features	Adverse effect on integrity								
	Collision Risk			Disturbance / Displacement			Barrier Effect		
	<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>
Herring Gull <i>Larus argentatus</i> , as part of a seabird assemblage of international importance	n/a	*a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

- a) As a result of no agreement with Natural England at Interested Parties Deadline I stage over the absence of likely significant effects as a result of collision risk from East Anglia One alone, the Applicant has carried out further technical work on the risk posed to herring gull and has provided this information to the Examining Authority at Interested Party Deadline II (APEM 2013a) this information has subsequently been consolidated into **Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Appendix D Submitted in response to Rule 17 request (Doc Ref: REP-269)**.

The Applicant has concluded from this further technical work that the predicted impact of East Anglia One alone on the herring gull population of the Alde-Ore Estuary SPA, for all three of the CRM Types that were applied, was a maximum of a predicted mortality of 0.35 birds per annum that can be attributed to the Alde-Ore Estuary SPA. This level of predicted mortality would result in a relative change in the number of birds subject to mortality each year of 0.17%. The Applicant has concluded that this level of mortality predicted to occur as a result of East Anglia One alone will not have an adverse effect on the integrity of the Alde-Ore Estuary SPA.

The Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request paragraph 385 (Doc Ref: REP-269)** states that this conclusion was agreed in a teleconference call with Natural England on 11th September 2013.

At the issue specific hearing the Applicant stated that it had concluded that there was no likely significant effect alone, however there was some debate with Natural England regarding the numbers of herring gull potentially affected by the development and therefore how to carry out an in-combination assessment. The Applicant stated that a further note had been submitted with regards herring gull see **Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Appendix D Submitted in response to Rule 17 request (Doc Ref: REP-269)**. Following the submission of that note Natural England and the Applicant had agreed that the East Anglia One development will not have a significant effect in-combination.

Dr Caldow (Natural England) confirmed at the hearing that Natural England had received a further note on herring gull and had considered this internally. Natural England agreed with the Applicant that the East Anglia One development would not have a likely significant effect on the Alde-Ore Estuary SPA alone and that the level of predicted mortality due to East Anglia One alone (less than 1 bird per annum) is so small as not to alter materially any overall in-combination figure (in effect a de minimis contribution).

Accordingly, Natural England agrees with the Applicant that it is not necessary to undertake an in-combination assessment.

Integrity Matrix 3.2: Alde-Ore Estuary SPA (in-combination)

Site Code: UK9009112

Distance to NSIP: Approximately 54km to proposed wind farm array and less than 2km from the cable landfall

Conservation objectives: See Matrix 3.1

European site features	Adverse effect on integrity								
	Collision Risk			Disturbance / Displacement			Barrier Effect		
	<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>
Lesser Black Backed Gull, <i>Larus fuscus</i>	n/a	*a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Herring Gull <i>Larus argentatus</i> , as part of a seabird assemblage of international importance	n/a	*b	n/a	n/a	n/a	n/a	n/a	n/a	n/a

a) As a result of no agreement with Natural England at Interested Parties Deadline I stage over the absence of likely significant effects as a result of collision risk from East Anglia One in combination with other plans and projects, the Applicant has reconsidered the information that is available on lesser black-backed gull and the advice provided by Natural England and

JNCC in their joint Written Representation on the assessment of potential adverse impacts on the integrity of the SPA. An updated assessment of the likely significant effects has been provided **Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Appendices E, F & G Submitted in response to Rule 17 request (Doc Ref: REP-269)**. As a precautionary measure, instead of using the 91km foraging distance obtained from the Alde-Ore gulls, this report has included in its in-combination impact assessment all UK offshore wind farms that lie within the generic mean maximum range of 141km from the SPA, where flight lines are from the SPA over water around the north Norfolk coast. By taking this precautionary approach the projects that are known to be within foraging range include:

- Greater Gabbard;
- Galloper;
- London Array I & II;
- Gunfleet Sands I, II & III;
- Scroby Sands;
- Kentish Flats and Extension;
- Thanet;
- Sheringham Shoal; and
- Dudgeon.

The list of projects considered by the Applicant in their in-combination assessment excludes projects such as East Anglia Three and Four. However, the Applicant notes [add ref] the conclusion drawn by Natural England:

'Natural England considers that the element of the East Anglia One contribution to the in combination mortality total to which some degree of confidence can be attached, i.e. that during the breeding season (3-7) is so small as to not materially alter the overall in combination mortality figure or the likelihood of an adverse effect currently arising from such an in combination level of mortality'.

On this basis the Applicant confirms its own conclusion that there is no adverse effect on integrity of the interest feature lesser black backed gull of the Alde-Ore Estuary SPA as a result of collision risk from East Anglia One in combination with other plans and projects see **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request paragraph 386 (Doc Ref: REP-269)**.

Natural England, in their Written Representation **Annex D Dr Richard Caldwor expert report on Coastal and Offshore Ornithology HRA of NE and JNCC's Written Representation, 30 July 2013 (REP-155)**, has stated that on the basis of the Natural England derived collision mortality totals for East Anglia One alone (i.e. 13-40), and the mortality predicted to arise from the other windfarms considered in the in-combination assessment i.e. 246, an overall in-combination total of between 259 and 286 can be derived of which East Anglia One contributes between 5% and 14%. Natural England considers that this level of in-combination mortality is such that an adverse effect on the integrity of the Alde-Ore SPA cannot be ruled out. Natural England notes that in the light of the range of alternative apportionment approaches it has explored, that the bulk of the predicted collisions of Alde-Ore SPA LBBG at East Anglia One is predicted to occur outwith the breeding season. Natural England notes that the collision mortality that it has estimated might occur at East Anglia One outwith the breeding season (10-33), in comparison with that in the breeding season (3-7), is consistent with an assumption that the seasonal occurrence of Alde-Ore birds at the East Anglia One site is the same as that of LBBG in general (as indicated by the seasonal breakdown of overall collision figures (i.e. c 20% breeding season and 80% outwith that period). Given that the Alde-Ore SPA colony is relatively near East Anglia One in comparison to other colonies, Natural England considers it more likely that Alde-Ore birds would, if anything, be represented disproportionately at the East Anglia One site in the breeding season, and make a smaller contribution to flight activity and hence collision mortality at the site at other times of year. Furthermore, in this instance, the estimates on non-breeding season mortality derived by Natural England are "derived" from the breeding season figures. Thus, any uncertainty in deriving those numbers is compounded in arriving at the year round figures. Accordingly Natural England considers the figures for non-breeding season collision risk mortality that it has derived to be no more than speculative, and does not place much weight on them. In contrast, Natural England considers its estimates of collision risk mortality that might occur at East Anglia One during the breeding season (3-7) to be more reliable. Natural England considers that the element of the East Anglia One contribution to the in-combination mortality total to which some degree of confidence can be attached, i.e. that during the breeding season (3-7) while not de minimis, is so small as to not materially alter the overall in-combination mortality figure or the likelihood of an adverse effect on integrity of the Alde-Ore Estuary SPA arising from such an in-combination level of mortality. Natural England advises that on that basis, and due to a similar lack of certainty around the effectiveness of mitigation to deliver small reductions in mortality, it appears that there is little benefit to be gained from exploring further into mitigation options for this small number of additional mortalities.

- b) As a result of no agreement with Natural England at Interested Parties Deadline I stage over the absence of likely significant effects as a result of collision risk from East Anglia One alone, the Applicant has carried out further technical work on the risk posed to herring gull and has provided this information to the Examining Authority at Interested Party Deadline II (APEM 2013a) this information has subsequently been consolidated into the **Addendum to the Ornithology (Marine and**

Coastal) Chapter of the Environmental Statement, September 2013 Appendix D Submitted in response to Rule 17 request (Doc Ref: REP-269).

The Applicant has concluded from this further technical work that the predicted impact of East Anglia One alone on the herring gull population of the Alde-Ore Estuary SPA, for all three of the CRM Types that were applied, was a maximum of a predicted mortality of 0.35 birds per annum that can be attributed to the Alde-Ore Estuary SPA. This level of predicted mortality would result in a relative change in the number of birds subject to mortality each year of 0.17%. The Applicant has concluded that this level of mortality predicted to occur as a result of East Anglia One alone will not have an adverse effect on the integrity of the Alde-Ore Estuary SPA.

The Applicant's **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request paragraph 385 (Doc Ref: REP-269)** states that this conclusion was agreed in a teleconference call with Natural England on 11th September 2013.

At the issue specific hearing [add date] the Applicant stated that it had concluded that there was no likely significant effect alone, however there was some debate with Natural England regarding the numbers of herring gull potentially affected by the development and therefore how to carry out an in-combination assessment. The Applicant stated that a further note had been submitted with regards herring gull **Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Appendix D Submitted in response to Rule 17 request (Doc Ref: REP-269)**. Following the submission of that note Natural England and the Applicant had agreed that the East Anglia One development will not have a significant effect in-combination.

Dr Caldwell (Natural England) confirmed at the hearing that Natural England had received a further note on herring gull and had considered this internally. Natural England agreed with the Applicant that the East Anglia One development would not have a likely significant effect on the Alde-Ore Estuary SPA alone and that the level of predicted mortality due to East Anglia One alone (less than 1 bird per annum) is so small as not to alter materially any overall in-combination figure (in effect a de minimis contribution).

Accordingly, Natural England agrees with the Applicant that it is not necessary to undertake an in-combination assessment.

Integrity Matrix 3.3: Alde-Ore Estuary Ramsar (in-combination)

Site Code: UK11002

Distance to NSIP: Approximately 54km to proposed wind farm array and less than 2km from the cable landfall

European site features	Adverse effect on integrity								
	Collision Risk			Disturbance / Displacement			Barrier Effect		
	<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>
Ramsar criterion 6 – Species/populations occurring at levels of international importance – species regularly supported during the breeding season (lesser black-backed gull)	n/a	×a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

- a) As a result of no agreement with Natural England at Interested Parties Deadline I stage over the absence of likely significant effects as a result of collision risk from East Anglia One in-combination with other plans and projects, the Applicant has reconsidered the information that is available on lesser black-backed gull and the advice provided by Natural England and JNCC in their joint Written Representation on the assessment of potential adverse impacts on the integrity of the SPA. An updated assessment of the likely significant effects has been provided **Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Appendices E, F & G Submitted in response to Rule 17 request (Doc Ref: REP-269)**.. As a precautionary measure instead of using the more logical 91 km foraging distance obtained from the Alde-Ore gulls, this report has included in its in-combination impact assessment all UK offshore wind farms that lie within the generic mean maximum range of 141 km from the SPA, where flight lines are from the SPA over water around the north Norfolk coast. By taking this precautionary approach the projects that are known to be within foraging range include:

- Greater Gabbard;
- Galloper;
- London Array I & II;
- Gunfleet Sands I, II & III;
- Scroby Sands;
- Kentish Flats and Extension;
- Thanet;
- Sheringham Shoal; and
- Dudgeon.

The list of projects considered by the Applicant in their in-combination assessment excludes projects such as East Anglia Three and Four. However, the Applicant notes [add ref] the conclusion drawn by Natural England:

'Natural England considers that the element of the East Anglia One contribution to the in combination mortality total to which some degree of confidence can be attached, i.e. that during the breeding season (3-7) is so small as to not materially alter the overall in combination mortality figure or the likelihood of an adverse effect currently arising from such an in combination level of mortality'.

On this basis the Applicant confirms its own conclusion that there is no adverse effect on integrity of the interest feature lesser black backed gull of the Alde-Ore Estuary SPA as a result of collision risk from East Anglia One in-combination with other plans and projects **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request paragraph 386 (Doc Ref: REP-269).**

Natural England, in their Written Representation **Annex D Dr Richard Caldwor expert report on Coastal and Offshore Ornithology HRA of NE and JNCC's Written Representation, 30 July 2013 (REP-155)**. has stated that on the basis of the Natural England derived collision mortality totals for East Anglia One alone (i.e. 13-40), and the mortality predicted to arise from the other windfarms considered in the in-combination assessment i.e. 246, an overall in-combination total of between 259 and 286 can be derived of which East Anglia One contributes between 5% and 14%. Natural England considers that this level of in-combination mortality is such that an adverse effect on the integrity of the Alde-Ore SPA cannot be ruled out. Natural England notes that in the light of the range of alternative apportionment approaches it has explored, that the bulk of the predicted collisions of Alde-Ore SPA LBBG at East Anglia One is predicted to occur outwith the breeding season. Natural England notes that the collision mortality that it has estimated might occur at East Anglia One outwith the breeding

season (10-33), in comparison with that in the breeding season (3-7), is consistent with an assumption that the seasonal occurrence of Alde-Ore birds at the East Anglia One site is the same as that of LBBG in general (as indicated by the seasonal breakdown of overall collision figures (i.e. c 20% breeding season and 80% outwith that period). Given that the Alde-Ore SPA colony is relatively near East Anglia One in comparison with other colonies, Natural England considers it more likely that Alde-Ore birds would, if anything, be represented disproportionately at the East Anglia One site in the breeding season, and make a smaller contribution to flight activity and hence collision mortality at the site at other times of year. Furthermore, in this instance, the estimates on non-breeding season mortality derived by Natural England are "derived" from the breeding season figures. Thus, any uncertainty in deriving those numbers is compounded in arriving at the year round figures. Accordingly Natural England considers the figures for non-breeding season collision risk mortality that it has derived to be no more than speculative, and does not place much weight on them. In contrast, Natural England considers its estimates of collision risk mortality that might occur at East Anglia One during the breeding season (3-7) to be more reliable. Natural England considers that the element of the East Anglia One contribution to the in-combination mortality total to which some degree of confidence can be attached, i.e. that during the breeding season (3-7) while not de minimis, is so small as to not materially alter the overall in-combination mortality figure or the likelihood of an adverse effect on integrity of the Alde-Ore Estuary SPA arising from such an in-combination level of mortality. Natural England advises that on that basis, and due to a similar lack of certainty around the effectiveness of mitigation to deliver small reductions in mortality, it appears that there is little benefit to be gained from exploring further into mitigation options for this small number of additional mortalities.

Integrity Matrix 3.4: Flamborough Head and Bempton Cliffs (in-combination)

Site Code: UK9006101

Distance to NSIP: Approximately 254km

Conservation objectives: With regard to the individual species and/or assemblage of species for which the site has been classified (the Qualifying Features listed below);

Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive.

Subject to natural change, to maintain or restore:

- The extent and distribution of the habitats of the qualifying features;
- The structure and function of the habitats of the qualifying features;
- The supporting processes on which the habitats of the qualifying features rely;
- The populations of the qualifying features;
- The distribution of the qualifying features within the site.

Qualifying Features:

A188 *Rissa tridactyla*; Black-legged kittiwake (Breeding)

Additional Qualifying Features Identified by the 2001 UK SPA Review:

Seabird assemblage

European site features	Adverse effect on integrity								
	Collision Risk			Disturbance / Displacement			Barrier Effect		
	<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>
Kittiwake <i>Rissa tridactyla</i>	n/a	✘a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Kittiwake <i>Rissa tridactyla</i> as part of a seabird assemblage of international importance	n/a	✘a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Gannet <i>Morus bassanus</i> as part of a seabird assemblage of international importance	n/a	✘b	n/a	n/a	n/a	n/a	n/a	n/a	n/a

- a) As a result of no agreement with Natural England at Interested Parties Deadline I stage over the absence of likely significant effects as a result of collision risk from East Anglia One in-combination with other plans and projects, the Applicant has reconsidered the information that is available on kittiwake and the advice provided by Natural England and JNCC in their joint Written Representation on the assessment of potential adverse impacts on the integrity of the SPA this information is consolidated in **Section C of the Addendum to the Ornithology (Marine and Coastal) Chapter of the Environmental Statement, September 2013 Submitted in response to Rule 17 request (Doc Ref: REP-269)**. In **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request paragraph 393 (Doc Ref: REP-269)** the Applicant notes the conclusion drawn by Natural England which stated:

'The PBR conducted by Natural England has predicted a precautionary value of between 250-350 Kittiwakes could sustainably be removed from the SPA without compromising the population trajectory quantitatively or temporally. As the East Anglia One offshore wind farm in combination with those other consented/operational windfarms in the North Sea considered in table 3.7 of the Applicant's technical report is predicted to remove no more than 78% of that total and perhaps only 56%, Natural England is of the view that there is sufficient margin for error to safely conclude that no reasonable scientific doubt remains as to the absence of an adverse effect on the integrity of the Flamborough Head and Bempton Cliffs SPA due to collision risk mortality of kittiwake at East Anglia One in combination with the other windfarms within the North Sea as set out in table 3.7 of the Applicant's technical report'.

In the **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request paragraph 394 (Doc Ref: REP-269)** the Applicant notes, but does not agree with, the conclusion drawn by Natural England which stated:

'Natural England considers that this revised assessment (that of 274 fatalities) may be something of an underestimate due to: i) exclusion of windfarms outside the North Sea with which FHBC kittiwakes may interact outwith the breeding season, ii) uncertainty regarding the headline mortality figure at Hornsea (project 1), iii) use of a very low apportionment % for Hornsea OWF given that FHBC is the closest large kittiwake colony, iv) uncertainty over the headline collision figure given for Moray Firth OWF, v) uncertainty over the headline collision figure given for Beatrice OWF vi) no figures being presented for other pre-consent windfarms within the Firths of Forth & Tay e.g. Inch Cape (on the verge of submission) and Firth of Forth Zone 3 (Seagreen submitted Oct 2012)'.

The Applicant considers that its clear and practical approach to in-combination assessments of the incorporation of information only where there is a reasonable degree of certainty reflects the approach, in the case of English projects, taken in the in-combination assessment for Triton Knoll OWF which was accepted in the determination of the development consent order application by the Secretary of State. This is that projects have not been included by the Applicant in its in-combination assessment that are either pre-application or post-application (but the decision on consent is likely to be made after East Anglia One), or, in the case of the Scottish sites, are post application but without any statutory consenting timeline,

Further details of the Applicant's approach to in-combination assessments and a rationale for the inclusion, or not, of particular projects is given in its Written Representation at Interested Parties Deadline II.

On the basis on the approach to in-combination assessment described above, the Applicant concludes that there is no adverse effect on integrity of the interest feature kittiwake of the FHBC SPA as a result of collision risk from East Anglia One in-combination with other plans and projects.

Dr Caldow (Natural England) noted that since the submission of Natural England's Written Representations the Applicant has provided a further technical note on kittiwake, but that this did not change the figures, which are discussed at length in his Expert Report. Dr Caldow (Natural England) confirmed that it remains Natural England's advice that if the competent authority is minded to consider that only those offshore wind farms which are listed in Table 3.7 of the Applicant's technical report need be included in the in-combination assessment, there is sufficient margin of error relative to PBR thresholds of sustainable mortality to safely conclude that collision mortality of kittiwakes at East Anglia One either alone or in-combination will not adversely affect the integrity of the Flamborough Head and Bempton Cliffs SPA. However, as stated in respect of Agenda Item 2.1.3 (Issue Specific Hearing 17 September 2013), Natural England has doubts regarding the figures used in the Applicant's in-combination assessment. There remains a difference of opinion with the Applicant as to which projects to include in the in-combination assessment, see **Natural England Representation received on 18 October 2013 for Deadline III (Doc Ref: REP-276)**.

It is Natural England's submission that, as stated in its Written Representations, reasonable scientific doubt remains as to the absence of adverse effects on the integrity of the European sites until consideration is given to the full range of impacts from other plans and projects in-combination with the East Anglia One development. Natural England will be in a position to advise the Secretary of State on site integrity once this in-combination assessment has been carried out. Until that in-combination assessment is carried out scientific doubt remains as to the absence of adverse effects. Natural England confirmed that the first step is to determine whether East Anglia One is capable of having an adverse effect on site integrity in-combination with other plans or projects. Once a view is formed on this, one can go on to consider whether mitigation is required see **Natural England Representation received on 18 October 2013 for Deadline III (Doc Ref: REP-276)**.

East Anglia One has submitted their response to the tiered approach to inform cumulative and in-combination assessment, see **EAOL - Response to the Tiered Approach (October 2013) (Doc Ref: REP-312)**. Section 2 of the response to the tiered approach document details EAOL's approach to project inclusion within the cumulative and in-combination assessments for the East Anglia One project and provides a written response to the suggested Tiered Approach. Section 3 comprises Tiered Approach Tables for gannet and kittiwake (for both cumulative assessment and in-combination assessment in relation to the Flamborough Head and Bempton Cliffs (FHBC) SPA) and for great black-backed gull (for cumulative

assessment only). All other species have been scoped out of further consideration. The Applicants' response to the tiered approach does not provide an assessment of the impacts taking into account the tiered approach.

- b) As a result of no agreement between the Applicant and Natural England at Interested Parties Deadline I stage over the absence of likely significant effects as a result of collision risk from East Anglia One in-combination with other plans and projects, the Applicant has carried out further technical work on the risk posed to gannet and has provided this information to the Examining Authority at Interested Party Deadline II (APEM 2013b).

As part of that further technical work the Applicant reconsidered the in-combination assessment and, using the approach to the inclusion, or not, of projects as described in footnote (a) above on kittiwake concluded that the level of additional mortality (based on the published PVA model for gannet) did not exceed the point at which there is a 5% probability of the FHBC SPA population going in to decline. The PVA predictions indicate that the collision mortality by the proposed East Anglia One wind farm in-combination with other North Sea wind farms will not have an adverse impact on the integrity of the FHBC SPA population of gannets see **Habitats Regulations Assessment Report Version 2 - September 2013 Submitted in Response to Rule 17 Request paragraphs 398-399 (Doc Ref: REP-269)**.

At the hearing Dr Caldwell (Natural England) explained that, while Natural England cannot exclude a significant effect arising from the proposed development in combination, on balance, he was able to conclude that no reasonable scientific doubt remains as to the absence of an adverse effect on the integrity of the Flamborough Head and Bempton Cliffs SPA due to collision mortality of gannets at East Anglia One acting either alone or in-combination with those other plans and projects considered in Table 3.8 of the Applicant's technical note on gannet. However, as discussed in connection with Agenda Item 2.1.3 (Issue Specific Hearing 17 September 2013), the issue is whether the list of other wind farms provided in Table 3.8 of the Applicant's technical note on gannet is a complete one. It is Natural England's advice that the omission of potential collision mortality at a number of other offshore wind farms from the Applicant's assessment means that the information provided is not sufficiently broad to encompass all of the in-combination effects which should be assessed. Therefore it is Natural England's advice that scientific doubt remains as to the absence of adverse effects on the integrity of the Flamborough Head and Bempton Cliffs SPA in-combination see **Natural England Representation received on 18 October 2013 for Deadline III (Doc Ref: REP-276)**

East Anglia One has submitted their response to the tiered approach to inform cumulative and in-combination assessment, see **EAOL - Response to the Tiered Approach (October 2013) (Doc Ref: REP-312)**. Section 2 of the response to the tiered approach document details EAOL's approach to project inclusion within the cumulative and in-combination

assessments for the East Anglia One project and provides a written response to the suggested Tiered Approach. Section 3 comprises Tiered Approach Tables for gannet and kittiwake (for both cumulative assessment and in-combination assessment in relation to the Flamborough Head and Bempton Cliffs (FHBC) SPA) and for great black-backed gull (for cumulative assessment only). All other species have been scoped out of further consideration. The Applicants' response to the tiered approach does not provide an assessment of the impacts taking into account the tiered approach.

The ExA asked (Issue Specific Hearing 17 September 2013) Dr Caldow (Natural England) whether, if Natural England could not conclude that there would not be an adverse effect on integrity in combination with those other wind farms, what mitigation, if any, it would suggest. Dr Caldow (Natural England) said in response that to date Natural England has not proposed mitigation with regards to gannets. In his opinion there was very little the Applicant could do to mitigate for impacts on gannet at the colony (in terms of greater management) because access to enable management was near impossible, and the colony was in any case growing very rapidly suggesting little scope to improve the current situation. In Dr Caldow (Natural England's) view the only viable mitigation option would be some form of mitigation at the array.

In connection with this issue, Natural England also queried whether a full in-combination assessment, taking into account all of the impacts associated with the various proposed offshore wind farm developments, would provide a clearer indication as to which projects were predicted to have a greater impact per turbine. It may be possible then to take a strategic approach and to focus on reducing impacts at those sites where impacts were greatest and in so doing allow for more capacity at arrays elsewhere, which, by virtue of their location, would have a smaller impact on bird species. This information has not been provided by East Anglia One.