East Anglia THREE

Scoping Opinion

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East Anglia THREE Limited
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Table of Contents

The Planning Inspectorate Letter
Scoping Opinion
Late Responses
THE PLANNING INSPECTORATE LETTER
Dear Mr Morrison,

**INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2009 SI 2263 (as amended) (the EIA Regulations)**
**PROPOSED EAST ANGLIA THREE OFFSHORE WINDFARM (the project)**
**PROPOSAL BY EAST ANGLIA OFFSHORE WIND LIMITED (the applicant)**

Thank you for your letter received on 13 November 2012 requesting a scoping opinion under Regulation 8 of the EIA Regulations and for the scoping report entitled East Anglia THREE Offshore Windfarm Scoping Report.

In accordance with Regulation 8 of the EIA Regulations the Secretary of State has:

- consulted the prescribed consultation bodies and other interested parties
- taken account of the consultation responses received within the prescribed time period, and
- taken account of the specific characteristics of the project as described by the promoter and the environmental features likely to be affected by the project.

The attached document entitled ‘Scoping Opinion - Proposed East Anglia THREE Offshore Windfarm’ and dated December 2012 is the Secretary of State’s written opinion as to the information to be provided in the environmental statement which must be submitted with an application for development consent. It should be read in conjunction with your EIA Scoping Report.

All consultation responses received up to and including 28 days after the consultation letters were sent out have been appended to and form part of the Scoping Opinion.

Further consultation responses have been received by the Secretary of State following the end of the statutory deadline. These have also been enclosed for your consideration. Any further late consultation responses the Secretary of State receives will be forwarded to you for your consideration and made available via the Planning Portal: [www.planningportal.gov.uk/infrastructure](http://www.planningportal.gov.uk/infrastructure).
Under Regulation 9(1)(b) of the EIA Regulations, the Secretary of State is required to notify the applicant of the list of the prescribed consultation bodies the Secretary of State has consulted regarding the applicant’s request for a scoping opinion from the Secretary of State. Please find this enclosed. This list is also the list of consultees whom the Secretary of State has notified in accordance with Regulation 9 of the EIA Regulations that the applicant intends to provide an Environmental Statement (ES) in respect of the proposed project and of their duty under Regulation 9(3) to enter into consultation with the applicant regarding preparation of the ES, if requested.

Please be aware that it is the responsibility of the applicant to ensure their consultation fully accords with the requirements of the Planning Act 2008 (as amended), and associated regulations and guidance. The enclosed list has been compiled by the Secretary of State in its duty to notify the consultees in accordance with Regulation 9(1)(a) and, whilst it can inform the applicant’s own consultation, it should not be relied upon for that purpose.

Yours sincerely,

Hannah Nelson
EIA and Land Rights Adviser
on behalf of the Secretary of State

Enclosed:
Secretary of State’s Scoping Opinion - Proposed East Anglia THREE Offshore Windfarm
Regulation 9 Notification List
Late consultation responses from:
   Otley Parish Council
   Sproughton Parish Council

Advice may be given about applying for an order granting development consent or making representations about an application (or a proposed application). This communication does not however constitute legal advice upon which you can rely and you should obtain your own legal advice and professional advice as required.

A record of the advice which is provided will be recorded on the Planning Inspectorate website together with the name of the person or organisation who asked for the advice. The privacy of any other personal information will be protected in accordance with our Information Charter which you should view before sending information to the Planning Inspectorate.
SCOPING OPINION
Proposed East Anglia THREE Offshore Windfarm

December 2012
# CONTENTS

## EXECUTIVE SUMMARY

1.0 INTRODUCTION........................................................................................................ 1

2.0 THE PROPOSED DEVELOPMENT ........................................................................ 4

3.0 EIA APPROACH AND TOPIC AREAS .......................................................... 22

4.0 OTHER INFORMATION ...................................................................................... 43

APPENDIX 1 – LIST OF CONSULTEES

APPENDIX 2 – RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES

APPENDIX 3 – PRESENTATION OF THE ENVIRONMENTAL STATEMENT
EXECUTIVE SUMMARY

This is the Scoping Opinion (the Opinion) provided by the Secretary of State in respect of the content of the Environmental Statement for the East Anglia THREE Offshore Wind Farm, located within the North Sea of the east coast of East Anglia approximately 79km from the East Anglia coast.

This report sets out the Secretary of State’s opinion on the basis of the information provided in East Anglia Offshore Wind Limited’s (the Applicant) report entitled ‘East Anglia THREE Offshore Windfarm Scoping Report (November 2012). The Opinion can only reflect the proposals as currently described by the Applicant.

The Secretary of State has consulted on the Applicant’s Scoping Report and the responses received have been taken into account in adopting this Opinion. The Secretary of State is satisfied that the topic areas identified in the Scoping Report encompass those matters identified in Schedule 4, Part 1, paragraph 19 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended).

The Secretary of State draws attention both to the general points and those made in respect of each of the specialist topic areas in this Opinion. The main potential issues identified are:

**Offshore**
- Benthic ecology
- Marine mammals
- Ornithology
- Commercial fisheries
- Aviation, in particular UK and Dutch helicopter main routes
- Marine archaeology and cultural heritage

**Onshore**
- Ecology
- Archaeology and cultural heritage
- Traffic and transport
- Socio-economic impacts, in particular disruption on the beach at the landfall site for the export cables

**Wider scheme**
- Seascape, landscape and visual amenity

Matters are not scoped out unless specifically addressed and justified by the Applicant, and confirmed as being scoped out by the Secretary of State.
The Secretary of State notes the potential need to carry out an assessment under the Habitats Regulations¹.

¹ The Conservation of Habitats and Species Regulations 2010 (as amended)
1.0 INTRODUCTION

Background

1.1 The EIA Regulations enable an applicant, before making an application for an order granting development consent, to ask the SoS to state in writing their formal opinion (a ‘scoping opinion’) on the information to be provided in the Environmental Statement (ES). On 13 November 2012, the Secretary of State (SoS) received a scoping report submitted by East Anglia Offshore Wind Limited (the Applicant) under Regulation 8 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (SI 2263) (as amended) (the EIA Regulations) dated November 2012 (the Scoping Report), in order to request a scoping opinion for the proposed East Anglia THREE Offshore Windfarm (the proposed development). This Scoping Opinion is made in response to this request and should be read in conjunction with the Applicant’s Scoping Report.

1.2 In a letter dated 12 November 2012 addressed to the SoS and accompanying the Applicant’s Scoping Report, the Applicant formally notified the SoS under Regulation 6(1)(b) of the EIA Regulations that it proposes to provide an ES in respect of the proposed development. Therefore, in accordance with Regulation 4(2)(a) of the EIA Regulations, the proposed development is determined to be EIA development.

1.3 Before adopting a scoping opinion the SoS must take into account:

(a) the specific characteristics of the particular development;
(b) the specific characteristics of the development of the type concerned; and
(c) environmental features likely to be affected by the development.’

(EIA Regulation 8 (9))

1.4 This Opinion sets out what information the SoS considers should be included in the ES for the proposed development. The Opinion has taken account of:

i the EIA Regulations
ii the nature and scale of the proposed development
iii the nature of the receiving environment, and
iv current best practice in the preparation of environmental statements.
1.5 The SoS has also taken account of the responses received from the consultation bodies (see Appendix 2 of this Opinion). The matters addressed by the Applicant have been carefully considered and use has been made of professional judgement and experience in order to adopt this Opinion. It should be noted that when it comes to consider the ES, the SoS will take account of relevant legislation and guidance (as appropriate). The SoS will not be precluded from requiring additional information if it is considered necessary in connection with the ES submitted with that application when considering the application for a development consent order (DCO).

1.6 This Opinion should not be construed as implying that the SoS agrees with the information or comments provided by the Applicant in their request for an opinion from the SoS. In particular, comments from the SoS in this Opinion are without prejudice to any decision taken by the SoS (on submission of the application) that any development identified by the Applicant is necessarily to be treated as part of a nationally significant infrastructure project (NSIP), or associated development, or development that does not require development consent.

1.7 Regulation 8(3) of the EIA Regulations states that a request for a scoping opinion must include:

(a) ‘a plan sufficient to identify the land;

(b) a brief description of the nature and purpose of the development and of its possible effects on the environment; and

(c) such other information or representations as the person making the request may wish to provide or make’.

(EIA Regulation 8 (3))

1.8 The SoS considers that this has been provided in the Applicant’s Scoping Report.

The Secretary of State’s Consultation

1.9 The SoS has a duty under Regulation 8(6) of the EIA Regulations to consult widely before adopting a scoping opinion. A full list of the consultation bodies is provided at Appendix 1. The list has been compiled by the SoS under their duty to notify the consultees in accordance with Regulation 9(1)(a). The Applicant should note that whilst the SoS’s list can inform their consultation, it should not be relied upon for that purpose.

1.10 The list of consultation bodies who replied within the statutory timeframe and whose responses have been taken into account in the preparation of this Opinion is provided at Appendix 2 along
with copies of their replies, to which the Applicant should refer in undertaking the EIA.

1.11 The ES submitted by the Applicant should demonstrate consideration of the points raised by the consultation bodies. It is recommended that a table is provided in the ES summarising the scoping responses from the consultation bodies and how they are, or are not, addressed in the ES.

1.12 Any consultation responses received after the statutory deadline for receipt of comments have not been taken into account within this Opinion. Late responses will be forwarded to the Applicant and will be made available on the Planning Inspectorate’s website. The Applicant should also give due consideration to those comments in carrying out the EIA.

Structure of the Document

1.13 This Scoping Opinion is structured as follows:

Section 1 Introduction
Section 2 The proposed development
Section 3 EIA approach and topic areas
Section 4 Other information

The Scoping Opinion is accompanied by the following Appendices:

Appendix 1 List of consultees
Appendix 2 Respondents to consultation and copies of replies
Appendix 3 Presentation of the environmental statement
2.0 THE PROPOSED DEVELOPMENT

Introduction

2.1 The following is a summary of the information on the proposed development and its site and surroundings prepared by the Applicant and included in their Scoping Report. The information has not been verified and it has been assumed that the information provided reflects the existing knowledge of the proposed development and the potential receptors/resources.

The Applicant’s Information

Overview of the Proposed Development

2.2 The proposed development is for a 1,200MW wind farm comprising between 120-240 wind turbines (‘the windfarm site’) on a 370km² site, a 140km offshore export cable corridor and a 37km onshore export cable taking power to an onshore converter station housed within a compound area of up to 2.85ha near Bramford substation, Suffolk.

2.3 The windfarm site and the indicative cable corridor are identified on Figure 1.1 of the Scoping Report. The windfarm site is located within the Round 3 Offshore Wind Zone called the East Anglia Zone. The central point of the East Anglia THREE windfarm is approximately 79km from the East Anglia coast.

2.4 The first project within the East Anglia Zone to be brought forwards for development consent in the East Anglia Zone is the East Anglia ONE windfarm. The East Anglia THREE windfarm and the East Anglia FOUR windfarm comprise the next stages of the development. Consenting of the East Anglia THREE and the East Anglia FOUR windfarms would be progressed in parallel. Each project would be subject to a separate DCO application and each would require a separate EIA and ES. The Scoping Report considered within this Opinion covers the proposed East Anglia THREE windfarm only.

2.5 The offshore export cable corridor is shown in Figure 1.1 of the Scoping Report. It extends south west from the windfarm site to landfall on the Suffolk coastline near Bawdsey. The proposed development would utilise a portion of the offshore cable route identified for East Anglia ONE windfarm, as well as the same landfall and entire length of the onshore cable route. Consent for the on and offshore cable routes are being sought in the DCO application for East Anglia ONE. However, the Applicant also intends to include the cable routes within the proposed DCO application for East Anglia THREE. This is because the Applicant considers that it cannot be assumed that consent for the ducting
would be achieved in the DCO application for East Anglia ONE. The onshore cable route for East Anglia THREE is shown in Figure 1.2 of the Scoping Report.

2.6 The converter station site would be located north of the National Grid substation at Bramford and is where the proposed development would connect to the National Grid. The proposed converter station site is shown in Figure 1.3 of the Scoping Report.

Description of the Site and Surroundings – offshore

The Windfarm Site

2.7 The proposed windfarm site is shown on Figure 4 of the Scoping Report. It lies approximately 79km off Lowestoft at the north eastern boundary of the East Anglia Zone. The windfarm site area of the proposed development application site is 370km². Typical water depths over the windfarm site range from 25-45m at the Lowest Astronomical Tide (LAT). The average spring tidal cycle at the windfarm site varies between 0.1-2.0m.

2.8 The area is susceptible to storm surges, with the predicted maximum storm surge current being 0.4m/s in a southwesterly direction, which can combine with tidal currents to produce greater current speeds. The fastest recorded flows across the windfarm site are typically associated with the ebb tide (1.29m/s). The weakest currents are located in the deeper northeast waters (0.9m/s).

2.9 The wave regime is comprised of swell waves generated offshore and wind-waves generated locally. The dominant wind direction is from the southwest, with prevailing waves from the south-southwest around the windfarm site. The maximum wave heights approach 6m, the smallest waves were in the south of the wind farm site, with the maximum height of 3-3.5m.

2.10 The proposed development is located within the area covered by the East Inshore and Offshore marine area plan.

2.11 There are no designated nature conservation sites within the East Anglia THREE windfarm site.

2.12 There are two Annex I habitat types within the surrounding East Anglia Zone; sandbanks and biogenic reefs. To date, no Annex I sandbanks have been identified within the windfarm site.

2.13 European eel, sea trout, salmon, shads, smelt and river and sea lamprey have been defined within the East Anglia Zone but their presence within the windfarm site is not confirmed.
2.14 Low numbers of cetaceans are present in the East Anglia Zone, including the windfarm site, with harbour porpoise being the most abundant. White beaked dolphin, bottlenose dolphin and Risso’s dolphin have also been sighted. The use of the area by seals is considered to be very low.

2.15 The geology in the windfarm site comprises argillaceous rock (sedimentary rock formed from clay deposits) covered in a thin veneer of sand. Sediment is predominantly gravely sand. Subtidal sands and gravels, which are UK BAP habitats, are located within the site.

2.16 The windfarm site lies within the International Council for the Exploration of the Sea (ICES) rectangles 34F2 and 34F3. Dutch registered fishing vessels are responsible for the majority of fishing effort in these two rectangles, with French, Belgian and UK registered fishing vessels also operating in the area. The nightly P&O passenger ferry route between Hull and Rotterdam passes through the windfarm site.

2.17 The airspace within the windfarm site is used by both civil and military aircraft. The boundary between the London Flight Information Region (FIR) for air traffic control (under the regulation of the UK Civil Aviation Authority) and the Amsterdam FIR (under the regulation of the Dutch Aviation Authority, the Luchtverkeersleiding Nederland (LVNL)) crosses the eastern edge of the windfarm site. The windfarm site lies entirely within airspace delegated to LVNL (between 17500ft to 24500ft). Above and below this designated airspace, the UK National Air Traffic Services En Route is responsible for providing air traffic services. The windfarm site is also mostly within a UK and Dutch Helicopter Main Route (HMR) as shown on Figure 2.18a of the Scoping Report.

2.18 There are 12 maritime or aviation wrecks within the windfarm site, and 54 anomalies identified by geotechnical and geophysical surveys.

2.19 There are three plugged and abandoned oil and gas wells within the windfarm site.

The Offshore Cable Corridor

2.20 The offshore cable corridor passes through the Outer Thames Estuary Special Protection Area (SPA). A number of SPA’s and Special Areas of Conservation (SACs) are located in the vicinity of the offshore cable corridor; these can be seen on Figures 1.4 and 1.5 of the Scoping Report. The offshore cable corridor also overlaps with the Orford Inshore recommended Marine Conservation Zone (MCZ).
2.21 The geology of the export cable corridor is mudstone (compressed fine grained clays and muds). The sediment is predominantly gravely sand on the eastern end of the cable corridor, finer muddy sandy gravel in the central region, and slightly gravelling muddy sand closer to shore.

2.22 Intertidal habitat at the landfall is predominantly shingle, with larger cobbles and rock higher up the shore at the southern end of the landfall site. Modelling of the distribution of Ross worm *S. spinulosa* suggests the cable corridor could pass through one area of potential reef.

2.23 The offshore cable corridor crosses ICES rectangles 34F2, 33F2, SSF1 and 32F1. The majority of fishing activity beyond the 12nm limit is principally vessels from the Netherlands and Belgium. Belgian vessels can operate between 6 and 12nm, due to historical rights. UK vessels operate principally within the 6nm limit.

2.24 The offshore cable corridor is crossed by the International Maritime Organisation (IMO) Deep Water Route (DWR) via DR1 light-buoy, a route used by deep-draught ships passing north-south through the southern North Sea. The western part of the offshore cable corridor traverses RYA cruising routes (two heavy-use and a number of medium-use) and a general sailing and racing area identified by the RYA Coastal Atlas.

2.25 There are 34 known wrecks within the offshore cable corridor.

2.26 The offshore cable corridor passes through two closed disposal sites known as Site TH075 Warren Springs Environmental Research Laboratory site and Site NS111 North Sea Dredge test. Site TH026 is also located within the offshore cable corridor and remains open although records indicate it has never been used.

2.27 There is one plugged and abandoned oil and gas well within the offshore cable corridor. The Bacton-Zeebrugge interconnector gas pipeline runs northwest to southeast crossing the offshore cable corridor. A number of subsea cables, primarily fibre-optic telecommunication connections between the UK and continental Europe, cross the offshore cable corridor, and are present within the surrounding southern North Sea. There are also numerous disused cables.

*The Surrounding Area*

2.28 Figures 1.4 and 1.5 of the Scoping Report identify the SPAs, SACs and MCZs within the wider area in the UK surrounding the site boundary. Figure 1.6 identifies SPAs, SAC, Sites of Community Importance (SCI) and Ramsar sites within the wider area of the offshore elements of the scheme under the jurisdiction of other European counties.
2.29 The closest haul out sites from the windfarm site for grey and harbour seals is Blakeney Point National Nature Reserve (NNR) 112km away, and Scroby Sands for harbour seal 71 km away.

2.30 The IMO DWR via Traffic Separation Scheme Off Brown Ridge runs north-east to south-west approximately parallel to the eastern boundary of the windfarm site and is mainly used by deep-draught ships. Further navigation measures close to the offshore cable corridor include anchorage areas just of Felixstowe, and the Sunk Traffic Separation Scheme (TSS) (6nm southeast).

2.31 The nearest airport is at Norwich, approximately 100km from the windfarm site. Amsterdam Schiphol Airport is approximately 120km from the eastern boundary of the windfarm site. There are five Royal Air Force (RAF) stations located in the East Anglian region, all of which are located more than 100km from the windfarm site.

2.32 The nearest Air Defence radar is located at Trimingham; the radar coverage slightly overlaps the western edge of the windfarm site. The offshore Windfarm site is within a number of HMRs including one Dutch HMR.

2.33 Figure 2.20 in the Scoping Report identifies other windfarm developments within the vicinity of the proposed development. The nearest offshore windfarm to the proposed development located in UK waters is Scroby Sands Offshore Windfarm, more than 50km to the west of the windfarm site. Windfarms located outside of UK waters in the vicinity of the project include the Dutch Ijmuiden Development Zone Offshore Windfarms located to the east of the proposed East Anglia FOUR offshore Windfarm, less than 40km away from the windfarm site, and Belgium windfarms located approximately 95km to the south of the proposed East Anglia THREE windfarm site.

2.34 There are a number of operational platforms, wells and pipelines located outside the northern boundary of the East Anglia Zone. The BBL Balgzand-Bacton gas pipeline runs east-west adjacent to the northern boundary of the windfarm site.

2.35 An application/prospecting aggregate dredging area is located to the north of the offshore cable corridor. There are also a number of aggregate licensed areas located west of the East Anglia Zone, as identified on Figure 2.22 of the Scoping Report. There are two Ministry of Defence (MoD) explosive dumping grounds to the west and south west of the East Anglia Zone.

**Description of the Site and Surroundings – onshore**

2.36 The Scoping Report describes the onshore environment as that within and surrounding the onshore cable route and converter
station, with the mean low water springs mark within the export cable landfall forming an eastern boundary. It includes the rivers at the point which cables or infrastructure cross them, regardless of whether the river is tidal at that point.

2.37 The onshore cable route would cross the following statutory designated sites:

- Bawdsey Cliffs Site of Special Scientific Interest (SSSI) designated for its geological interest (located at the landfall);
- The Deben Estuary SPA, Ramsar and SSSI; and
- Suffolk Coast & Heaths Area of Outstanding Natural Beauty (AONB).

2.38 The onshore cable route would cross four non-statutory designated sites. United Kingdom Biodiversity Action Plan (UKBAP) priority and Local Biodiversity Action Plan LBAP priority habitats present along the onshore cable route include woodland, hedgerow, calcifugous grassland, ponds, swamps and watercourses. scrub and ruderal vegetation habitats, agricultural, unimproved and semi improved grassland, and marshy grassland are also present. Coastal habitats present include shingle, maritime cliff and slope, and saltmarsh. The proposed converter station site is predominantly arable land and hedgerow.

2.39 Birds, water vole, reptiles, bats, badger, great crested newts, invertebrates, otters and dormouse have been noted along the onshore cable route.

2.40 The solid geology of the Suffolk area is principally chalk, overlain by drift deposits of London Clay and outcrops of The Crags towards coastal areas, with glacial sands and gravels above the clay. The coastline is unconsolidated and vulnerable to erosion. The chalk bedrock is designated as a Principal Aquifer.

2.41 The cable route crosses a historical sand pit/landfill at Tuddenham St Martin. There is potential for historical contamination around built up areas from railways and highways, infilled quarries and sand and brick pits around Martlesham, Woodbridge and Claydon.

2.42 The onshore cable route crosses small watercourses, drainage channels river and estuary systems, including the Rivers Deben, Fynn, Lark and Gipping. The majority of the onshore cable route is located in Flood Zone 1, with sections that are closer to watercourses being located in zones of higher risk (up to Flood Zone 3). There are a number of Source Protection Zones (SPZs) around Ipswich, extending across the eastern section of the onshore cable route.
2.43 The majority of the cable route crosses arable fields. The land is classed as being of agricultural grades 2, 3 and 4 according to the Agricultural Land Classification (ALC).

2.44 The onshore cable route would cross the A12 trunk road near Woodbridge, and the A14 dual carriageway near Claydon. It would also cross 44 Public Rights of Way (PRoWs) and 10 cycle routes.

2.45 The onshore elements are not close to any Air Quality Management Areas (AQMAs).

2.46 The following heritage assets have been identified within a 250m buffer around the landfall and onshore cable route:

- Suffolk Heritage Coast
- Bawdsey Manor Registered Park and Garden
- Martello Tower Scheduled Monument and Grade II listed building
- 7 Grade II* and 34 Grade II listed buildings, and
- 589 non-designated heritage assets.

**The Surrounding Area**

2.47 The onshore cable route is located within 2km of the following statutory designated sites:

- Orfordness Shinglestreet SAC (<0.5km north)
- Alde-Ore SPA, Ramsar and SSSI (<0.5km north)
- Newbourn Springs SSSI (<0.5km west)
- Little Blakenham Pit SSSI (<1km north-west)
- Ramsholt Cliff SSSI (<2km west)
- Riverside House Meadow, Hasketon SSSI (<2km north)
- Bramford meadows County Wildlife Site (CWS) and Local Nature Reserve (LNR) (<2km south)
- Mill Stream LNR (<2km south)
- Rede Wood CWS and LNR (<2km north), and
- Sinks Valley, Kesgrave SSSI (<2km south).

2.48 The onshore cable route is located within 2km of 77 non-statutory designated sites including County Wildlife Sites (CWSs) and Ancient Woodlands. The converter station is located within 2km of two non-statutory designated sites.

2.49 There are 129 built heritage assets and one scheduled monument within 4km of the converter station, and four Registered Parks and Gardens within 10km.
Description of the Proposed Development – offshore

2.50 The proposed development consists of between 120-240 wind turbines producing up to 1,200 MW of electricity, with turbine sizes ranging from 5MW to 10MW. The precise number and location of these turbines has yet to be determined.

2.51 The proposed turbines would have a maximum hub height of 145m, a maximum rotor diameter of 200m, a tip height up to 245m and a minimum clearance above sea level of 22m (mean high water springs (MHWS)). The wind turbines would incorporate tapered tubular towers and three blades attached to a nacelle housing mechanical and electrical generating equipment. The minimum separation between turbines would be 750m. It is possible that more than one and up to a maximum of three turbine models would be used.

2.52 The following foundation options have been identified:

- jackets on piles (or suction buckets)
- tripods on piles (or suction buckets)
- gravity base structures
- suction cessions, and
- monopiles.

2.53 The overall size and footprint of the foundation depends on the type of foundation. Indicative dimensions (setting out maximum dimensions) and construction materials are outlined in Table 1.2 of the Scoping Report. For all foundation options, the foundation structures would likely extend approximately 15-20m above mean sea level so that the base of the platform supporting the turbine tower is clear of the most extreme wave height.

2.54 Scour protection would likely be required. The chosen design would depend upon matters such as final project design process, ground conditions and scour assessments but may include rock dumping, frond mats or grout bags.

2.55 The maximum offshore cable corridor length is 140km, within an area of 550km². The offshore electrical transmission infrastructure is detailed in section 1.3.3.4 of the Scoping Report and would in brief comprise:

- up to three high voltage alternating current (HVAC) offshore collector stations within the windfarm array to increase the distribution voltage of the inter array cables to a higher export voltage
• up to two high voltage direct current (HVDC) offshore converter stations to house converters and additional equipment to change the alternating current to direct current
• approximately 350km of inter-array cables, comprising 750-1500m lengths to be buried or layered on the surface with suitable protection
• up to 13 subsea export cables (HVAC) of which:
  o up to ten will connect HVAC offshore collector stations to HVDC offshore converter station(s)
  o up to two will interconnect the HVAC offshore collector stations
  o one to interconnect the HVDC offshore converter stations (if two converter stations are required)
• up to four (two pairs) subsea export cables (HVDC) from the HVDC converter substation(s) to the landfall location
• up to four HVAC or HVDC interconnector cables interconnecting the proposed development to other windfarms within the zone (East Anglia ONE and East Anglia FOUR), and
• fibre optic communications cable.

2.56 The offshore platforms could incorporate offshore facilities (including accommodation) for the operation and maintenance of the windfarm.

2.57 Meteorological masts for monitoring wind speeds during the operational phase and their associated foundations would also be located within the windfarm site.

**Description of the Proposed Development – onshore**

2.58 The onshore cable works and grid connection are detailed in section 1.3.3.5 of the Scoping Report and would in brief comprise:

• a landfall site to connect the offshore and onshore cables;
• up to four onshore transition pits 10m (width) x 15m (length) x 5m (depth) to house the joints between marine cables and land-buried cables, comprising a shallow concrete structure accessed by a manhole cover
• up to four underground export cables (HDVC) up to 37km overall length to the onshore converter station at Bramford, either directly buried or installed within a cable duct at least 1.2m below ground level
• up to two fibre optic communication cables
jointing bays at 500-1000m intervals, each approximately 10m (length) x 3m (width) x 2m (depth), the locations of which will be determined during detailed design, and

onshore converter station housed within warehouse style buildings, with other equipment (e.g. power transformers, insulated switch gear and other auxiliary power supply systems) either housed in small buildings or located outside within the compound area. The converter station compound area would be up to 2.85ha, and the buildings would be up to 25m high.

Construction consolidation sites would be required along the cable route to allow storage of materials and equipment, and to accommodate site administration and welfare facilities.

Proposed Access

Access to the onshore elements of the scheme would be gained from temporary haul roads (likely constructed of imported material on a geotextile base and/or temporary ‘bog’ mats) to be installed along the cable corridor route and access points onto local roads.

Construction - offshore

Foundations, turbines and substations would be installed using either jack-up or dynamic positioning technology. Indicative installation methods for the different foundation types are detailed in Table 1.3 of the Scoping Report. Towers and nacelles would be pre-erected or erected individually at the site using a suitable installation vessel. Blades would be subsequently fitted as individual components or in a part assembled state.

Inter-array cables would likely be installed using water jetting or ploughing. The burial depth would likely be 0.5m-5m below seabed. The same methods would be used for the export cable, although trenching may also be required.

Appropriate safety zones of 500m around construction vessels would be required offshore during construction activities to prevent incidents.

Construction of the offshore elements of the proposed development is anticipated to take approximately 2.5 years. Construction would take place 24 hours a day, seven days a week, dependent upon weather conditions.

The anticipated construction commencement date has not been identified within the Scoping Report.
Construction - onshore

2.66 Onshore cable installation construction activities are detailed in paragraphs 142-163 of the Scoping Report and in brief would include:

- pre-construction work including topographic surveys, ecological pre-construction work, archaeological pre-construction work, drainage surveys, geotechnical and ground stability surveys
- installation of temporary roads and construction consolidation sites along the working strip
- preparation of the working width with temporary fences
- vegetation clearance and topsoil stripping
- installation of transition pits and jointing bays
- open trench excavation using a standard mechanical excavator or specific trenching machine and cable delivery, pulling and installation
- non-trenching drilling techniques (HDD or similar) where open trench approach is not possible e.g. a major road, railway or watercourse, and associated temporary construction compounds
- cable installation in pre-installed ducts
- trench reinstatement, topsoil replacement and seeding
- removal of temporary fencing, and
- reinstatement of permanent fences and hedges.

2.67 It is expected that HDD would be used to take the export cables under the low lying cliffs and the landfalls to the transition pits.

2.68 Grading, earthworks and drainage would be the first activities undertaken at the onshore converter station. The foundations would be ground-bearing or piled based, and the building substructure would be composed of steel and cladding materials. Transformers would be delivered to the onshore converted station and offloaded within a mobile gantry crane. The majority of remaining equipment would be erected using small mobile plant and lifting apparatus.

2.69 Construction of the onshore elements of the proposed development would take place between 0700 hours and 1900 hours Monday to Saturday, with no activity on Sundays or bank holidays except for:

- continuous periods of operation e.g. for concrete pouring of Horizontal Directional Drilling (HDD)
• continuous construction of the onshore converter station and
• delivery of abnormal loads which may cause congestion on the local road network.

2.70 The anticipated construction commencement date and overall construction period have not been identified within the Scoping Report.

Operation and Maintenance

2.71 The windfarm would operate for up to 25 years. Some refurbishment or replacement would be required during this time.

2.72 The operation and control of the windfarm would be managed by a Supervisory Control and Data Acquisition (SCADA) system, connecting each turbine to the onshore control room.

2.73 There are currently a number of options being considered for maintenance of the windfarm:
• onshore – maintenance from vessels and/or helicopters
• offshore – maintenance from an offshore base, for example a mother ship or fixed offshore platform with transfer vessels or helicopters and
• a combination of onshore and offshore options.

2.74 The potential onshore bases from which maintenance activities may take place, has not been identified within the Scoping Report.

2.75 Periodic surveys of the offshore subsea cables would be undertaken to ensure cables remain buried, and if they do become exposed, re-burial works would be undertaken. Subsea cable repairs may also be required.

2.76 Some of the onshore jointing bays would likely be required for routine integrity testing, with a manhole access cover visible at the surface or a small kiosk which would be located close to field boundaries (or other suitable markers).

Decommissioning

2.77 It is a condition of the Crown Estate lease for the windfarm site that the proposed development be decommissioned at the end of its operational lifetime. Alternatively, the windfarm could be repowered, subject to a new consent.

2.78 Decommissioning would likely involve the accessible installed components including all of the turbine components, parts of the turbine foundations above seabed level, sections of the inter-array
cables close to the offshore structures, as well as sections of the export cables.

2.79 It is expected that the onshore cables would be de-energised and most likely left in-situ. However, where cables are installed in ducts they may be extracted. Jointing bays and transition pits would also be left in-situ.

2.80 The Scoping Report states (paragraph 182) that the onshore converter station and equipment would be removed and the components reused or recycled. The foundations would be removed to below ground level, and the ground covered in topsoil and re-vegetated to return the site to its initial state.

2.81 A decommissioning plan would be prepared prior to construction.

The Secretary of State’s Comments

Description of the Application Site and Surrounding Area

2.82 The ES should provide a description of the DCO application site and the surrounding area in the context of the windfarm, offshore export corridor and onshore cable corridor. The ES should clearly identify which features are located within the DCO application site, and which within the surrounding area, together with the distance and relative location of the features.

2.83 The ES should identify land that could be directly or indirectly affected by the proposed development and any associated ancillary facilities, landscaping areas and potential off-site mitigation or compensation schemes.

Description of the Proposed Development

2.84 The Applicant should ensure that the description of the proposed development that is being applied for is as accurate and firm as possible as this will form the basis of the EIA. The environmental baseline described within the Scoping Report generally applies to that of the East Anglia Zone as a whole and it is difficult to discern the baseline of the proposed windfarm site in relation to the East Anglia THREE DCO application site itself. The baseline description should be clear within the ES allowing easy delineation for the East Anglia THREE DCO application site and the surrounding area, including the wider East Anglia Zone. Figures should be used, where appropriate.

2.85 If a draft DCO is to be submitted, the Applicant should clearly define what elements of the proposed development are integral to the NSIP and which is ‘associated development’ under the Planning Act 2008 or is an ancillary matter.
2.86 Any proposed works and/or infrastructure required as associated development, or as an ancillary matter, (whether on or off-site) should be considered as part of an integrated approach to environmental assessment.

2.87 The SoS recommends that the ES should include a clear description of all aspects of the proposed development, at the construction, operation and decommissioning stages, and include:

- land use requirements, permanent and temporary, including the area of the offshore elements
- site preparation
- construction processes and methods
- material sources and transport routes, including temporary and permanent access requirements
- operational requirements including the main characteristics of the production process and the nature and quantity of materials used, as well as waste arisings and their disposal
- maintenance activities including any potential environmental or navigation impacts, and,
- a description of the emissions associated with the development: water; air and soil pollution; noise; vibration; light; heat; and radiation.

2.88 The environmental effects of all wastes to be processed and removed from the site should be assessed. The ES will need to identify and describe the control processes and mitigation procedures for storing and transporting waste off site. All waste types should be quantified and classified.

2.89 The SoS notes that the ES would include a discussion of the alternatives and site selection process used to develop the design of the proposed development, with reference to the windfarm site, the offshore cable route, landfall and onshore cable route locations (paragraph 98 of the Scoping Report). The SoS welcomes that the ES will assess the suitability for East Anglia THREE’s location within the zone and alternatives considered, as well the offshore and onshore cable routes. The ES should demonstrate how the location and design of East Anglia THREE has taken into account the objectives for the whole East Anglia Zone as well as the constraints that were identified through the Zone Appraisal and Planning ZAP process. The SoS also expects that any alternative site layouts at the converter station location considered by the Applicant are also addressed within the ES.
Flexibility

2.90 The SoS notes the comments in Section 1.2.3 of the Scoping Report that the detailed design of the wind farm is still being developed and that the description of development contains a number of variables (e.g. types of turbine, construction methods, extent of associated infrastructure).

2.91 The Applicant should make every attempt to narrow the range of options and explain clearly in the ES which elements of the scheme have yet to be finalised and provide the reasons. The ES should be able to confirm that any changes to the development within any proposed parameters would not result in significant impacts not previously identified and assessed.

2.92 It is understood that at this stage in the evolution of the scheme the description of the development i.e. the extent of the onshore infrastructure and precise location of the offshore infrastructure may not be confirmed. The Applicant should be aware however, that the description of the development in the ES must be sufficiently certain to meet the requirements of paragraph 17 of Schedule 4 Part 1 of the EIA Regulations and there should therefore be more certainty for the proposals by the time the ES is submitted with the DCO.

2.93 The SoS welcomes the reference to the Planning Inspectorate’s Advice Note 9 ‘Using the Rochdale Envelope’ (April 2012), but also directs attention to the ‘Flexibility’ section in Appendix 3 of this Opinion which provides additional details on the recommended approach.

2.94 The SoS notes that the Applicant proposed to assess the ‘realistic worse case’ scenario for each environmental topic area so that only realistic (buildable) scenarios will be assessed (paragraph 51 of the Scoping Report). The SoS advises that it would be helpful to provide a table within the ES setting out the ‘worse case’ parameters that have been assessed for each topic area to ensure that a consistent approach has been adopted across all environmental topics in the ES. Care will be needed to ensure that by considering the environmental topics separately, this does not preclude consideration of a worst case arising from a combination of factors. The ES will need to be clear and to demonstrate how this has been assessed.

2.95 The SoS does not consider it appropriate as part of this Opinion to address the content of a proposed draft DCO, since these are matters for applicants, but does draw the attention of the Applicant to the Planning Inspectorate’s published guidance and advice on preparing a draft DCO and accompanying application documents. The ES should support the application as described.
2.96 It should be noted that if the proposed development changes substantially during the EIA process, prior to application submission, the Applicant may wish to consider the need to request a new Scoping Opinion.

Grid Connection

2.97 The connection of a proposed offshore wind farm into the relevant electricity network is an important consideration. Therefore, the SoS welcomes the intention to include within the proposed DCO application the export cable to shore, the onshore cabling and the converter station, to connect to the existing substation at Bramford, as part of the overall project so that all potential effects can be assessed within the accompanying ES. The SoS considers however that potential impacts resulting from alternative connection points/cable routes should also be considered.

2.98 It is noted from the Scoping Report that whilst the Applicant is intending to seek consent within the proposed East Anglia ONE Offshore windfarm DCO application, to construct cable ducts along the East Anglia One onshore cable route within which cables could be laid for the East Anglia THREE and FOUR windfarms. The Applicant would also seek to apply for stand alone consent to construct the ducts required for East Anglia THREE, in the event that permission for these is not granted as part of the DCO for East Anglia ONE.

2.99 The SoS welcomes the Applicant’s consideration of the onshore grid connection route within the ES for East Anglia THREE in case that consent is not gained as part of the DCO application for East Anglia ONE. However, the SoS advises that care will be needed in order to assess clearly the distinct permutations that could arise. For example, the ES would need to assess:

- ducting provided as part of East Anglia THREE (i.e. as part of the proposed development, and/or
- ducting provided as part of East Anglia ONE (i.e. as a cumulative impact).

2.100 The SoS concurs with the comments of Suffolk County Council (SCC) (see Appendix 2) regarding the need for the EIA to address the main alternatives including grid connection routes ‘taking into account environmental effects’.

Proposed Access

2.101 No details of the transport arrangement for the offshore elements of the proposed development have been provided within the Scoping Report. The SoS notes that the offshore infrastructure is
still within the design phase and shipping routes, and types and number of construction vessels required has not been identified, however, this information should be provided within the ES.

2.102 No details have been provided about the proposed access to the converter station and whether additional infrastructure, in the form of new or upgraded roads, would be required. This information should be provided within the ES.

**Construction**

2.103 The SoS considers that information on construction including: phasing of programme; construction methods and activities associated with each phase; number and siting of construction compounds (including on and off site); lighting equipment/requirements; number, movements and parking of construction vehicles (both HGVs and staff); and description of plant and equipment to be used should be clearly indicated in the ES.

2.104 It is noted that sources and quantities of construction materials have yet to be determined. Once the type, amount and source of materials are confirmed, this should be clearly described and quantified in the ES. The ES should also identify how the materials would be delivered to the site, and define the routes associated with the transportation of such materials and plant to the site, including any abnormal loads.

2.105 It is noted that piling would be required to construct the turbines. The piling method should be clearly described within the ES and associated impacts incorporated into the environmental assessment.

2.106 A construction programme has not been included in the Scoping Report. The Scoping Report states that the ES will provide details of the construction programme, including construction activities, method and anticipated duration of works. It also states that a Code of Construction Practice (CoCP) would be developed as part of the overall mitigation package. The SoS considers that a draft CoCP should be appended to the ES providing details of specific mitigation measures required to reduce the construction related impacts.

**Operation and Maintenance**

2.107 Information on the operation and maintenance of the proposed development should be included in the ES and should cover but not be limited to such matters as: the number of full/part-time jobs; the operational hours and if appropriate, shift patterns; the number and types of vehicle movements generated during the operational stage and an indication of any monitoring and
maintenance works that would be carried out along the offshore and onshore cable routes.

**Decommissioning**

2.108 In terms of decommissioning, the SoS acknowledges that the further into the future any assessment is made, the less reliance may be placed on the outcome. However, the purpose of such a long term assessment is to enable the decommissioning of the works to be taken into account in the design and use of materials such that structures can be taken down with the minimum of disruption. The process and methods of decommissioning should be considered and options presented in the ES. The SoS encourages consideration of such matters in the ES.

2.109 It is a condition of the Crown Estate lease for the windfarm site that the proposed development be decommissioned at the end of its operational lifetime. The SoS notes the Applicant’s intention to prepare a decommissioning plan as part of the DCO application.

2.110 Whilst the Scoping Report states that the onshore converter station and equipment would be removed and the components reused or recycled, this is contradicted in paragraphs 583, 605 and 681 of the Scoping Report where it is stated that no decision has been made regarding the decommissioning of the converter station.
3.0 EIA APPROACH AND TOPIC AREAS

Introduction

3.1 This section contains the SoS’s specific comments on the approach to the ES and topic areas as set out in the Scoping Report. General advice on the presentation of an ES is provided at Appendix 3 of this Scoping Opinion and should be read in conjunction with this Section.

3.2 Applicants are advised that the scope of the DCO application should be clearly addressed and assessed consistently within the ES.

ES Approach

3.3 The information provided in the Scoping Report sets out the proposed approach to the preparation of the ES. Whilst early engagement on the scope of the ES is to be welcomed, the SoS notes that the level of information provided at this stage is not always sufficient to allow for detailed comments from either the SoS or the consultees.

3.4 The SoS would suggest that the Applicant ensures that appropriate consultation is undertaken with the relevant consultees in order to agree wherever possible the timing and relevance of survey work as well as the methodologies to be used. This should be documented in the ES. The SoS notes and welcomes the intention to finalise the scope of investigations in conjunction with ongoing stakeholder liaison and consultation with the relevant regulatory authorities and their advisors.

3.5 The SoS recommends that the physical scope of the study areas should be identified under each of the environmental topics considered and should be sufficiently robust in order to undertake the assessment. The extent of the study areas should be based on recognised professional guidance, whenever such guidance is available. The study areas should also be agreed with the relevant consultees and, where this is not possible, this should be stated clearly in the ES and a reasoned justification given. The scope should also cover the breadth of the topic area and the temporal scope, and these aspects should be described and justified in the ES.

3.6 The SoS recommends that a consistent heading and paragraph numbering system is used within the ES to enable easy cross referencing. The system used within the Scoping Report, whereby different numbering methods are used for headers and paragraphs, is not intuitive for such purposes. All tables and figures should be numbered.
3.7 As detailed in paragraph 2.5 of this Opinion, the Applicant is seeking consent for oversized onshore cables for East Anglia ONE, within which the onshore cables for this project could be installed. The Scoping Report has identified potential impacts for the installation of an onshore cable which follows the same route as the onshore cable for East Anglia ONE. Should consent for East Anglia ONE including the construction of ducts for East Anglia THREE not be granted, the SoS is unclear how an additional cable would be housed within the same route as for East Anglia ONE. The Applicant should carefully consider this, and should a new route be required, the SoS recommends that an additional scoping request may be required. Additionally, the Scoping Report has not considered assessing the potential impacts of installing the cable into ducts should consent for East Anglia ONE including ducts for East Anglia THREE be granted. The SoS concurs with the comments of SCC (see Appendix 2 of this Opinion) that the EIA needs to distinguish clearly between the impacts of the two proposed options for the onshore cabling; i.e. pulling cables through existing ducts (consented as Associated Development for East Anglia ONE) and open trenching. The ES should detail the nature of the operations and impacts that would be associated solely through the use of pre-installed ducts.

3.8 The Applicant’s attention is drawn to the comments of SCC (see Appendix 2 of this Opinion) regarding the need to minimise cumulative effects of the proposal with East Anglia ONE and FOUR, and the potential for each successive project to delay the environmental restoration and mitigation of the previous one.

3.9 The SoS draws the Applicant’s attention to the combined response of the Joint Nature Conservation Committee (JNCC) and Natural England (NE) (see Appendix 2 of this Opinion) and concurs that, given the levels of uncertainty surrounding Round 3 projects, the Applicant should communicate the confidence in their predictions on potential impacts in the ES.

3.10 The Applicant’s attention is also drawn to the evidence plan process promoted by the Major Infrastructure and Environment Unit in Defra (MIEU@defra.gsi.gov.uk). This enables an applicant to request an evidence plan which is a non-legally binding agreement between an applicant and the relevant statutory nature conservation bodies (SNCB). The primary aim of an evidence plan is to address the proposed development’s potential impacts on a European site(s) to help compliance with the requirements of the Habitats Regulations. It may also include evidence which could be used to assess other relevant matters such as the potential effects on European Protected Species (EPS’s).
Matters to be Scoped Out

3.11 Matters are not scoped out at this stage unless specifically addressed and justified by the Applicant, and confirmed as being scoped out by the SoS. The Applicant should note that this does not preclude the Applicant from reviewing the scope of the assessment at a later date should further information become available. Any subsequent decision to refine the scope of the EIA should be agreed with the relevant statutory consultees and documented in the ES.

3.12 In order to demonstrate that topics have not simply been overlooked, where topics are scoped out prior to submission of the DCO application, the ES should still explain the reasoning and justify the approach taken. The topics which have been scoped out of the assessment should be identified within the ES. It would be helpful if this information could be shown in a table format.

3.13 The Applicant has identified in the relevant sections of the Scoping Report the matters proposed to be ‘scoped out’, which are summarised in the tables of potential environmental impacts provided in the Scoping Report (Tables 5.1-5.5). In these tables, a ‘0’ has been used to indicated where no impact is anticipated as there is no identified pathway. However, these tables do not state that all of these have been ‘scoped out’. Only those topics specifically proposed to be scoped out have been considered in the section below; the SoS is of the opinion that all other topics have not been scoped out and has discussed them where appropriate elsewhere in this Opinion.

3.14 Topics identified by the applicant to be scoped out include:

- Offshore contaminated sediment
- Offshore air quality
- Offshore airborne noise
- Offshore telecommunications and interference
- Onshore operational air quality
- Onshore disruption due to traffic during operation and maintenance

3.15 The SoS does not agree that the release, remobilisation or re-suspension of contaminated sediments cannot be scoped out of the ES because whilst previous survey work for East Anglia ONE has confirmed that no contaminated sediment is present it is noted from the Scoping Report that a section of the export cable corridor remains to be surveyed via grab samples, and therefore the assessment will need to analyse the results of the survey work and determine the significance of any proposed risk of the release of
contaminated sediments. Attention is drawn to the consultation response from JNCC at Appendix 2 in this respect.

3.16 The Scoping Report states that it is not intended to assess offshore air quality impacts within the ES. This is because there would only be between three and seven vessels on site during construction/operation, which is small in comparison to the total shipping in the southern North Sea. There would be negligible increases of air pollutants on site and the distance from any shore-based receptors. On this basis, the SoS agrees that the potential impacts of offshore air quality impacts can be scoped out.

3.17 The Scoping Report proposes to scope out airborne noise from further consideration within the EIA due to distance of the proposed development from shore; it is not considered that offshore works would be audible to shore-based receptors. The SoS considers that construction noise could be audible close to shore from the laying of the export cable, and airborne noise could impact upon residents living on or close to the coast, and birds along the foreshore. Based on the information provided within the Scoping Report, the SoS does not therefore agree that the potential impacts of offshore airborne noise can be scoped out.

3.18 The Scoping Report proposes to scope out assessment of offshore telecommunications and interference. A study undertaken for the EIA of the proposed East Anglia ONE concluded none of the potential impacts were significant, and due to the similarity in receptors for this proposal, it is considered that the potential magnitude of impacts for East Anglia THREE would be similar to East Anglia ONE. The SoS agrees that subject to there being no objections from operators and service providers, the potential impacts on telecommunications and interference can be scoped out of the assessment.

3.19 The Applicant proposes to scope out onshore operational air quality from further consideration in the EIA process as the operation of the proposed development is not expected to lead to a significant change in vehicle movements to and from the converter station or along the cable route or introduce any new emission sources. Whilst the Scoping Report does not specify the number of vehicle movements nor provide details of maintenance activities to justify the conclusion, the SoS considers that given the nature of the development, this conclusion is likely. Therefore the SoS agrees that onshore operational air quality can be scoped out of the assessment.

3.20 Disruption to traffic and access from operation and maintenance work for the converter station has been scoped out by the Applicant, as it is considered unlikely that works would impact upon traffic aside from occasional HGV deliveries or potential deliveries of abnormal loads. Whilst the Scoping Report does not
specify the number of vehicle movements nor provide details of maintenance activities to justify the conclusion, the SoS considers that given the nature of the development, this conclusion is likely. Therefore the SoS agrees that disruption to traffic and access from operation and maintenance work for the converter station can be scoped out of the assessment.

ES Structure

3.21 The SoS notes that from the ES Contents sheet (Scoping Report Section 1.5) that the EIA would cover a number of assessments under the broad headings of:

- **Offshore environment:**
  - Marine Geology, Oceanography and Physical Processes
  - Marine Water and Sediment Quality
  - Underwater Noise and Vibration and Electromagnetic Fields
  - Benthic Ecology
  - Fish Ecology
  - Marine Mammals
  - Ornithology
  - Commercial Fisheries
  - Shipping and Navigation
  - Civil and Military Aviation and Airborne Radar
  - Archaeology and Cultural Heritage
  - Infrastructure and Other Users

- **Onshore Environment**
  - Ground Condition and Contamination
  - Air Quality
  - Water Resources and Flood Risk
  - Land Use
  - Ecology
  - Archaeology and Cultural Heritage
  - Noise and Vibration
  - Traffic and Transport

- **Wider Scheme Aspects**
  - Socioeconomics
  - Landscape, Seascape and Visual Amenity
General Comments

3.22 The SoS notes that limited information is provided within each topic section regarding assessment methodology, and that the Scoping Report has not identified specific key sensitive receptors. However Section 1.4 of the Scoping Report describes the general approach that will be taken to assessing environmental impacts within the ES, and refers to the identification of the value of the receptor and the magnitude of the impact in order to predict the significance of the impact. The Applicant’s attention is drawn to the comments of JNCC/NE (see Appendix 2) regarding defining magnitude of impact and sensitivity of receptor, and regarding the evaluation of significance. Should the assessment methodology for a specific topic depart from the standard methodology, this should be explained in the ES. Reference should be made to guidance and advice used to inform the assessment methodology. The SoS advises that impact magnitude and impact significance should be defined in terms of each of the topic chapters in the ES.

3.23 The baseline year, construction year/s, operational future assessment year, and year of decommissioning are not included within the Scoping Report. It is important that these dates are established in the ES and are used consistently throughout the various assessments.

3.24 The Scoping Report states that the Applicant considers that the data collected for the cable route for the proposed East Anglia ONE development is sufficient for the East Anglia THREE development, in respect of the onshore and offshore cable route. It will be important to ensure that this data remains up to date and relevant and when available new data should also be taken into account. The SoS welcomes the statement that the Applicant will consult with the relevant authorities on whether there is any requirement to update this data for the East Anglia THREE EIA.

Topic Areas (Offshore)

Marine Geology, Oceanography and Physical Processes (see Scoping Report Section 2.1.2)

3.25 It is noted from the Scoping Report that a geophysical survey has been carried out on the wind farm site and the offshore cable corridor, and that a ‘metocean campaign’ is due to commence in late 2012. No details have been provided of the methodology that has been or will be employed to undertake these surveys, or an understanding of the study area or scope of the works. The ES should clearly detail all assessment methodologies and note where agreement has been sought with the relevant statutory consultees.
3.26 The ES should document any standards and assurance methods in the site-specific survey reports and modelled data on the physical environment (see comments of the Marine Management Organisation (MMO) in Appendix 2 of this Opinion).

3.27 Scour mitigation measures should be detailed within the ES; the EIA should outline a clear justification for the quantity and area to be covered, in addition to the total area of seabed likely to be smothered as a result of the deposition of hard substrata (see comments of the Joint Nature Conservation Committee (JNCC)/Natural England (NE) and the Marine Management Organisation (MMO) in Appendix 2 of this Opinion).

3.28 The ES should fully address the effects on the offshore physical environment of the site and its surroundings including, amongst other matters, impacts related to: the size of the development; the number and density of turbines within the area, the potential use of mixed foundation types, and the cable installation and burial methods.

**Water and Sediment Quality** (see Scoping Report Section 2.1.3)

3.29 The ES should consider the potential effects of waste disposal or leakage into the marine environment and the effects this could have on water and sediment quality. The Applicant's attention is also drawn to the comments made by the Health Protection Agency (HPA) (Appendix 2 of this Opinion). This section of the ES should also cross refer to the information relating to waste arising from the construction and operation of the development and how this will be disposed of.

3.30 The offshore cable corridor would cross the Warren Springs Environmental Research Laboratory marine disposal site. The SoS notes that this site was surveyed for the proposed East Anglia ONE development in consultation with Cefas to determine the presence of contamination in this area and it was concluded that no anthropogenic contamination was present. The Applicant should ensure that up to date information is used to inform the assessment (see comments of JNCC/NE in Appendix 2 of this Opinion), and is therefore advised to agree the suitability of the existing data sources with the relevant consultees.

3.31 The interrelationships with marine ecology should be considered within the ES.

**Underwater Noise and Vibration and Electromagnetic Fields** (not present within the Scoping Report)

3.32 Underwater Noise and Vibration and Electromagnetic Fields is proposed as a chapter within the ES as noted from Section 1.5 of the Scoping Report, however the scope of the assessment is not
This section of the ES should clearly outline the methodology that will be used to assess environmental effects that would occur as a result of noise, vibration and electromagnetic fields. The methodology should be agreed with the relevant statutory consultees where appropriate. The baseline environment should be established and potential noise and vibration impacts should be assessed against the baseline. The methods and modelling software should be detailed within the ES.

3.34 The ES should assess the potential impacts that could occur as a result of noise, vibration and electromagnetic fields relating to the construction, operation and decommissioning of the development. The assessment of noise and vibration should follow the latest standards, guidelines and best practice approaches. The significance of such impacts should be stated within the ES, and mitigation measures described where appropriate. The significance of residual effects should be clearly stated in the ES.

3.35 Noise and vibration levels along the foreshore potentially affecting birds should be assessed.

3.36 The potential noise and vibration impacts on possible spawning grounds of herring, plaice, sandeel, sprat and cod should be assessed in the ES and potential mitigation measures proposed.

3.37 Within other environmental topics reference is made to the impacts of noise and vibration on other environmental features. The SoS is pleased to note that consideration to such interrelationships will be given in the ES.

**Air Quality** (see Scoping Report Section 2.1.4)

3.38 The Applicant proposes to scope this topic out of the ES. The SoS agrees that the potential impacts of offshore air quality impacts can be scoped out of the assessment (refer to the SoS’s full comments in the ‘Matters to be scoped out’ section above).

**Airborne Noise** (see Scoping Report Section 2.1.5)

3.39 The Applicant proposes to scope this topic out of the ES. The SoS does not agree that the potential impacts of offshore airborne noise can be scoped out (refer to the SoS’s full comments in the ‘Matters to be scoped out’ section above).

**Benthic Ecology** (see Scoping Report Section 2.2.2)

3.40 Figure 2.5 illustrates the locations where seabed samples were retrieved from within the East Anglia Zone, including the East
Anglia THREE proposed wind farm site. The figure indicates that the full extent of the export cable corridor has not been surveyed and therefore a detailed baseline for the cable corridor is not currently available. The SoS notes that a benthic survey is proposed to be undertaken in late 2012 on areas of the cable corridor not previously surveyed. The SoS is pleased to note that the proposed methodology has been agreed with JNCC, however this methodology is not provided in the Scoping Report for further comment.

3.41 The information on mitigation refers to the potential use of micrositing should Annex I habitats be identified where any infrastructure is proposed to be located. The East Anglia THREE wind farm site should be comprehensively surveyed to ensure that should micrositing be required, the anticipated effects on benthic ecology, and knock-on effects with other environmental topics are fully assessed within the ES based on a ‘worst case’ scenario.

3.42 The Applicant’s attention is drawn to the comments of JNCC/NE (see Appendix 2 of this Opinion) regarding further survey work for *Sabellaria spinulosa*, and to the comments of the MMO (see Appendix 2 of this Opinion) including the need for the ES to detail appropriate mitigation measures to minimise adverse impacts on *Sabellaria spinulosa* aggregations during cable laying operations.

3.43 An assessment of the potential for potential impacts on Annex I sandbank habitat should be presented within the ES (see the comments of JNCC/NE in Appendix 2 of this Opinion).

**Fish and Shellfish Ecology** (see Scoping Report Section 2.2.3)

3.44 No details of the proposed methodology have been provided within the Scoping Report and therefore the SoS cannot comment on the scope of the proposed assessment. However, it is noted that a methodology has been agreed in liaison with the MMO. Agreement should also be reached with JNCC and NE.

3.45 It is noted that the results of the noise monitoring would be used to inform the assessment on fish and shellfish. The SoS welcomes the consideration of inter-relationships within this assessment.

3.46 It is recognised that existing data sources are more prevalent for commercial fish species as opposed to those which are not commercially important. The ES must ensure that a robust assessment of all fish and shellfish ecology, whether commercially important or otherwise is presented within the ES. Where data sources are lacking, the Applicant could consider the use of primary data collection to enable a robust assessment.

3.47 The Applicant’s attention is drawn to the comments of the MMO (see Appendix 2 of this Opinion) recommending that the EIA
should assess the potential impacts on demersal spawning species, sandeel and herring. In addition, the MMO recommends that the spawning times of commercially important species for example Sole, Plaice and Cod are considered in the EIA and mitigation proposed where appropriate in the ES.

3.48 The MMO’s response (see Appendix 2 of this Opinion) highlights that some of the Coull et al. 1998 nursery and spawning ground plots shown on Figures 2.8 (a)-(h) appear to be incorrect; if so, these should be corrected to inform the assessment and for presentation in the ES.

**Marine Mammals** (see Scoping Report Section 2.2.4)

3.49 Marine mammals are potential sensitive receptors for underwater noise. The SoS welcomes the consideration of these impacts within the assessment and advises that the data and information gained from the chapter on Underwater Noise and Vibration and Electromagnetic Fields should be cross referenced to inform the assessment on marine mammals.

3.50 The assessment should also consider the displacement and potential barrier effects as a result of noise emitted during the construction period, and the effect on marine mammals as a result of the potential displacement/disturbance of their food sources (see the comments of JNCC/NE in Appendix 2 of this Opinion).

3.51 The assessment should consider impacts to marine mammals on a cumulative scale; particularly as the proposed development may be part of further developments within the East Anglia Zone (see the comments of JNCC/NE in Appendix 2 of this Opinion).

3.52 The ES should set out in full the potential risk to European Protected Species (EPS) and confirm if any EPS licences will be required for example, for harbour porpoises and grey seals.

**Ornithology** (see Scoping Report Section 2.2.5)

3.53 The methods of assessing impacts are not clearly stated within the Scoping Report and therefore it is difficult to understand how impacts would be assessed. The methodology should be comprehensively detailed within the ES and agreed with the relevant statutory consultees. The Applicant’s attention is drawn to the comments of JNCC/NE (see Appendix 2 of this Opinion) regarding ornithology.

3.54 The SoS advises that due to the proximity of several SPAs to the East Anglia THREE windfarm, and other schemes within the wider area, ornithology issues should be comprehensively assessed. The Scoping Report identifies the presence of the Outer Thames Estuary SPA along the export cable corridor route, as shown in
Figure 1.4 of the Scoping Report. The ES should carefully consider the impacts on birds using this protected area. In this regard, clarification is needed regarding the text of the Scoping Report at paragraph 395, which seems to indicate that the ‘near shore area…is unlikely to be important for red-throated diver’.

3.55 The Applicant should aim to source data and liaise closely with other European Economic Area EEA states within the wider vicinity of the East Anglia THREE wind farm site to consider ornithological impacts across EEA state boundaries.

Commercial Fisheries (see Scoping Report Section 2.3.2)

3.56 Paragraph 468 of the Scoping Report within Shipping and Navigation section references the presence of fishing activity from Dutch, UK, Belgian, Danish and French registered fishing vessels. The Commercial Fisheries chapter of the Scoping Report does not reference the presence of Danish registered vessels. The Applicant should ensure that the impacts on the fishing industries of all nationalities identified are assessed consistently within the ES. The SoS welcomes the Applicant’s liaison with international fishing communities in the identification of impacts and development of appropriate mitigation.

3.57 The SoS notes the data limitations listed within the Scoping Report and advises that matters such as these are also reported within the ES.

3.58 The loss or restricted access to traditional fishing grounds may have subsequent effects on alternative fishing grounds such as those which are fished by smaller vessels. The SoS agrees that impacts on alternative fishing grounds should fully be assessed within the ES.

3.59 The ES should refer to the survey design and/or include a summary of the methodology within the ES (see comments of the MMO in Appendix 2 of this Opinion).

3.60 There are no shellfish species included in Table 2.5 (page 131 of the Scoping Report); the SoS concurs with the comments of the MMO (see Appendix 2) that an equivalent table for key shellfish species should be provided within the ES and that the ES should provide a thorough shellfish baseline. In addition, the MMO recommends that non-commercially important species e.g. sprat and herring are considered within the ES due to the importance of such species in supporting ecosystems in the North Sea and supporting commercial species.
Shipping and Navigation (see Scoping Report Section 2.3.3)

3.61 The ES should assess the impacts on ports and harbours which could be affected by the development, such as increased traffic at the ports and changes to shipping times and durations as a result of routes being diverted around or through the development. The SoS recommends consultation with the appropriate harbour authorities.

3.62 The SoS welcomes the navigational risk assessment as proposed in the Scoping Report. Consideration should be given to the implications of offshore development on sea and air based emergency services. The Applicant is referred to the comments by Trinity House regarding a number of proposed mitigation measures (see Appendix 2 of this Opinion).

3.63 Trinity House have also advised that a comprehensive vessel traffic analysis is undertaken in accordance with the requirements of MGN 371 by means of AIS and Radar augmented by visual observations where possible, and that the possible cumulative and in-combination effects on shipping routes and patterns should be fully assessed (see Appendix 2 of this Opinion). The SoS considers that close liaison and consultation with Trinity House should be established and the results of these consultations used effectively to influence decisions on site layout and to identify potential impacts and appropriate mitigation.

Civil and Military Aviation and Radar (see Scoping Report Section 2.3.4)

3.64 The Scoping Report identifies that the East Anglia THREE windfarm site is in the vicinity of a number of HMRs including a Dutch HMR, as well as partly within Lakenheath North Aerial Tactics Area which is stated to be a primary consideration of the EIA (paragraph 503). The Scoping Report also identifies potential impacts relating to helicopter flights in the vicinity of the proposed East Anglia THREE wind farm site. The Applicant is advised to liaise closely with helicopter operators to assess the potential impacts and develop suitable mitigation to reduce any identified effects. This should be demonstrated in the ES.

3.65 The SoS agrees with the Applicant’s proposal to consult the Civil Aviation Authority (CAA), the National Air Traffic Service En Route (NERL) and the Ministry of Defence (MoD) to gather further information on the potential effects of the proposed development on aviation.

3.66 The Applicant’s attention is drawn to the comments made by the MoD in relation to the protection of aviation interests and the mitigation measures that may be required to reduce potential impacts. The Applicant should note the information requested by
the CAA, the MoD and NATS to allow these bodies to carry out a thorough assessment of the impacts of the proposed development upon their assets (see Appendix 2 of this Opinion).

**Telecommunications and Interference** (see Scoping Report Section 2.3.5)

3.67 The Applicant proposes to scope this topic out of the ES. The SoS agrees that subject to there being no objections from operators and service providers, the potential impacts on telecommunications and interference can be scoped out of the assessment (refer to the SoS’s full comments in the ‘Matters to be scoped out’ section above).

**Marine Archaeology and Cultural Heritage** (see Scoping Report Section 2.3.6)

3.68 The SoS notes that a geophysical survey will be carried out on the East Anglia THREE site and the area of the export cable corridor not covered within the previous East Anglia ONE surveys. Please refer to the SoS’s earlier comments regarding the suitability of using data obtained from surveys undertaken for the proposed East Anglia ONE development (refer to paragraph 3.24 of this Opinion). In addition, the Applicant’s attention is drawn to the comments of English Heritage (EH) (see Appendix 2 of this Opinion) regarding site-specific data. The SoS emphasises the importance that the methodology for geotechnical surveys and archaeological interpretation is agreed with EH. Confirmation of this should be provided within the ES.

3.69 The Applicant should ensure that they address the comments of EH, including the information required within the ES and of the application of a ‘worst case scenario’ (see Appendix 2 of this Opinion).

3.70 The Scoping Report makes reference to embedded mitigation of impacts upon marine archaeology and cultural heritage. The ES should clearly define mitigation that is embedded within the design of the proposed development and that which constitutes additional mitigation.

**Infrastructure and Other Users** (see Scoping Report Section 2.3.7)

3.71 The impacts of cable crossing, including the construction works and the infrastructure required to facilitate these works should be clearly described and assessed within the ES.

3.72 The Scoping Report states that as there may be unexploded ordnance (UXO) present within the southern North Sea, geophysical surveys of the wind farm site and the cable corridor
would be undertaken. It is noted that the Applicant does not intend to carry out an assessment of the potential environmental impacts from the initiation of any UXO as it is considered to be a health and safety issue. The initiation of UXO or the works that would be involved in removing any identified UXO could have environmental impacts and therefore the SoS advises that should the geophysical survey identify the presence of any UXO, an assessment of the potential impacts should be undertaken. The implementation of mitigation to avoid potential impacts should also be considered within the ES.

**Topic Areas (Onshore)**

**Ground Condition and Contamination** (see Scoping Report Section 3.1.2)

3.73 The Scoping Report states that the Applicant considers that the data collected for the proposed East Anglia ONE cable route is sufficient for the East Anglia THREE development. The SoS welcomes the statement that the Applicant will consult with the relevant authorities on whether there is any requirement to update this data for the East Anglia THREE EIA. The Applicant should ensure that the ES contains sufficient detail and that the extent of the study area is clearly justified.

3.74 The Scoping Report states that the coastline geology is vulnerable to erosion; the SoS therefore advises that the potential impacts of landfall works on coastal erosion and deposition should be addressed with appropriate cross reference made to other technical reports including landscape and visual impacts. See also the comments of SCC (Appendix 2 of this Opinion) regarding assessing the impacts on coastal processes of the cabling near the landfall point.

3.75 The SoS notes that the centreline of the cable route crosses the historical sand pit/landfill at Tuddenham St Martin. The ES should assess the potential impacts on the feature, and impacts that may arise as a result of disturbing the former land fill.

3.76 The ES should quantify the volumes of material imported and exported, if required. Information should be provided on the methods of disposal for spoil from the HDD and trenching operations for the cable.

3.77 Groundwater is the potential pathway for discharge of liquids to surface and coastal waters. The EIA should comprehensively assess the potential impact upon groundwater during the construction phase and must include, inter alia, the use and storage of hazardous substances, dewatering, discharge, drainage, physical disturbance of sub surface and dealing with sediment fines.
3.78 The ES should identify any mitigation measures to reduce potential pollution risks.

3.79 Appropriate cross-reference should be made to the water resources and flood risk assessment and land use sections in the ES in relation to any potential contaminated land and run-off. In the light of the works proposed, cross reference should also be made to the section on marine water and sediment quality in order to address the potential impacts of sediment along the foreshore.

Air Quality (see Scoping Report Section 3.1.3)

3.80 The SoS recommends that the methodology and choice of air quality and noise and vibration receptors are agreed with the relevant Environmental Health Department of the local authorities and with the EA.

3.81 As no site specific air quality monitoring surveys are proposed, the Applicant should ensure that the air quality data is up to date and its coverage is appropriate for the desk based review.

3.82 The assessment should assess implications on nearby designated sites in particular, Ramsar sites, SPAs, SACs and SSSIs. Appropriate cross-reference to the terrestrial ecology and nature conservation sections of the ES should be made.

3.83 Air quality and dust levels should be considered not only on site but also off-site, including along access roads, local footpaths and other PROW.

3.84 Inter-relationships between topics should be assessed including impacts from noise and vibration generated by the proposed development and impacts on ecology arising from changes to air quality (including dust generation).

3.85 Consideration should be given to the monitoring of and procedure for dealing with, dust complaints during the construction and operation of the proposed development.

Water Resource and Flood Risk (see Scoping Report Section 3.1.4)

3.86 The SoS welcomes the provision of a Flood Risk Assessment (FRA) and recommends on-going consultation with the EA and relevant local authorities. The FRA should form an appendix to the ES. Paragraph 660 of the Scoping Report identifies that there are existing flood defence walls at the Deben crossing; the potential impacts of the proposed development on flood defences should be considered within the FRA. The FRA should detail whether any flood protection measures are needed for the jointing bays (see comments of SCC in Appendix 2 of this Opinion).
3.87 The Applicant’s attention is drawn to the comments of East Suffolk Internal Drainage Board (see Appendix 2 of this Opinion) regarding the need to consider the potential effects of the proposed development on all watercourses and drainage systems, not just the rivers specifically identified in Section 3.1.4 of the Scoping Report.

3.88 A methodology for ongoing water monitoring during the construction and operational phases of the development should be discussed as part of the EIA.

3.89 Potential impacts on the public sewer network should be addressed, including the need to address easements and impacts arising from vibration during the construction works.

3.90 The SoS recommends that this assessment should also cross refer to other topics within the ES which refer to the water environment.

3.91 Mitigation measures should be addressed and the SoS advises that reference should be made to other regimes (for example, pollution prevention managed by the EA). On-going monitoring should also be addressed and agreed with the relevant authorities to ensure that any mitigation measures are effective.

**Land Use** (see Scoping Report Section 3.1.5)

3.92 The SoS highlights the potential for sterilisation of land along the cable route during all phases of the proposed development. This is a particular issue with underground connecting infrastructure and the SoS expects the ES to assess these impacts.

3.93 Consideration should be given to any gas and electricity pipelines buried onshore and the potential restrictions this may place on the location of the onshore cables. Please see National Grid’s comments (Appendix 2 of this Opinion) for further information.

3.94 The SoS advises that this section should consider the interrelationship with ecology, in particular the impacts from the removal of grassland, trees and hedgerows ecological habitats. Appropriate reference should also be made to the socio-economic assessment in the ES.

**Ecology and Nature Conservation** (see Scoping Report Section 3.2.2)

3.95 The SoS recommends that surveys should be thorough, up to date and take account of other development proposed in the vicinity.

3.96 The SoS recommends that the proposals should address fully the needs of protecting and enhancing biodiversity. The assessment should cover habitats, species and processes with the sites and
surroundings. The SoS recommends that the impacts on protected fish species is fully assessed and appropriate mitigation provided.

3.97 Paragraph 649 of the Scoping Report states that potential impacts have been identified ‘assuming that construction will entail HDD and ducting or open trenching for the whole of the 37km cable route’. This statement is unclear, and the ES should clearly set out the design parameters against which the assessment is undertaken.

3.98 The Applicant’s attention is drawn to the comments of SCC (See Appendix 2 of this Opinion) regarding the need for the EIA to consider the impacts of HDD on ancient and species rich hedgerows, with regard to the Suffolk Hedgerow Survey, published by Suffolk Coastal District Council’s Greenprint Forum.

3.99 The assessment should take account of the impacts arising from noise and vibration generated by the proposed development and the potential impact on air quality (including dust). Appropriate cross-reference should be made to these specialist reports in the ES.

3.100 The ES should set out in full the potential risk to EPS and confirm if any EPS licences will be required. The Applicant should take into consideration recent changes in legislation with regard to EPS licence procedures. Further information in relation to EPS matters can be found within Section 4 of this report.

Archaeology and Cultural Heritage (see Scoping Report Section 3.3)

3.101 The setting of cultural heritage resources could be affected; this includes historic buildings, historic landscapes and archaeological sites and the SoS considers that these should be addressed in the ES. Cross reference should be made to the Landscape and Visual Impact Assessment section of the ES. The selection of the viewpoints within the LVIA should incorporate views from cultural heritage locations and should be agreed with the relevant authorities.

3.102 The Applicant should ensure they address the comments of EH and SCC (see Appendix 2 of this Opinion), including the information requested by these consultees, within the ES.

Noise and Vibration (see Scoping Report Section 3.3)

3.103 The SoS recommends that the methodology and choice of noise receptors should be agreed with the relevant Environmental Health Department of the local authority and with the EA.
3.104 Information should be provided on the types of vehicles and plant to be used during the construction phase. Once operational, noise sources generated should be identified and assessed. Noise impacts on people should be specifically addressed, and particularly any potential noise disturbance at night and other unsocial hours such as weekends and public holidays. Where appropriate, effective measures should be provided to mitigate against noise nuisance. Consideration should be given to monitoring noise complaints during construction and when the development is operational.

3.105 Noise and vibration levels along the foreshore potentially affecting birds and fish should be also be addressed.

3.106 The noise and vibration assessments should take account of the traffic movements along access routes, especially during the construction phase. The results from the noise and vibration assessments will also provide information to inform the terrestrial, aquatic and marine ecological assessments within the ES.

**Traffic and Transport** (see Scoping Report Section 3.3.2)

3.107 The SoS recommends that the assessment of the transport impacts of the proposed development on the highways network, including vehicle movements relating to the disposal of spoil, on both trunk roads and county / minor roads, is developed in association with the local highways authority and the Highways Agency (HA). The Applicant is referred to the comments of the HA regarding potential impacts on the trunk road network (see Appendix 2 of this Opinion).

3.108 The assumptions made to derive traffic forecasts should be clearly explained within the assessment of traffic and transport within the ES.

3.109 The ES should identify within the traffic and transport assessment any new or improved access routes for the proposed development and these should be presented on a plan within the ES.

3.110 Appropriate cross-reference should be made to other relevant specialist topics including air quality and the consideration of airborne pollution and dust especially during the construction phase for the entirety of any transportation and access routes.

3.111 The SoS notes that potential mitigation measures may include a travel plan and a traffic management plan (paragraph 716 of the Scoping Report). Where these are proposed, draft copies of these plans should be provided as an appendix to the ES.

3.112 The SoS recommends that the ES should take account of the location of footpaths and any PRoW, including bridleways and
Scoping Opinion for
East Anglia THREE Offshore Windfarm

byways. The ES should clearly set out impacts on them including within the wider area. It is important to minimise hindrance to them where possible.

3.113 Paragraph 705 of the Scoping Report states that offshore materials would be brought to site by sea and that this impact will not be considered within the EIA. The SoS considers it highly unlikely that there would not be any subsequent transport of construction materials by road, and that onshore vehicle movements would result from delivery of construction materials and access by construction workers. The SoS would expect to see this addressed within the ES. Potential traffic movements during the operational period associated with the use of port(s) should also be taken into consideration.

3.114 The Applicant’s attention is drawn to the comments of Norfolk County Council (NCC) regarding information to be provided within the EIA, and of SCC regarding the need to undertake a transport assessment which details the impacts of both scenarios (ducting pre-installed versus open trenching) and any proposed mitigation (see Appendix 2 of this Opinion). It is assumed that the Applicant will have selected a construction methodology for the cable by the time of submission of the application, and that the selected method would be the subject of the assessment. Assessment of both options would only be required if no decision on construction methodology had been made.

Topic Areas (Wider Scheme Aspects)

Socio-economics (see Scoping Report Section 4.1.1)

3.115 The SoS recommends that the assessment considers the potential significance of the impacts of the proposed development within a local context, and a regional context beyond that of the administrative boundary in which the proposed development is located. The types and number of jobs generated should be considered in the context of the available workforce in the area. Information should be provided on worker accommodation and include an assessment of the potential impacts of the influx of workers. The cumulative impact of workers from other nearby major projects should also be assessed.

3.116 Details of the construction methods, working hours and duration of works should be provided in the ES. Cross-reference should be made to the traffic and transport assessment and any impacts the onshore works may have on public transport, including consideration of potential works to existing and new access roads (if required) to the converter station.
3.117 Recreational impacts associated with the coastline in the vicinity of the cable landfall should be assessed including the possible effects on beach areas, PRoW and bathing water quality.

3.118 Cross-reference should be made in this chapter of the ES to any visual impacts on public rights of way (PROW) identified in the seascape, landscape and visual amenity assessments.

3.119 Consideration should be given as to what impact the use of tourist accommodation for the mobile workforce would have in the short, medium and long term situation for the local tourist industry (see comments of SCC in Appendix 2 of this Opinion).

3.120 The Applicant’s attention is drawn to the comments of NCC and SCC (see Appendix 2 of this Opinion) regarding economic considerations.

Seascape, Landscape and Visual Amenity (see Scoping Report Section 4.1.2)

3.121 The SoS draws the attention of the Applicant of the need to take account of the updates to legislation, in particular the need to reference the National Planning Policy Framework; together with the need to liaise with the local planning authorities to ensure use is made in the EIA of the most up to date policy documents.

3.122 The Scoping Report has not identified any potential impacts along the cable route during the operational phase. Whilst installation of the cable is a temporary activity there is the potential for significant longer term landscape and visual impacts caused by the loss of vegetation and the time taken for restoration measures to establish. Visual impacts as a result of the loss of hedgerows and trees for the cable corridor should be assessed and appropriate mitigation identified within the ES. Appropriate cross-reference should also be made to the terrestrial ecology assessment within the ES.

3.123 The SoS notes that the offshore elements of the proposed development would be located at such a distance that there would not be views of the proposed wind farm from onshore receptors. However, the potential visual impacts of the onshore elements should be assessed and a Zones of Theoretical Visibility (ZTV) assessment should be utilised where appropriate. The SoS advises that the ES should describe the model used, provide information on the area covered and the timing of any survey work and the methodology used.

3.124 The SoS advises that the ES should make use of photomontages to illustrate the proposals. In producing visualisations, including photomontages and wireframes, views should be verified and visualisations should accord with industry standards. The SoS
Scoping Opinion for
East Anglia THREE Offshore Windfarm

3.125 The LVIA should also include the assessment of any access roads required to access the converter station compound area (if required), including assessment of roads required for permanent access and temporary access during construction or for heavy abnormal loads and also access roads required for construction of the jointing pits. The potential visual impacts of the construction compound sites should also be assessed.

3.126 The impacts of jointing pits and their associated above ground access on landscape and visual amenity should be addressed.

3.127 The SoS requests that careful consideration should be given to the form, siting, and use of materials and colours of the onshore converter station, in terms of minimising the adverse visual impact of these structures. The Applicant’s attention is drawn to the comments of SCC (see Appendix 2 of this Opinion) regarding consideration of landscape bunding, reducing the bed level and off-site planting.

3.128 The assessment should include the consideration of any temporary lighting required for construction, and any permanent lighting for the converter station compound area and access roads (if required).

3.129 The Applicant is directed to the comments of EH (see Appendix 2 of this Opinion), regarding the use of EH’s Historic Seascape Characterisation work within the EIA.
4.0 OTHER INFORMATION

4.1 This section does not form part of the SoS’s opinion as to the information to be provided in the ES. However, it does respond to other issues that the SoS has identified which may help to inform the preparation of the application for the DCO.

Habitats Regulations Assessment (HRA)

4.2 The SoS notes that European sites are located within and close to the proposed development. It is the Applicant’s responsibility to provide sufficient information to the Competent Authority (CA) to enable them to carry out a HRA if required. The Applicant should note that the CA is the SoS.

4.3 The Applicant’s attention is drawn to The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) (The APFP Regulations) and the need to include information identifying European sites to which the Habitats Regulations applies or any Ramsar site or potential SPA which may be affected by a proposal. The submitted information should be sufficient for the CA to make an appropriate assessment (AA) of the implications for the site if required by Regulation 61(1) of the Habitats Regulations.

4.4 The report to be submitted under Regulation 5(2)(g) of the APFP Regulations with the application must deal with two issues: the first is to enable a formal assessment by the CA of whether there is a likely significant effect; and the second, should it be required, is to enable the carrying out of an AA by the CA.

4.5 When considering aspects of the environment likely to be affected by the proposed development; including flora, fauna, soil, water, air and the inter-relationship between these, consideration should be given to the designated sites in the vicinity of the proposed development.

4.6 Further information with regard to the HRA process is contained within Planning Inspectorate’s Advice Note 10 (October 2012) available on the National Infrastructure Planning’s website.

Sites of Special Scientific Interest (SSSIs)

4.7 The SoS notes that a number of SSSIs are located close to or within the proposed development. Where there may be potential impacts on the SSSIs, the SoS has duties under sections 28(G) and 28(I) of the Wildlife and Countryside Act 1981 (as amended) (the W&C Act). These are set out below for information.
4.8 Under s28(G), the SoS has a general duty ‘... to take reasonable steps, consistent with the proper exercise of the authority’s functions, to further the conservation and enhancement of the flora, fauna or geological or physiographical features by reason of which the site is of special scientific interest’.

4.9 Under s28(I), the SoS must notify the relevant nature conservation body (NCB), Natural England in this case, before authorising the carrying out of operations likely to damage the special interest features of a SSSI. Under these circumstances 28 days must elapse before deciding whether to grant consent, and the SoS must take account of any advice received from the NCB, including advice on attaching conditions to the consent. The NCB will be notified during the examination period.

4.10 If applicants consider it likely that notification may be necessary under s28(I), they are advised to resolve any issues with the NCB before the DCO application is submitted to the SoS. If, following assessment by applicants, it is considered that operations affecting the SSSI will not lead to damage of the special interest features, applicants should make this clear in the ES. The application documents submitted in accordance with Regulation 5(2)(I) could also provide this information. Applicants should seek to agree with Natural England the DCO requirements which will provide protection for the SSSI before the DCO application is submitted.

European Protected Species (EPS)

4.11 The Applicant should also be aware that the decision maker under the Planning Act 2008 (as amended) (PA 2008) has, as the CA, a duty to engage with the Habitats Directive.

4.12 The SoS considers that there is potential for the presence of EPS within the study area for the proposed development. Where a potential risk to an EPS is identified and before making a decision to grant development consent the CA must, amongst other things, address the derogation tests in Regulation 53 of the Habitats Regulations. Therefore the Applicant may wish to provide information which will assist the decision maker to meet this duty. Where required the Applicant should, in consultation with Natural England and the Marine Management Organisation (MMO), agree appropriate requirements to secure necessary mitigation.

4.13 If the Applicant has concluded (in consultation with NE and MMO) that an EPS licence is required the ExA will need to understand whether there is any impediment to the licence being granted. It would assist the examination if the Applicant could provide with the application confirmation from NE/MMO whether they intend to issue the licence in due course.
Health Impact Assessment

4.14 The SoS considers that it is a matter for the Applicant to decide whether or not to submit a stand-alone Health Impact Assessment (HIA). However, the Applicant should have regard to the responses received from the relevant consultees regarding health, and in particular to the comments from the Health and Safety Executive and the Health Protection Agency in relation to electrical safety issues (see Appendix 2).

4.15 The methodology for the HIA, if prepared, should be agreed with the relevant statutory consultees and take into account mitigation measures for acute risks.

Other regulatory regimes

4.16 The SoS recommends that the Applicant should state clearly what regulatory areas are addressed in the ES and that the Applicant should ensure that all relevant authorisations, licences, permits and consents that are necessary to enable operations to proceed are described in the ES. Also it should be clear that any likely significant effects of the proposed development which may be regulated by other statutory regimes have been properly taken into account in the ES.

4.17 It will not necessarily follow that the granting of consent under one regime will ensure consent under another regime. For those consents not capable of being included in an application for consent under the PA 2008, the SoS will require a level of assurance or comfort from the relevant regulatory authorities that the proposal is acceptable and likely to be approved, before they make a recommendation or decision on an application. The Applicant is encouraged to make early contact with other regulators. Information from the Applicant about progress in obtaining other permits, licences or consents, including any confirmation that there is no obvious reason why these will not subsequently be granted, will be helpful in supporting an application for development consent to the SoS.

Transboundary Impacts

4.18 Regulation 24 of the EIA Regulations, which *inter alia* require the SoS to publicise a DCO application if the SoS is of the view that the proposal is likely to have significant effects on the environment of another EEA state and where relevant to consult with the EEA state affected. The SoS considers that where Regulation 24 applies, this is likely to have implications for the examination of a DCO application.
4.19 The SoS notes that the Scoping Report has acknowledged the potential for transboundary impacts and recommends that the Applicant should provide to the SoS as soon as possible any additional available information about potential significant trans-boundary effects and identify the affected state(s). In order to ensure the efficient and effective examination of applications within the statutory timetable under Section 98 of the PA 2008, it is important that this information is made available at the earliest opportunity to facilitate timely consultations, if required, with other EEA States in accordance with Regulation 24.

4.20 The SoS notes that that the ES will address this matter in each topic area and summarise the position on transboundary effects of the proposed development, taking into account inter-relationships between any impacts in each topic area.
APPENDIX 1

List of Consultees
APPENDIX 1

LIST OF BODIES FORMALLY CONSULTED DURING THE SCOPING EXERCISE

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<th>SCHEDULE 1 DESCRIPTION</th>
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Appendix 1
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**RELEVANT STATUTORY UNDERTAKERS**

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| ESP Electricity Limited  
| Independent Power Networks Limited  
| The Electricity Network Company Limited  
| UK Power Networks Limited  
| National Grid Electricity Transmission Plc  
| National Grid Plc  

### SECTION 43 CONSULTEES

| Marine Management Organisation | Marine Management Organisation  
| Broads Authority | The Broads Authority  
| Babergh District Council  
| Mid Suffolk District Council  
| Suffolk Coastal District Council  
| Ipswich Borough Council  
| Waveney District Council  
| South Norfolk Council  
| Breckland Council  
| St Edmundsbury Borough Council  
| Braintree District Council  
| Colchester Borough Council  
| Tendring District Council  
| Suffolk County Council  
| Norfolk County Council  
| Cambridgeshire County Council  
| Essex County Council  

### NON-PRESCRIBED CONSULTATION BODIES

| Ministry of Defence | Ministry of Defence  
| Royal National Lifeboat Institution | Royal National Lifeboat Institution  

Note: the Prescribed Consultees have been consulted in accordance with the Planning Inspectorate’s Advice Note 3 ‘Consultation and notification undertaken by the Planning Inspectorate’ (May 2012).
APPENDIX 2

Respondents to Consultation and Copies of Replies
**APPENDIX 2**

**LIST OF BODIES WHO REPLIED BY THE STATUTORY DEADLINE**

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<td>The Coal Authority</td>
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<td>Tendring District Council</td>
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I write to confirm that ABP has no comment to make relating to the Secretary of States scoping opinion on the Environmental Impact assessment for the above. I would like to record that we are supportive of these developments.

Roger Arundale
Deputy Port Manager, East Anglia
The Secretary of State  
The Planning Inspectorate  
3/18 Eagle Wing  
Temple Quay House  
2 The Square  
Bristol BS1 6PN  

Dear Sir,

Re: Proposed East Anglia Three Offshore Windfarm and East Anglia Four Offshore Windfarm.

In reply to your letters of 15th November 2012 concerning the developer’s application for approval to submit a scoping report we would comment as follows:

1. We are familiar with the East Anglia One Windfarm scoping report and have no objection to these submissions. We would expect the scoping reports for the above windfarms to cover the same matters, based on new research as necessary, as their earlier scoping report.

2. We wish this letter to cover both the above windfarms applications.

3. We wish to continue as a consultation body.

4. Please confirm where landfall for the export cables will be.

Yours faithfully,

Graham Turner  
Chairman
Dear Hannah Nelson,

Thank you for giving Braintree District Council the opportunity to comment on the EIA Scoping Requests from East Anglia Offshore Wind Limited for the proposed East Anglia Offshore Wind Farms Three and Four.

I can confirm that the Council has no comments to make.

With Kind Regards

Emma Goodings
Senior Planning Policy Officer
Braintree District Council
Tel: 01376 551414 Ext 2511

Please note I do not normally work Fridays

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Correspondents should note that all communications to Department for Communities and Local Government may be automatically logged, monitored and/or recorded for lawful purposes.
30.11.2012

Hannah Pratt
EIA and Land Rights Advisor
3/18 Eagle Wing
Temple Quay House
2 The Square
Bristol
BS1 6PN

Our ref: DCC0164

Dear Hannah Pratt,

East Anglia Three Offshore Windfarm
YOUR REF: 121115_EN010056_1509871

Thank you for consulting Design Council Cabe about this proposal.

We do not have any comments for this project.

Yours sincerely,

[Redacted]

Sylvia Synodinou
Design Review Officer
Email: Sylvia.synodinou@designcouncil.org.uk
Tel: +44(0)20 7420 5244
Hannah Nelson

From: Windfarms [Windfarms@caa.co.uk]
Sent: 28 November 2012 15:34
To: Environmental Services
Subject: RE: Scoping consultation: East Anglia THREE Offshore Wind Farm & East Anglia FOUR Offshore Wind Farm

Dear Sir/Madam,

Having reviewed the Scoping Report provided, the appropriate aviation consultees (NATS/NERL, MOD, and LVNL) have been identified although the positions of each consultee regarding the proposed development should be established in subsequent consultations. I would also add the need, if the proposed development is approved, to inform the UK Hydrographic Office of the locations, heights and lighting status of the turbines and meteorological masts, the estimated and actual dates of construction and the maximum height of any construction equipment to be used, prior to the start of construction, to allow for the appropriate inclusion on Aviation Charts, for safety purposes.

As identified within the Scoping Report there is a requirement for the proposed turbines and masts to be lit for aviation warning purposes.

Should you have any further questions please feel free to contact me, details below.

Yours Sincerely

Kelly
K LIGHTOWLER
Squadron Leader (RAF)
Surveillance and Spectrum Management
Directorate of Airspace Policy
Civil Aviation Authority
45-59 Kingsway London WC2B 6TE
Tel: 020 7453 6534 Fax: 020 7453 6565
windfarms@caa.co.uk

From: Environmental Services [mailto:EnvironmentalServices@infrastructure.gsi.gov.uk]
Sent: 15 November 2012 14:26
To: Windfarms
Subject: Scoping consultation: East Anglia THREE Offshore Wind Farm & East Anglia FOUR Offshore Wind Farm

Dear Sir or Madam

Please find attached scoping consultation letters regarding the following two projects:

- East Anglia THREE Offshore Wind Farm
- East Anglia FOUR Offshore Wind Farm

Kind regards
Hannah

<<121115_EN010056_Letter to stat consultees-Scoping Letter&Reg 9 Notification.pdf>>
<<121115_EN010057_Letter to stat consultees-Scoping Letter&Reg 9 Notification.pdf>>

Hannah Pratt
Ms Hannah Pratt  
EI A and Land Rights Adviser  
On behalf of the Secretary of State  
The Planning Inspectorate

[By Email: environmentalservices@infrastructure.gsi.gov.uk]

28 November 2012

Dear Ms Pratt

**EIA SCOPING OPINION**

Proposed East Anglia Three Offshore Windfarm

Thank you for your consultation letter of the 15 November 2012 seeking the views of The Coal Authority on the EIA Scoping Opinion for the above proposal.

I have reviewed the proposals and confirm that the area is not within the defined coalfield: therefore The Coal Authority has no observations or specific comments to make on this proposal.

Please do not hesitate to contact me if you would like to discuss this matter further.

Yours sincerely

D Roberts

Deb Roberts M.Sc.  
Technical Support Officer
Dear Sir/Madam

Further to your consultations dated 15 November 2012 regarding the scoping reports for these proposed projects, I would like to make the following response on behalf of East Suffolk IDB, which relates to both projects. When preparing their final environmental assessments, the applicant will need to ensure that they consider the potential effects of their works on all watercourses and drainage systems, not just the rivers that are mentioned in the “Water Resource and Flood Risk” section of each report. Section 603 in the report for the East Anglia THREE project shows that some consideration has been given to this, but assessment of the effects on drainage systems other than main rivers does not appear to have then been carried through into section 610, which I think it should have been/needs to be (for the East Anglia FOUR project the relevant sections are 621 and 628).

I would be grateful if you would take these comments into consideration when assessing both these reports.

Regards

George Dann
Planning Officer
e: george@wlma.org.uk
Water Management Alliance
Kettlewell House, Austin Fields Industrial Estate, King’s Lynn, Norfolk, PE30 1PH, UK
t: +44 (0)1553 819600 | f: +44 (0)1553 819639 | e: info@wlma.org.uk | www.wlma.org.uk

Consisting of:
Broads Drainage Board, East Suffolk Drainage Board, King’s Lynn Drainage Board, Norfolk Rivers Drainage Board and South Holland Drainage Board

Defenders of the Lowland Environment

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Correspondents should note that all communications to Department for Communities and Local Government may be automatically logged, monitored and/or recorded for lawful purposes.
Dear Ms Pratt,

East Anglia THREE and FOUR Offshore Wind Farms
Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended)
Response to requests for an Environmental Impact Assessment Scoping Opinion

Thank you for your letter, dated 15th November 2012, and for the letter from your colleague Ms Hannah Nelson, dated 15th November 2012, regarding the above referenced projects. Please consider this letter to be the corporate response of English Heritage for the EIA Scoping Reports for East Anglia THREE and FOUR.

English Heritage is the Government’s advisor on all aspects of the historic environment in England. English Heritage is an Executive Non-departmental Public Body sponsored by the Department for Culture, Media and Sport (DCMS) and we report to Parliament through the Secretary of State for Culture, Media and Sport. The National Heritage Act (2002) enabled English Heritage to assume responsibility for maritime archaeology in the English area of the UK Territorial Sea. However, we note that the turbine development area is located in UK Controlled Waters so any advice that we provide is offered without prejudice to our responsibilities as provided by the aforementioned Act. We have therefore copied this response to DCMS should they wish to comment further.

We have based the following comments on:

- **East Anglia THREE Offshore Windfarm EIA Scoping Report**, prepared by Royal Haskoning DHV for ScottishPower Renewables (SPR) and Vattenfall Wind Power Ltd (VWPL), dated November 2012.
• *East Anglia FOUR Offshore Windfarm EIA Scoping Report*, prepared by Royal Haskoning DHV for ScotishPower Renewables (SPR) and Vattenfall Wind Power Ltd (VWPL), dated November 2012.

We understand that Zone 5 (the East Anglia Zone), which encompasses these proposed developments, was awarded to SPR and VWPL under The Crown Estate Round 3 process and that this consultation exercise is part of the consultation requirements set out under the Planning Act 2008 and associated EIA Regulations.

English Heritage recommends that EIA Scoping Reports are tailored to the type, purpose, and level of development under consideration. We therefore have prepared this response in reference to the comments we provided for the EIA Scoping Report consultation for East Anglia ONE (our correspondence dated 1st November 2010), in consideration that:

• East Anglia THREE will be located approximately 79km from its central point and East Anglia FOUR will be located approximately 91km from its central point to the port of Lowestoft and that both projects will utilise a section of the same offshore cable route used for East Anglia ONE with the same landfall location (near Bawdsey in Suffolk); and

• East Anglia THREE and FOUR will use the same terrestrial cable route to the Bamford substation (Suffolk) for National Grid connection.

English Heritage acknowledges that renewable energy projects could be challenging to the historic environment, and in 2005 we published *Wind Energy and the Historic Environment* to provide guidelines for planners and developers. These guidelines are designed to be used alongside other current standard methodologies associated with the development of such proposals, which should be used by to inform the preparation of the Environmental Statements for each project.

In consideration of the sequential development of the East Anglia Zone, we advise that a number of matters will need to be taken into account inclusive of the cumulative nature of ancillary infrastructure, such as cabling and substations as well as the turbines themselves. In particular we require any Environmental Statement produced in support of these proposed projects to:

• assess direct impacts upon historic or archaeological marine or terrestrial sites and areas, whether statutorily protected or not;

• determine any indirect impacts, particularly the setting of listed buildings, scheduled monuments, conservation areas etc, including change to historic landscape and seascapes character from the cumulative development of the East Anglia Zone; and

• detail the potential to encounter buried archaeology as revealed by both desk-based analysis of available records (national and local) and interpretation of geophysical and geotechnical marine survey data.

On the basis that the terrestrial cable corridor will follow the same route as East Anglia ONE we refer you to the Local Authorities Historic Environment Records service to acquire any additional information on potentially important non-designated archaeological sites. In recognition that the cable route passes through an area rich in archaeology, historic assets and historic landscapes careful consideration must be given to determining any cumulative impact of the construction and maintenance of onshore infrastructure including pylons.
It is important to stress that the management and use of the full range of the historic environment is conducted in a manner that best serves the public understanding and enjoyment of the whole, and not just that of the designated and protected sites. In this regard, there is potential for all heritage assets to be taken into consideration, whether they are designated or not in accordance with the principles set out in the National Planning Policy Framework and the UK Marine Policy Statement.

We also offer the following comments on the EIA Scoping Reports for East Anglia THREE and FOUR:

1. Section 1.2.3 The Project Design Envelope – we must stress that the impact assessment exercise must consider that the “worst case scenario” inclusive of historic environment factors with particular reference to the selection of geotechnical survey objectives to ensure data generated is sufficient to support archaeological analysis and interpretation. We noted however, in East Anglia THREE, Part 2 (Offshore) section 2.1.2 (Marine Geology, Oceanography and Physical Processes), paragraph 240 that geophysical surveys were due to complete in 2012, we therefore require these data to be subject to archaeological interpretation to support preparation of the Environmental Statements for East Anglia THREE and FOUR.

2. Section 2.3.6 (Marine Archaeology and Cultural Heritage) – it was noted that the scoping reports were informed by the East Anglia Zone Environmental Appraisal (ZEA) and EIA work conducted in support of the East Anglia ONE project. Therefore in reference to the statements made in East Anglia THREE, paragraph 524 and East Anglia FOUR, paragraph 540 it is crucial that the “site-specific data” to be commissioned details archaeological objectives and agreed methodology to ensure data generated are capable of supporting archaeological interpretation. Similarly, in East Anglia THREE, paragraph 525 and East Anglia FOUR, paragraph 541 geotechnical survey objectives must be agreed to support palaeo-environmental analysis.

3. It is important to qualify the statements made in East Anglia THREE and East Anglia FOUR under “Potential Impacts” in regard to the assessment of “worst case scenario” (as detailed within section 1.2.3) with respect to foundation design and the implications if, for example, gravity base structures are adopted. It is therefore likely that if a gravity base design was adopted the assessment provided in East Anglia THREE and East Anglia FOUR under “Direct physical disturbance” will have to consider direct impacts associated with the extent of seabed preparation (e.g. dredging) required for installation of gravity base foundations. Consequently, we recommend that the preparation of the archaeological Written Scheme of Investigation (WSI) as described East Anglia THREE, paragraph 540 and East Anglia FOUR, paragraph 556 (Mitigation) clarifies the methodologies to address unavoidable impacts associated with the worst case scenario (project design envelope).

4. Section 2.3.6, East Anglia THREE, paragraph 542 and East Anglia FOUR, paragraph 558 – the following publications are to be used to inform these EIA exercises: *Marine Aggregate Dredging and the Historic Environment: Guidance Note* (British Marine Aggregate Producers Association and English Heritage, 2003); the Joint Nautical Archaeological Policy Committee *Code of Practice for Seabed Development* (The Crown Estate, 2006);
5 East Anglia THREE and FOUR, Section 4.1.2 (Seascape, Landscape and Visual amenity) failed to mention the Historic Seascape Characterisation work undertaken by English Heritage which should be used to inform the evidence base used to complete this component of the EIA exercise. For your information, we have supplied with this response a copy of the English Heritage Action Plan for the delivery of the European Landscape Convention.

Yours sincerely,

Christopher Pater
Marine Planning Unit

Cc  Will Fletcher (English Heritage, East of England)
    Helen Chappell (English Heritage, East of England)
    Shane Gould (English Heritage, National Advice)
    John Tallantyre (DCMS)
    Alan Gibson (Marine Management Organisation)
The European Landscape Convention
The English Heritage Action Plan for Implementation
BACKGROUND TO THE ACTION PLAN

The Council of Europe's European Landscape Convention (the 'Florence Convention' – the 'ELC') is the first international instrument devoted exclusively to the protection, management and planning of landscape in its entirety. It was published in 2000 and came into force in England on 1st March 2007.

English Heritage played a significant role in the development, adoption and early implementation of the Convention, both at national and European level. Now, alongside Natural England, English Heritage is a member of the Government's England-wide ELC Implementation Group and of its UK Co-ordination Group.

The English Heritage Action Plan — part of our work for Government under its current programme — is designed to guide our contribution to the further implementation of the Landscape Convention, and to help to ensure that implementation at all levels of government captures the cultural and historical as well as the natural richness of landscape. The aim is to broaden awareness of landscape both within English Heritage and amongst our principal partners in local government.

Landscape policy in the United Kingdom is already closely aligned with the Convention, and before UK ratification a Regulatory Impact Assessment had demonstrated that existing procedures and practice (through the work over many years of government agencies, local government and NGOs such as the National Trust) are compliant with its formal requirements. Government recognises however that implementation can be further strengthened, and this Action Plan sets out ways in which English Heritage will assist government in this task, particularly in recognising the connections between landscape and heritage and in recognising that landscape exists everywhere, in urban and maritime, as well as in rural, contexts.

National implementation of the Convention is led by Defra, the Department for Environment, Food and Rural Affairs. Defra convenes governmental UK and England co-ordination groups, and in England delegates its lead role to Natural England in the context of an overarching strategy — A Framework for Implementation in England — that was drawn up by Natural England and English Heritage. This is designed to frame more detailed action by government departments, agencies local authorities and other non-governmental bodies. In the first instance, Defra asked both English Heritage and Natural England to prepare Action Plans.
THE EUROPEAN LANDSCAPE CONVENTION

The Convention is the first international instrument to deal with the whole landscape, urban as much as rural, ordinary as much as special, marine as well as terrestrial, cultural as well as natural. English Heritage is already the leading actor for some of these aspects, notably but not exclusively in the urban field. The Convention’s underlying philosophy, and its democratic approach to both value and change, is attuned to the “Power of Place” and “Force for our Future” agenda, being focused on the connections between people and place and on the idea of ‘heritage everywhere’. It was taken into account in drawing up the English Heritage Conservation Principles (http://www.english-heritage.org.uk/server/show/nav.9181), which are in harmony with its core concepts, and it supports English Heritage’s overall philosophy of managing change constructively. It promotes landscape as a cultural issue – a matter of perception, an issue of shared common heritage, a ‘window’ through which people view their world – to be used to incorporate the historic environment into the future.

The Convention’s forward-looking approach is concerned with providing the highest quality landscape for future generations, by protecting special landscapes and by managing and enhancing all landscape everywhere. Its definition and scope encompass everyday and degraded landscape as well as outstanding or special areas. It does not offer an exclusively preservationist agenda, but sees that the essence of landscape is its living, changing character, and that landscape is dynamic both physically and in terms of perceptions and opinions. It is spatial planning, place-making and agricultural policy that are likely to be primary delivery mechanisms.

ENGLISH HERITAGE AND THE EUROPEAN LANDSCAPE CONVENTION

English Heritage already carries out a great deal of landscape work across the full spectrum of its activities, from strategy, policy, research and communications to planning, advisory and case work. The Landscape Convention provides us with a new opportunity to coordinate existing work, to present it more coherently and to new audiences and to develop new areas of activity. It will help to align our work more strongly with the work of other government and public bodies and to engage with wider policy areas issues, notably within Culture, Communities and Local Government and Defra agendas. We believe that the Convention offers a mechanism for delivering broad programmes designed to harness the historic environment to social and economic purpose (quality of life and quality of place for everyone) as well as supporting the sustainable management of the historic landscape as a goal in its own right.

Our Action Plan proposes ten broad areas for action over the next 5 years. Through its close correlation with our current Strategic Aims, we see the ELC as offering important opportunities to meet DCMS and English Heritage objectives. For example:

- We will use landscape as a forum for contributing to the management of change everywhere and for helping to shape future places. It gives us the opportunity to treat heritage as more than just the designated highlights but as the full context of peoples’ lives, thus expanding our engagement with new, broader and more diverse audiences.
- We will continue to work to strengthen the understanding, management and enhancement of the historic environment, notably through national programmes of Historic Landscape Characterisation (HLC) and the National Mapping Programme (NMP), and through other strategic programmes of research and investigation. In partnership with National Parks and AONBs we will in particular use the Convention to ensure that future ‘high quality landscape’ will include a legible past.
- We have particular expertise in urban, built and designed landscapes, and will continue to promote their understanding and appreciation, for example through our programme of urban and metropolitan Historic Landscape Characterisation projects, our Historic Area Assessments and our advice to the owners of designed landscapes and parks. We will specifically use the Convention to develop and encourage approaches which promote an integrated understanding of sub-urban, peri-urban and changing rural landscapes.
- We aim to use this Action Plan to promote more recognition of the historic dimension of landscape in the marine zone (for example in new legislation and procedures, and using our existing Historic Seascape work).
- We will use the Convention’s approach to landscape as an integrative concept to help to ensure that the historic environment continues to take its place within the wider environmental agenda, and we will define new high level objectives for urban and rural landscape that ensure the adequate recognition of the cultural character of landscape in public policy.
- We will share with others our expertise in landscape (urban and rural, at all levels, from archaeological landscape and architectural area survey to Historic Landscape Characterisation, from landscape management to new design). We will demonstrate the importance of clearly understanding landscape’s historic character for delivering informed management and public understanding and enjoyment.
THE ENGLISH HERITAGE ACTION PLAN 2008-2013

to support implementation of the European Landscape Convention

A ADHERING TO THE PHILOSOPHY
OF THE ELC (ELC ARTICLES 1 – 3)

1. Promote and explain English Heritage’s ELC-related work through:
a) high-level published statements demonstrating how the Heritage Protection and Conservation Principles match and deliver the aspirations of the ELC as set out in its Preamble.

b) a promotional publication aimed at a wide professional and public audience to showcase recent and current English Heritage landscape work and achievements

c) the promotion of understanding and use of ELC definitions and scope (Articles 1 and 2) across English Heritage, the heritage sector and English Heritage partners

B MEETING THE ELC’S GENERAL PROVISIONS
(ELC ARTICLES 4, 5 AND 6)

2. Be a centre of excellence for the historic dimension of landscape in town and country, and in the marine zone (policy and strategy formulation, research and outreach to monitoring, planning and management). Develop policy methods and practice to contribute to the understanding, protection, management and planning of landscape, building on our existing leadership in landscape survey, assessment and characterisation, and promote historic landscape in legislation, PPS and the policies of other organisations.

C CONTRIBUTING TO NATIONAL LANDSCAPE POLICIES (ELC ARTICLES 5 B –D)

3. Establish English Heritage policy position:
• define and publicise English Heritage’s high-level objectives, policies and actions for landscape, including but not restricted to protected areas;
• produce a landscape agreement with key partners.

4. Investigate ways to facilitate public participation in landscape, within the limits of available financial resources, either directly through local government partners, and including English Heritage engagement with NGOs for example representation on groups such as the ICOMOS/IUCN Landscape Group.

5. Encourage the integration of landscape approaches in all areas of government policy by lobbying, persuasion and example.

D IMPLEMENTING SPECIFIC MEASURES
FOR HISTORIC ASPECTS OF LANDSCAPE
(ELC ARTICLES 6A – D)

6. Awareness-raising – use the ELC as an opportunity and context to expand public initiatives to promote the historic environment at landscape level.

7. Training and education – integrate the ELC concept of landscape into English Heritage training and related initiatives.

8. Identification and assessment of landscape
  • complete and strengthen English Heritage landscape characterisation and related programmes, including integration with other English Heritage landscape-scale research
  • further develop monitoring of the state of the historic environment by developing the Heritage at Risk and other initiatives and integrate their results with wider landscape monitoring such as Countryside Quality Counts
  • work closely with Natural England to update the national ‘Landscape Character Areas’.

9. Investigate how to define Landscape Quality Objectives in terms of their historic value and character.

E EXPANDING OUR INFLUENCE BY WORKING WITH PARTNERS (ELC ARTICLES 3 – 5, 6E, 7 – 9, 11)

10. Aim to deliver the ELC’s aspirations for landscape (because it embraces all disciplines and interests) as an integrative force for interdisciplinary holistic collaboration:
• work with Defra & Natural England to deliver and monitor the England Implementation Framework and to contribute to UK co-ordination, including support for the UK ELC Landscape Award,
• collaborate with CLG on spatial planning and landscape, notably in urban and Housing Growth areas
• develop programmes to facilitate pan-European co-operation, through Council of Europe and EU networks, and in the context of the European Forum of Heritage Directors
• support capacity building to assist local government contribution to implementation
THE ENGLISH HERITAGE ACTION PLAN FOR THE EUROPEAN LANDSCAPE CONVENTION

The Action Plan takes its place alongside that of Natural England in the context of Defra's Framework for Implementing the Convention in England. It follows the structure of the Convention’s Articles but is selective in which aspects will receive priority in these early years to about 2013 or so. Principally, the Plan seeks to capitalise on English Heritage’s existing strengths in this field, to reflect our Strategic Aims and to support Defra’s aims. The choice of areas for action highlights the distinctive and in some cases unique contributions that English Heritage can make: to understanding (where we already have considerable body of expertise), capacity building and training (especially in the context of the post-HPR situation) and public participation (to build on our expertise in education and inclusion in the light of, for instance, Power of Place).

They are collated under five headings that follow the main Articles of the Convention itself:

A Adhering to the philosophy of the ELC
B Meeting the ELC’s General Provisions
C Contributing to national landscape policy
D Developing specific measures to promote the historic aspects of landscape
E Working with partners

They are also correlated with English Heritage’s Strategic Aims, and of course have a direct relationship to the five targets identified by Defra in its Framework for Implementation in England:

• Improving performance within the current legal and regulatory frame
• Influencing future legislation, regulation and advice
• Improving understanding of landscape character and dynamics, monitoring change and trends
• Engaging people (awareness and understanding activities, promotion, education & training)
• Sharing experiences and best practice.

If you would like this document in a different format, please contact our Customer Services department:

Telephone: 0870 333 1181
Fax: 01793 414926
Textphone: 01793 414878
E-mail: customers@english-heritage.org.uk

You can also download a copy from www.helm.org.uk

EQUALITIES IMPACT ASSESSMENT

Public bodies are legally required to ensure that their plans, policies and activities do not unfairly discriminate against a group protected by equalities legislation.

It is the responsibility of those public bodies for whom we provide advice to ensure that they have conducted any relevant Equalities Impact Assessment that may be required when implementing the advice of English Heritage.

FURTHER INFORMATION
Visit: www.helm.org.uk
www.english-heritage.org.uk/characterisation
http://www.defra.gov.uk

The full text of the Convention (with its Explanatory Memorandum and Operational Guidelines) can be found on the Council of Europe website at http://www.coe.int/t/dg4/cultureheritage/conventions/Landscape

There is a link from the following web page, which also includes related information: http://www.landscapecharacter.org.uk

Published by English Heritage February 2009.
Product Code: 51490
www.english-heritage.org.uk
Ms Hannah Pratt  
Planning Inspectorate  
3/20 Eagle Wing  
Temple Quay House (2 The Square)  
Temple Quay  
Bristol  
Avon  
BS1 6PN

Dear Ms Pratt

PROPOSED EAST ANGLIA THREE OFFSHORE WINDFARM EIA SCOPING OPINION. OFF SUFFOLK COAST.

Thank you for consulting us on the EIA Scoping Opinion for the proposed East Anglia Three offshore windfarm. We have reviewed the information and provided and offer the following comments for your consideration.

Offshore Impacts

Due to the distance from the shore we are unlikely to have any significant concerns regarding the offshore impacts of the proposed development. We note that the proposal is for East Anglia Three to connect in to the same offshore cable route as has been proposed for the East Anglia One windfarm. This approach should minimise offshore impacts.

Onshore Cable Route

We note that the proposal is for the East Anglia Three windfarm to use the same onshore cable route as has been proposed for East Anglia One and to lay their required cables at the same time. This approach is supported because it will reduce the environmental impact that would be associated with two separate routes.

We understand however that, as East Anglia One has not yet been approved, the EIA for the proposed East Anglia Three windfarm will consider the impacts in isolation from the other proposal. We again support this approach and have already agreed the scope of the EIA being undertaken for the East Anglia One project.

As a basis for their EIA, the applicant intends to use the relevant reports that have been undertaken to support the East Anglia One application. This approach is sensible, we would however highlight that we have not yet seen these reports and cannot therefore comment on their adequacy.
We trust that you find these comments useful. Should you wish to discuss this proposal further, please contact the Sustainable Places Team at planning.ipswich@environment-agency.gov.uk.

Yours sincerely

Miss Carrie Williams
Planning Liaison Officer

Direct dial 01473 706007
Direct fax 01473 271320
Direct e-mail carrie.williams@environment-agency.gov.uk
Dear Hannah,

INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2009 SI 2263 (as amended) (the EIA Regulations)
PROPOSED EAST ANGLIA THREE OFFSHORE WINDFARM (the project)
PROPOSAL BY EAST ANGLIA OFFSHORE WIND LIMITED (the applicant)

and

INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2009 SI 2263 (as amended) (the EIA Regulations)
PROPOSED EAST ANGLIA FOUR OFFSHORE WINDFARM (the project)
PROPOSAL BY EAST ANGLIA OFFSHORE WIND LIMITED (the applicant)

Further to your email communication to E S Pipelines Ltd, ESP Networks Ltd, ESP Pipelines Ltd, ESP Electricity Ltd and ESP Connections Ltd dated 15 November 2012 I can confirm that our businesses have no comments at this stage on either EA3 or EA4 scheme.

Regards,

Alan Slee
Operations Manager

DD 01372 227567
Mobile 07766 802070
Fax 01372 386203
www.espipelines.com

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From: Environmental Services [mailto:EnvironmentalServices@infrastructure.gsi.gov.uk]
Sent: 15 November 2012 14:28
To: Alan Slee
Subject: Scoping consultation: East Anglia THREE Offshore Wind Farm & East Anglia FOUR Offshore Wind Farm

Dear Sir or Madam

Please find attached scoping consultation letters regarding the following two projects:

- East Anglia THREE Offshore Wind Farm
- East Anglia FOUR Offshore Wind Farm

Kind regards

30/11/2012
Thank you for asking Fulcrum Pipelines Limited to examine your consultation document for the above project.

Fulcrum Pipelines Limited have no comments to make regarding either East Anglia THREE Offshore Wind Farm or East Anglia FOUR Offshore Wind Farm. Please note that we are constantly adding to our underground assets and would strongly advise that you consult us again prior to undertaking any excavations.

Please note that other gas transporters may have plant in this locality which could be affected by your proposed works.

We will always make every effort to help you where we can, but Fulcrum Pipelines Limited will not be held responsible for any incident or accident arising from the use of the information associated with this search. The details provided are given in good faith, but no liability whatsoever can be accepted in respect thereof.

If you need any help or information simply contact Graham Penlington directly on 01142 804175.

To save you time, any future requests for information about our plant, can be emailed to FPLplantprotection@fulcrum.co.uk

Kind Regards

Graham Penlington
Fulcrum Pipelines

Tel: 0114 280 4175
Email: graham.penlington@fulcrum.co.uk
Web: www.fulcrum.co.uk

Fulcrum TV LAUNCHED
Fulcrum TV, our new online informational resource is now available through our website. Learn more.
Centre for Radiation, Chemical and Environmental Hazards

FAO: Hannah Pratt
EIA and Land Rights Advisor
The Planning Inspectorate
3/18 Eagle Wing
Temple Quay House
2 The Square
BRISTOL BS1 6PN

23 November 2012

Your Ref: 121115_EN010056_1509871
Our Ref: EN_RN_WF_121115_192

Dear Hannah

INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2009 SI 2263 (as amended) (the EIA Regulations)
PROPOSED EAST ANGLIA THREE OFFSHORE WINDFARM (the project)
PROPOSAL BY EAST ANGLIA OFFSHORE WIND LIMITED (the applicant)

Thank you for your letter dated 15 November 2012 advising of East Anglia Off Shore Wind Limited's intention to make an application to the Planning Inspectorate for consent for the proposed East Anglia THREE Offshore Windfarm. We are responding to your request for a scoping opinion on the environmental statement.

The attached document sets out the Health Protection Agency's (HPA's) position in relation to Nationally Significant Infrastructure Project (NSIP) applications for new onshore and offshore wind farms under the Planning Act 2008. Also the role of the HPA in the IPC process and details of how relevant authorities and developers can consult with the agency on related issues are set out on the HPA website at http://www.hpa.org.uk/IPC).

Please do not hesitate to contact me if you require any clarification. In doing so, please send all correspondence to crce.ipcconsultations@hpa.org.uk to ensure we are able to deal with your queries efficiently.

Yours sincerely

[Redacted]

Dr. Jill Meara

Consultant in Health Protection/Deputy Director, Centre for Radiation, Chemical and Environmental Hazards (CRCE), Health Protection Agency

Encl. Planning Act 2008: HPA position in relation to applications for onshore and offshore wind farms
Planning Act 2008: HPA Position in Relation to Applications for Onshore and Offshore Wind Farms

This document sets out the Health Protection Agency’s (HPA’s) position in relation to Nationally Significant Infrastructure Project (NSIP) applications for new onshore and offshore wind farms under the Planning Act 2008. It is intended for the use of NSIP promoters and should be read in conjunction with the HPA’s external guidance. Promoters should refer to the HPA IPC web-pages (www.HPA.org.uk/IPC), which detail the protocol for interacting with the HPA. Electronic-format correspondence concerning NSIP applications should be directed to crce.ipcconsultations@hpa.org.uk

Background

The HPA is a statutory consultee at the pre-application and application stages for NSIPs “which are likely to involve chemicals, poisons or radiation which could potentially cause harm to people.” The HPA is also required to consider other related planning documents such as Environmental Impact Assessments (EIA), where these accompany a NSIP application.

The HPA response to NSIP consultations covers chemicals, non-ionising and ionising radiation. The HPA will not comment upon wider health determinants as these are outside the HPA’s remit as a statutory consultee. Promoters should ensure that they consult other health bodies: Strategic Health Authorities (SHAs), Primary Care Trusts (PCTs), and Health Boards (HBs) (in Wales) are statutory consultees to NSIP. Whist SHAs are directly named as a consultee for NSIP in the Regulations, PCTs and HBs come under the wider definition of “statutory undertakers.”

Wind farms: non-ionising radiation (power frequency electric and magnetic fields)

The HPA provides advice on standards of protection for exposure to non-ionising radiation, including the power frequency electric and magnetic fields associated with electricity power lines and associated equipment. A summary of this advice is provided as a separate annex to this document.

Wind farms: chemicals

At this point in time, there is no body of evidence conclusively linking wind farms with adverse health effects arising from emissions of chemicals.

When operational, wind generation should not produce emissions, pollutants, or waste products. Installations are therefore highly unlikely to lead to public health impacts associated with emissions of chemicals.

There is potential for impacts to arise during the construction and decommissioning phases from the transport of material and equipment (e.g. accidental leaks, spills, and releases). The movement of material off-site has the potential to lead to impacts, if not properly managed (e.g. associated with contaminated land or dredged sediment). The HPA would expect the applicant to adhere to best practice guidance during these phases and for them to ensure that potential impacts are assessed and minimised. Further HPA recommendations are outlined in the HPA’s EIA scoping response template (www.HPA.org.uk/IPC).

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Offshore wind farms are located out to sea, away from members of the public, hence the potential for the public to be affected by any emissions from them is very small. Where onshore wind farms are located near to people, there is evidence that they may be more likely to give rise to other environmental impacts. A brief outline is given in the section below. Note that this is intended to provide an overview and does not constitute a literature review or HPA opinion on these aspects.

**Wind farms: environmental aspects outside of the HPA’s remit as a consultee**

The most common concerns expressed, with regard to siting of wind turbines close to housing, are related to noise and shadow flicker (which occurs when the sun is at low-levels and the sunlight is intermittently blocked by the blades of the turbine, causing a flashing effect).

Government departments have published some information of relevance with respect to noise and other impacts[^3][^4]. It is important that promoters consult Local Authorities regarding potential nuisance impacts.

**Wind farms: summary of HPA requirements**

The HPA considers that the onus is on the applicant to conduct the assessment of compliance with the referenced advice and policy, and to gather and present the information clearly, leaving no additional analysis necessary on the part of the HPA. The assessment should be clearly laid out, either as an identified section of a report which can be read in isolation or as a separate report.

In respect of electromagnetic fields, compliance with the ICNIRP guidelines should be highlighted. If it is considered not practicable for compliance to be achieved at all locations accessible to the public, the report should provide a clear justification for this. The report should include an appropriate risk assessment showing that consideration has been given to mitigation measures for acute risks. In relation to possible long-term health effects and precaution, the report should include a summary of compliance with HPA advice and Government policy.

[^3]: Wind Power: 10 Myths Explained

Dear Ms Pratt,

29th November 2012

PROPOSED EAST ANGLIA THREE OFFSHORE WIND FARM (the project)
PROPOSAL BY EAST ANGLIA OFFSHORE WIND LIMITED (the applicant)
INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2009 SI 2263 (as amended) (the EIA Regulations)

Thank you for your letter of 15th November 2012 regarding the information to be provided in an environmental statement relating to the above project. The HSE does not have any comments on the EIA however there are some observations which it would seem sensible to pass on to East Anglia Offshore Wind Limited.

Major Hazard installations and explosives sites within the vicinity of the proposed development

Major Hazard Installations

The application site boundary has been determined by using the following drawings from the East Anglia THREE Offshore Windfarm Environmental Impact Assessment Scoping Report, November 2012:

- Drg. No. 6115-520-PA-002 Fig.1.2, dated 16/10/2012 Rev A: East Anglia Offshore Wind: Onshore Cable Route.
- Drg. No. 6115-520-PA-003 Fig.1.3, dated 16/10/2012 Rev A: East Anglia Offshore Wind: Onshore Cable Route (Landfall and Converter detail).
- Drg. No. 6115-520-PA-044 Fig 3.2 dated 16/10/2012 Rev A: East Anglia Offshore Wind: Roads in the Cable Route Vicinity.

Using the proposed onshore cable route and converter station site as shown in Drg. No. 6115-520-PA-002 Fig. 1.2 and Drg. No. 6115-520-PA-003 Fig. 1.3 respectively, the project does not fall within any of HSE’s Consultation Distances for Major Hazards sites. However the proposed preferred onshore cable corridor falls within five HSE Consultation Distances for Major Hazards Pipelines.

As the proposed development is potentially within the Consultation Distances of five of National Grid Gas pipelines, the applicant should consider contacting the pipeline operators before deciding the case. There are two particular reasons for this:

- The operator may have a legal interest in the vicinity of the pipeline. This may restrict certain developments within a certain proximity of the pipeline.
- The standards to which the pipeline is designed and operated may restrict occupied buildings or major traffic routes within a certain proximity of the pipeline. Consequently there may be a need for the operator to modify the pipeline, or its operation, if the development proceeds.
Only the onshore area indicated in Drg Nos: 6115-520-PA-002; 6115-520-PA-003; 6115-520-PA-044 have been reviewed as part of the land-use planning consultation under section 9. Offshore operations are not considered as part of land-use planning but are covered by other consultation bodies.

There is no information in the report to determine the number of people or if any new workplaces will be constructed as part of this project. Therefore, a workplace containing fewer than 100 people in each building and fewer than 3 occupied storeys per building has been assumed for the purposes of this assessment. If final proposals differ from these assumptions, a revised assessment would be required which may affect the advice from HSE. On the basis of this assumption, it is unlikely that HSE would advise against the proposal. We might need to review our position on the basis of a fresh assessment of the data available when a formal application is referred to us.

Please note that the above advice is based on HSE’s existing policy for providing land-use planning advice and the information which has been provided. HSE’s advice in response to a subsequent application may differ should HSE’s policy or the developments have changed by the time the formal application is submitted. When further details are known, HSE should be consulted about proposals within the consultation zones, but in summary it is unlikely that HSE would advise against the proposed development.

Hazardous Substances Consent (HSC)

Any site that wants to hold certain quantities of Hazardous Substances must obtain consent from the Hazardous Substances Authority (HSA), in accordance with the Planning (Hazardous Substances) (Amendment) (England) Regulations 2010.

Hazardous Substances consent would be required if the site are intending to store or use any of the Named Hazardous Substances or Categories of Substances & Preparations at or above the controlled quantities set out in Schedule 1 of the Regulations.

The East Anglia Three Offshore Windfarm Environmental Impact Assessment Scoping Report November 2012, does not make reference to the storage of substances. However for the purposes of this review the applicant should determine whether storage of hazardous substances is required and therefore whether consent would be required. I.e. check if any of the named substances in Part A of the Schedule are present at or above the specified controlled quantities. If they are then an application is required for a Hazardous Substances Consent. In many cases the substances present may not be included in Part A; but they may fall within one or more of the categories of substances & preparations specified in Part B of the Regulations. If that is the case and they are present at or above the controlled quantity, then an application would be required.

Consent might also be required for the presence of hazardous substances even though the amount present is below their controlled quantity. This may happen because substances within the same generic category that have similar hazardous characteristics are added together, according to an addition rule, to determine whether consent is required for some or all of them. Basically, the quantities present are expressed as fractions of their controlled quantities and added together following the note in Schedule 1 of the Regulations. If the sum equals or exceeds 1, then consent is needed for each of the substances included in the addition.

In summary, as the Environmental Impact Assessment Report does not at this point provide sufficient detail about any hazardous substance inventory the Applicant should consider the requirement for a new Hazardous Substance Consent.

Explosives sites

The proposed East Anglia Three Offshore Wind farm does not impinge on the separation distances of any explosives site licensed by HSE.

Electrical Safety

These projects may create or have an impact on existing generation, transmission and distribution assets. They need to satisfy general UK health and safety legislation (i.e. Health and Safety at Work etc Act 1974 and supporting regulations), and the proposed design and future operations must comply with the Electricity at
Work Regulations 1989 and Electrical Safety, Quality and Continuity Regulations 2002, as amended. Generators, distributors, their contractors and others have defined duties in order to protect members of the public from the dangers posed by the electrical equipment used. HSE enforces the safety aspects of these regulations. If you have any doubts about the particular application of these regulations in terms of either the operation or construction of substations, overhead lines or underground cables, please contact Mr J C Steed, Principal Specialist Inspector (Electrical Networks), either at john.steed@hse.gsi.gov.uk or Rose Court GSW, 2 Southwark Bridge Road, London SE1 9HS.

Please send any further electronic communication on this project directly to the HSE’s designated e-mail account for NSIP applications, the details of which can be found at the top of this letter. Alternatively any hard copy correspondence should be sent to:

Miss Laura Evans
NSIP Consultations
5.S.2 Redgrave Court
Merton Road
Bootle
Merseyside
L20 7HS

Yours sincerely,

[Redacted]
Laura Evans
HID Policy - Land Use Planning
Dear Ms Nelson and Ms Pratt

TWO PRE-APPLICATIONS 121115_EN010056_1509871 AND 121115_EN010057_1509871
PROPOSED EAST ANGLIA THREE & FOUR OFFSHORE WIND FARMS
PROPOSAL BY SCOTTISH POWER RENEWABLES

Thank you for your two letters dated 15 November 2012 addressed to Steve Edwards, notifying the Highways Agency of the above and requesting any comments on the content of the proposed environmental statement by 13 December. Your letter has been passed to me for reply as I have responsibilities for spatial planning matters in Norfolk and Suffolk.

The Highways Agency is responsible for managing the trunk road network, which includes ensuring that in the event of any development proposals it can continue to operate in an efficient and safe manner.

The proposed East Anglia Offshore Wind Project is unlikely to have a material impact on the trunk road network once it has been commissioned and is in use.

In respect to the construction phase of the project, there is potentially an impact on the trunk road in relation to:

- Construction traffic using the trunk road to access those areas where materials are to be transferred to the construction site (both onshore and offshore)
- Disruption due to construction works in the event there are any proposed cabling works near the trunk road, required to connect the proposed project to the national grid.
I suspect these matters may not be significant but it would be useful if the environmental statement at the very least makes reference as to if there is likely to be an issue. If the developer considers there will be an impact, the Highways Agency would be happy to work with the applicant on agreeing the extent of the impact and if any mitigation is required.

If you require any further information, please let me know.

Yours sincerely

Mark Norman
NDD East Asset Delivery Team
Email: Mark.Norman@highways.gsi.gov.uk
By email only: environmentalservices@infrastructure.gsi.gov.uk

Dear Secretary of State

INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2009 SI 2263 (as amended) (the EIA Regulations)
PROPOSED EAST ANGLIA THREE & FOUR OFFSHORE WINDFARM (the project)
PROPOSAL BY EAST ANGLIA OFFSHORE WIND LIMITED (the applicant)

Thank you for requesting our advice on the East Anglia Three and Four Environmental Impact Assessment Scoping Reports. In this response we present combined scoping advice in relation to both consultations on behalf of the Statutory Nature Conservation Bodies (SNCBs); the Joint Nature Conservation Committee (JNCC) and Natural England.

Background

The East Anglia THREE Offshore Windfarm Project (East Anglia THREE) and East Anglia FOUR Offshore Windfarm Project (East Anglia FOUR) comprise the next stage of development within the East Anglia Round 3 Zone. Consenting these projects will be progressed in parallel, however, they will be subject to separate DCO applications and will each require separate Environmental Impact Assessments (EIA).

Both of the proposed projects would comprise offshore wind turbines and offshore and onshore export cables taking power to an onshore converter station. The East Anglia THREE site is approximately 79km from its central point; and East Anglia FOUR site approximately 91km from its central point, to the port of Lowestoft. Both projects will utilise a portion of the offshore cable route identified for East Anglia ONE as well as the same landfall and entire length of the onshore cable route to Bramford substation in Suffolk, where the project is proposed to connect to the National Grid.
EAOW intends to submit the DCO applications for both projects to the Planning Inspectorate in the summer of 2014. The DCO application will be accompanied by an Environmental Statement (ES) which will present the results of the EIA.

It is important to note that many of the issues pertinent to this application are likely to be similar to those currently under scrutiny in relation to the East Anglia ONE Environmental Impact Assessment (EIA) and Environmental Statement (ES) currently undergoing acceptance by PINS. We therefore strongly advise that due consideration is given to SNCB advice that has been and is currently being provided in relation to this development and associated environmental impacts.

**General Approach to EIA**

It is relevant at this point to clarify the aims of EIA, in order to frame our advice on how it should be undertaken appropriately. EIA is a statutory process which should highlight the potential positive and negative impacts of a project, and identify how effects can be prevented, offset or reduced through mitigation, enabling the regulator to make a decision on whether to consent. For complex and large-scale development proposals the EIA process may not be straightforward, and we highlight that there may be opportunities to improve its practice.

In respect of offshore wind farm development, it is important to highlight the much larger scale and geographic spread of Round 3 compared to Rounds 1 and 2 of development. Therefore, while lessons are being learned from Rounds 1 and 2 sites, there is the potential for a different range and / or a greater level of impacts to arise from Round 3 development particularly in relation to cumulative impacts. Also, Round 3 projects are further offshore in areas where data is lacking in comparison to earlier rounds. Consequently, considering the levels of uncertainty that this introduces to the EIA process we advise that the EIA is undertaken in the context of risk management. We identify the need to consider what level of confidence in the data it will be realistically possible to achieve, and how this will be presented to enable conclusions to be reached. The applicant should, therefore, be able to communicate, in their Environmental Statement, the confidence in their predictions on potential impacts.

Whilst we appreciate the EAOW’s intention to identify appropriate mitigation for the impacts predicted to occur as a result of East Anglia THREE and FOUR we highlight that this development is still constrained by the fixed limits of the zone and, therefore, mitigation is also restricted within this area i.e. the relocation of development away from sensitive areas is limited. We highlight that whilst appropriate mitigation measures may be identified in relation to project design, for some receptors more radical mitigation measures may require consideration such as the potential to reduce the number of turbines or to phase development to allow for uncertainties in data and impacts to be addressed. We would welcome the opportunity to discuss these options as the application progresses.
Finally, we note that EIA should consider the environment holistically, and not as a discrete set of individually sensitive receptors. Within the scoping report, EAOW have made a number of suggestions regarding assessment that could be undertaken to help us understand the ecosystem linkages between receptors, and to determine how impacts on one receptor may influence others, such as impacts to fish which may be important as prey species for birds and marine mammals. We consider that such inter-relationships are likely to be key in interpreting the environmental impacts of Round 3 development and we therefore welcome the applicant’s intention to integrate these aspects as part of the EIA process.

Pre-Application Consultation

JNCC and Natural England recognise the importance of the pre-application stage of the PINS consenting regime and as such seek to make this process as effective as possible. We are pleased to note that EAOW have applied to the Major Infrastructure Environment Unit to agree an Evidence Plan and that engagement on this will initiate in January 2013. In addition to this, we request that EAOW engage with the SNCBs at an early stage to agree an outline schedule for consultation to enable the provision of advice at the most appropriate juncture and on timescales appropriate to all organisations.

In summary, we recognise the time constraints that the developer is under places pressure on the pre-application process, however, insufficient time to deal with key environmental concerns prior to submission of the application poses a risk to the development and we encourage the developer to engage with us to address them.

Scoping Opinion

We recognise that it is a statutory requirement for developers to undertake consultation on a Scoping Report. On review of the reports submitted by EAOW pertaining to East Anglia THREE and FOUR, we note that the information and detail provided is limited and is focussed on the high-level of aims of the EIA. We would welcome further information pertaining to the specific survey methodologies to be adopted for assessment of impacts on each receptor and for a preliminary assessment of key potential impacts associated with the development. For example, in relation to Ornithological receptors, data collected for the purposes of the completed ZAP and available information on foraging ranges, could be used to present a preliminary assessment of key species to enable an early focus on potential consenting risks. We anticipate discussing this level of detail during the preparation of Evidence Plans for the projects.
Section 42: Preliminary Environmental Information (PEI)

It is the view of JNCC and Natural England that the most appropriate form for a PEI to adopt is that of a draft Environmental Statement (ES). This would reassure the SNCBs, and other key stakeholders, that the developer’s approach to EIA is appropriate and to allow time for areas of concern to be raised and resolved prior to submission of the final ES to PINS. This is an important stage as, unlike previous consenting processes, it is not possible to make changes to an application post-submission. It is, therefore, sensible to maximise the opportunities in pre-application for open and constructive dialogue, to reduce the risk of an application being rejected by PINS. It is also our experience that if too many issues are left unresolved at application then this causes increased pressure for all involved during the Examination process. As such we would expect emphasis on effective pre-application engagement between the developer and the SNCBs, and the PEI to present sufficient detail such that an assessment of EAOW's approach to EIA can be identified.

Habitats Regulations Assessment (HRA)

It is the view of JNCC and Natural England that HRA is an important component in assessing the environmental effects of a development and that it is most usefully and robustly conducted alongside the EIA process.

Further Liaison and Advice

The East Anglia Zone lies in relative proximity to other Round 3 Zones currently pursuing development consent for the phased development of large scale wind arrays, within the North Sea. These include, The Dogger Bank and Hornsea. We would strongly recommend that collaborative working is pursued with these other zones who are likely to be facing the same consenting risks. We recognise the value of collaborative working particularly in relation to cumulative impacts. We strongly support any initiatives to pursue collaborative working and are happy to engage in any such projects that EAOW may progress.

In addition to this, the further development of offshore wind farms presents an opportunity to learn from previous development and to further refine survey and monitoring methods to ensure that the practicality and effectiveness of methods employed means that key data gaps are addressed. There is, therefore, a role for consenting authorities, developers and consultees to increase the understanding of the effects of offshore wind farms as well as securing best practice in further developments.

Discretionary Advisory Service (DAS)

Natural England has recognised that developers and consultants are at times looking to us to provide a level of service that is not sustainable within our current resources. To address this, we are planning to introduce a new Discretionary Advisory Service (DAS) from January 2013, to provide non-statutory advice related to planning proposals, supported by the introduction of charges. In doing so, our aim will be to offer improved customer service, support sustainable development and achieve better environmental outcomes through the planning system.
DAS will provide the developer with the following:

- Initial Advice on the case at no charge
- The opportunity to access continued advice around statutory conservation issues, on a charged basis
- A main adviser contact for all pre-app advice
- Agreed timescales for responding to developer needs.

If Scottish Power is interested, we would need to begin the process by understanding what service is required from Natural England. The first step is to fill out a simple form, so we can register Scottish Power’s interest. Please visit our website for more information and a downloadable request form here.

Key Environmental Issues
We provide our advice in relation to the scoping report in the Annexes 1-3.

Our key concerns are as follows and we consider that these issues will need thorough consideration through EIA and close discussion between EAOW, JNCC, Natural England and where possible the regulators and Marine Management Organisation (MMO):

- The potential effects of this development proposal on birds during all phases of development encompassing displacement, indirect effects (through impacts on prey species) and collision mortality – both at a project-level and cumulatively.
- Potential effects on marine mammals from noise during construction – both at a project-level and cumulatively.

If you have any questions regarding the above comments or want to discuss further any of the issues we have raised please contact - Holly Niner holly.niner@jncc.gov.uk at JNCC; and Claire Ludgate claire.ludgate@naturalengland.org.uk at Natural England.

Yours sincerely

Holly Niner                  Claire Ludgate
Offshore Industries Advisor  Lead Advisor - Marine

On behalf of:                 On behalf of:

[Logos of JNCC and Natural England]
ANNEX 1: INTRODUCTION (Chapter 1)

EIA Methodology

Defining Magnitude of Impact and Sensitivity of Receptor

190-195: It is proposed to assess impacts associated with the construction, operation and decommissioning of East Anglia THREE and FOUR by identifying the sensitivity of each receptor and the magnitude of each effect and combining both metrics together through a matrix analysis to determine impact significance. Effect magnitude will be defined via the extent, duration, frequency and change relative to the baseline, and receptor sensitivity will be determined through the adaptability/tolerance, recoverability and value/importance of each receptor.

We advise that the ES should include a clear description of how each of the categories for extent, duration and frequency are defined and similarly for the sensitivity categories of vulnerability, recoverability and value. The ES should also include a description of how the various combinations of frequency, duration, extent and reversibility of effects have been combined to reach the final prediction of effect magnitude. Similarly, a discussion should be included as to how the various combinations of receptor sensitivity, probability of interaction and magnitude of effect have been combined to reach the final determination of impact significance.

The magnitude and sensitivity scores which contribute to the final impact assessment should be presented for each of the receptors included in the assessment. This should be supported by appropriate references to scientific literature. Where conclusions are based on expert judgements this should be clearly described and discussed in the text. This would add confidence in the validity of the determinations and any subjective decisions or professional judgements based on experience that are made by the applicant are transparent and clear. Furthermore, we highlight the importance and difficulty of establishing the uncertainty associated with data. The level of uncertainty/confidence associated with each significance assessment should be discussed based on the nature of evidence used and how this evidence was used to determine impact significance.

There might be effects or receptors for which the proposed assessment approach may not be suitable. This should be assessed on an effect/receptor basis. Where a different approach is chosen this should be clearly justified and the approach fully explained within the application.

Evaluation of Significance

196: Within the ES, impacts should be quantified, where reasonable to do so, and discussed alongside qualitative information to present the most accurate conclusion of risk to that particular receptor. In some cases, impacts are likely to have more quantified estimates and it is advised that this detail is incorporated into the application, with reference to any studies or expert judgements undertaken. Again, it is important that there is detailed presentation of the uncertainty associated with any quantitative estimates to establish confidence in conclusions drawn.
Mitigation

1.4.3.5: We highlight that in the worst case situation, mitigation of the project may be required and as such the potential for this should be considered within the ES.

Cumulative Impacts

We welcome EAOW’s intention to agree the approach to cumulative impact assessment (CIA) with the SNCBs among other consultees. This will form an important component in assessing the true potential impacts of the development of these two projects.

1.3.3.4 Offshore Electrical Infrastructure

The potential requirement for scour and cable protection should be discussed alongside the impacts associated with inter-array cabling strategies. Burial is JNCC and Natural England’s preferred method of cable protection. If scour/cable protection is to be used the EIA should outline a clear justification for the quantity and area to be covered, in addition to the total area of seabed likely to be smothered as a result of the deposition of hard substrata should be presented. The EIA should display that alternative protection measures have been thoroughly investigated, not just rock armouring, mattressing and grout bags.
ANNEX 2: OFFSHORE (Chapter 2)

Please note that paragraph numbers correspond to the East Anglia THREE Scoping Report, however all comments relate to both projects.

Physical Environment

Water Quality

The data presented in support of this chapter is 20 years old (circa 1992), where available more recent data should be used to inform the assessment.

We note that EAOW intend to scope the potential for ‘re-mobilisation of contaminated sediments’ from further consideration. We advise that more information to support EAOW’s conclusion that no pathway for release of contaminants or associated impact on water quality during construction activities should be presented.

Biological Environment

Benthic Ecology

272: The primary surveys used to characterise the areas to be effected by the development of East Anglia THREE and FOUR were undertaken between June 2010 and January 2011 and between August 2010 and January 2011 along the cable route. We note that the potential for *Sabellaria spinulosa* has been identified through the analysis of this data. With the project being submitted for examination by PINS in 2014, the data at this point will be over 4 years old. We advise that owing to the ephemeral nature of *S.spinulosa* the age of this data is likely to result in reduced confidence in conclusions relating to the presence/absence of Annex I reef in these areas. We advise that the requirement for further survey should be explored and we would be happy to discuss this further with EAOW.

290: It is highlighted that within both project areas the potential for Annex I sandbank habitat has been identified. We advise that the assessment of the potential for this habitat and any potential impacts should be explicitly presented within the ES.

292: When designing surveys we advise that grab sample and video/still imagery sampling sites are located with reference to geophysical data. The use of previously collected remote sensing data makes for effective benthic ecology survey as it enables better direct sampling effort. Reduction of variability across the site by stratifying in relation to habitat type has the potential not only to increase confidence in mapping but also reduce sampling effort by sampling within boundary areas between apparently different habitats.

We also advise that geophysical data collected in areas of potential Annex I habitat is undertaken such that it enables a meaningful estimate of the coverage of the potential Annex I habitat in the area and to be effected as a result of development.

294: We note that no evidence of other types of reef (e.g. cobble reef or mussel beds) was found during the benthic survey. Again, we highlight that scoping out of the potential for any Annex I habitat should be explicitly presented within the ES.
**Potential impacts during operation**

307: An assessment of the amount of potential maintenance work likely to be required across the lifetime of the development should be presented within the Environmental Statement. This should also include the likely maintenance requirements associated with all project cabling, including inter-array cabling. Such an assessment could be informed by the experiences at other constructed wind farm developments which, whilst unlikely to represent directly comparable results, should enable a more informed assessment of maintenance requirements. These requirements, as assessed, should then be tied to the associated potential environmental impact such as associated benthic impact as a result of a need for increased protection or stabilisation material.

**Summary of potential impacts**

317: EAOW consider that the expected impacts on benthic habitat will be “... small scale, localised and temporary” and that impacts to any Annex I habitat will be reduced through “micro-siting”. We advise that the limitations of micro-siting in terms of distances within which micro-siting can occur should be discussed and included in any assessment of significance.

**Approach to data gathering and assessment**

We advise the consultation with JNCC and Natural England on any scope of works has been limited. We would welcome further and more details consultation on survey methodologies to be employed as part of the Evidence Plan process.

**Marine Mammals**

We note that additional data in relation to marine mammals is planned to be collected through incidental recordings of marine mammal sightings during survey for birds using the site. We would welcome further engagement on the confidence of data that will arise through this methodology. We refer the developer to various streams of work that may be helpful when assessing impacts, and consequently informing the requirements of the EPS licensing process, on marine mammals, including the relevant Offshore Renewables Joint Industry Projects (ORJIP) currently undergoing definition, Population Consequences of Disturbance (PCoD) and the Joint Cetacean Protocol (JCP).

362: The effects of displacement and potential barrier effects as a result of noise emitted during the construction period should be considered.

364: We feel that it is more important and more relevant to consider impacts to marine mammals on a cumulative scale, particularly for these projects that are following on from previous development in the zone.

**Ornithology**

As highlighted previously in this response, many of the issues pertinent to the development of East Anglia THREE and FOUR will be similar to those assessed as part of the EIA for East Anglia ONE. Whilst we recognise that the EIA for East Anglia THREE and FOUR will have its inherent differences to East Anglia ONE, we refer you to ongoing and previous discussions held with JNCC and Natural England in relation to the key environmental issues.
In particular, we highlight the following areas that currently undergoing discussion:

1. **Use of matrices for assessment**
   We advise that whilst matrices can be usefully employed they should not be the only or main tool used to describe and assess impact. In addition, the definition of “sensitivity” and “magnitude” requires careful interpretation.

2. **Displacement of birds**
   We advise that consideration of the potential displacement of bird species from the area of development required careful consideration. We highlight that this may be usefully approached as a joint project with other East Coast Wind Farms. We would welcome further and early discussion on this point.

3. **Identification of sensitive species**
   We would welcome early engagement on the approach adopted to identify sensitive species.

4. **HRA – screening**
   Consideration of the connectivity of birds identified as using the development sites to SPA sites beyond the breeding season requires careful consideration.

5. **In-combination assessment**
   Whilst we recognise the inherent difficulties in undertaking such assessments, they form a key step in the assessing of impacts, as many of the impacts pathways that require assessment are only meaningfully assessed at this level. Again, we would welcome early engagement on the approach to be adopted to this by EAOW.

392: We note that the six species or groups presented in this Scoping Report are limited to those for which sufficient data were available to undertake robust modelling.

**Mitigation**

418: As previously highlighted the potential requirement for project level mitigation should be considered in the worst case.

In addition to the comments outlined above, we highlight that JNCC and Natural England are currently working together to develop a number of joint advice notes to guide developers in their approach to assessing key issues. We will keep EAOW updated as to when these advice notes are likely to become available.
ANNEX 3: ONSHORE (Chapter 3)

Natural England believes that the information provided within the scoping documents for the landfall and onshore elements of East Anglia 3 and 4 is reasonable. However, we also note that the landfall and cable routes for East Anglia 3 and 4 are the same as that for East Anglia ONE. Therefore we advise that our pre application advice and subsequent written representation expected Spring 2013 should be taken into consideration when undertaking surveys, data analysis and identifying mitigation measures. In addition to this it would be beneficial where possible for works to be undertaken for all 3 projects at the same time to minimise the potential impacts to the natural environment.
Thank you for your two letters of 15 November 2012, Ref 121115_EN010056_1509871 and Ref 121115_EN010057_1509871. This is a response to both letters.

The Council agrees it is a consultation body. The Council objects strongly to the proposed route within Little Bealings and will pursue its objection in due course.

The Council considers that the EIAs should include:

1 Attached is a report prepared by the applicant for our Council in respect of an alternative route for the cabling, referred to as AOA. The EIA should include full assessment of the comparative impacts of AOA versus the applicant's preferred cabling corridor, with AOA amended to avoid Queech Wood. The relevance of reference to ESA schemes to any corridor is doubted as the last of these finish in 2014. If comparison of the impact on land within Environmental Stewardship schemes is valid, this needs detailed examination of the type/extent of scheme in place in each location.

2 Comprehensive assessment of the comparative impacts of HDD vs OCC for crossing Lodge Road

3 Comprehensive assessment of tree and hedge loss in the parish and whether temporary or permanent

4 Comprehensive assessment of the impact of traffic in the parish, including type of traffic movements, length and frequency, and temporary or permanent changes to any junctions and road widening and loss of verges.

Yours faithfully

Carol Ramsden
Clerk to Lt Bealings Parish Council

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Table of Contents

1 Executive Summary 4

2 Introduction 6
2.1 Background 6
2.2 Purpose of this Document 6

3 High Level Route Selection 11
3.1 Introduction 11
3.2 Route Selection Overview 11
3.3 Landfall Selection 13
3.3.2 Landfall south of Harwich, near Little Oakley 13
3.3.3 Landfall at Felixstowe 14
3.3.4 Stour or Orwell Estuaries 14
3.4 Crossing of the Orwell 14
3.5 Route Options North of Ipswich 15

4 Bealings Area 17
4.1 Consultation on the Cable Route 17
4.2 Consultation Responses from Little Bealings and Great Bealings 17
4.3 Scope of Study & Methodology 18
4.4 Results of Study 19

5 Impacts and Mitigations 23

6 Next Steps 25
6.2 Information Report and Public Information Days 25
6.3 Submission of DCO application and Examination Process 25
Appendices

Appendix A  PEIR – Volume 1: Chapter 6

Appendix B  Routing Alternatives Study
Chapter 1
Executive Summary
Executive Summary

1 East Anglia Offshore Wind (EAOW) has been through a thorough route selection process. This has resulted in a cable route which minimises impacts on the human, biological and physical environment.

2 In response to feedback from the communities of Little Bealings and Great Bealings, EAOW has commissioned a review of the route options around these villages. This review has concluded that the cable route which runs between Little Bealings and Great Bealings is preferable to alternative routes in the area.

3 EAOW is progressing detailed technical work in order to define construction methodologies for the cable route. The results of this work will be reported on in Part 2 of East Anglia’s Phase 2 Consultation. The impacts of these construction methodologies will be reported on within the project Environmental Statement (ES).
Chapter 2

Introduction
2 **Introduction**

2.1 **Background**

1 East Anglia Offshore Wind Limited (EAOW) has been awarded a licence by The Crown Estate to develop approximately 7,200MW of wind capacity off the coast of East Anglia, known as the East Anglia Zone, under the Round 3 Offshore Wind Licensing Arrangements.

2 The Zone will be developed as a number of individual windfarms, each dependent on securing the statutory consents and approvals. The first windfarm is proposed in an area within the south of the Zone and is known as East Anglia ONE (see Figure 1.1). EAOW have signed a grid connection agreement for 3.6GW of this zonal capacity (i.e. three projects) to connect into the transmission network at Bramford in Suffolk.

3 EAOW intends to submit an application for a Development Consent Order (DCO) for East Anglia ONE to the National Infrastructure Directorate (NID) in 2012. The DCO application will include the offshore windfarm as well as associated development deemed necessary for its construction and operation.

4 In order to reduce the issue of construction disturbance, and in response to consultation feedback, the East Anglia ONE application will also include the ducting necessary to connect two future projects within the East Anglia Zone to the national transmission system at Bramford.

5 The DCO will be accompanied by an Environmental Statement (ES) which will present the results of the Environmental Impact Assessment (EIA) for the project.

6 For further information on the East Anglia ONE, please see [www.eastangliawind.com](http://www.eastangliawind.com). A Preliminary Environmental Information Report (PEIR) was produced in February 2012, and is a useful reference for further details on the East Anglia ONE project. Chapter 6 of Volume 1 of the PEIR, is of particular interest in this regard, and is appended to this Report.

2.2 **Purpose of this Document**

7 This document deals with the route of the onshore electrical transmission works associated with the East Anglia ONE project. The report has three aims:
• to summarise the rationale behind the selection of the proposed route north of Ipswich
• to outline the rationale behind the selection of the proposed route in the Bealings area, and
• to indicate the next steps for design of the electrical transmission works.

8 This document was produced in response to concerns highlighted by the parishes of Little Bealings and Great Bealings during Phase 2 (Part 1) of community consultation on the East Anglia ONE project.
Chapter 3
High Level Route Selection
3 High Level Route Selection

3.1 Introduction

1 A connection offer was received from National Grid in August 2010 which named Bramford, Suffolk, as the connection point for East Anglia ONE. Following the allocation of this connection location, an exercise was undertaken in order to define a proposed route for onshore electrical works associated with the East Anglia ONE project (and, subsequently, ducts for future projects).

2 The detail of this route selection exercise is explained in the East Anglia One PEIR (Volume 1: Introduction). This chapter pulls out key details from the PEIR in order to highlight specifically the rationale for the selection of the proposed route north of Ipswich.

3 The chapter considers:

- General principles of route selection process
- Reasons for the landfall at Bawdsey
- Reasons for the route North of Ipswich
- Reasons for the route options at Woodbridge.

4 The current Prefered Onshore Cable Route is shown in Figure 3.1.

3.2 Route Selection Overview

5 The route selection exercise has been an iterative process of reviewing constraints in order to create a successively narrower route. After the identification of the grid connection point at Bramford, Suffolk, and a definition of a high level redline boundary, the process of cable route selection was led through the following stages:

1. Definition of Indicative Cable Corridor Area
2. Definition of Onshore Area of Search
3. Definition of Preferred Onshore Cable Route
4. Definition of Preferred Onshore Cable Corridor

6 Each stage has involved consultation, review of environmental constraints and review of engineering feasibility. More detail on each of the steps is available in the East Anglia ONE PEIR (Volume 1: Introduction). At a high level, the following were key factors throughout the route selection process:
• The route onshore should be kept as short as practicable  
• The route should be kept straight, where practicable  
• Settlements should be avoided where possible  
• Key international and national environmental constraints\(^1\) should be avoided  
• Key local environmental constraints (e.g. areas of mature woodland) should be avoided where possible  
• Major services (e.g. gas pipelines and transmission circuits) should be routed around where possible  
• Potential impacts on services and road users during construction should be minimised.

### 3.3 Landfall Selection

7 After identification of the Indicative Cable Corridor Area (ICCA), a review was undertaken of the whole ICCA in order to highlight areas of least environmental constraint for landfalls.

8 Three potential landfall points were identified: at Bawdsey (between the Martello Tower and Bawdsey Manor); between Felixstowe and Felixstowe Ferry; and south of Harwich near Little Oakley. During this process, the option of routing the cables up the Stour, Orwell or Deben Estuaries was also considered.

9 The following sections describe the reasons for ruling out each of the above options in favour of the proposed landfall at Bawdsey.

#### 3.3.2 Landfall south of Harwich, near Little Oakley

10 This landfall was ruled out during the definition of the Onshore Area of Search. A review of constraints within the ICCA, and consultation with Harwich Harbour Authority, indicated that this landfall should be ruled out on the following grounds:

- The shipping channel into Harwich Harbour is extremely busy with commercial shipping and is regularly dredged, thus forming a barrier to cable laying.

\(^1\) These include: National Parks, Areas of Outstanding Natural Beauty, World Heritage Sites, Sites of Special Scientific Interest, RAMSAR sites, Special Areas of Conservation, Special Protection Areas, National Nature Reserves, Scheduled Monuments and Registered Parks and Gardens.
• There are plans for a major port development at Bathside Bay on the River Stour. There would therefore need to be guarantees that there would be no disruption to port operations during construction or operation of the cables.
• The River Stour is dredged as far as Parkeston Quay, forming a barrier to cable laying at appropriate depth.

11 As a result of these constraints, the landfall close to Little Oakley, south of Harwich, was discounted and the Onshore Area of Search was amended to follow the Essex/Suffolk border.

3.3.3 Landfall at Felixstowe

12 This landfall was ruled out during the definition of the Preferred Onshore Cable Corridor. A Landfall Report was commissioned, to compare the Felixstowe and Bawdsey landfall options. It concluded that the Felixstowe landfall should be ruled out on the grounds that:

• the only landfall sufficient to accommodate up to three projects from the East Anglia Zone was Bawdsey
• the sea off the Bawdsey landfall is relatively sheltered in comparison with the strong tidal movement around the mouth of the Deben close to the Felixstowe Ferry landfall
• fewer commercial activities are affected at the landfall at Bawdsey, and
• there is a species-rich wet grassland designated as a County Wildlife Site at the Felixstowe Ferry landfall.

3.3.4 Stour or Orwell Estuaries

13 A high level assessment of the installation challenges associated with the cabling up the Orwell, Stour and Deben estuaries was commissioned by EAOW. This report concluded that cable routeing through these estuaries was not recommended due to environmental designations (Deben, Orwell and Stour) and conflicts with harbour requirements.

14 The conflicts around harbour requirements stemmed from the presence of commercial traffic and dredged channels in the Orwell and Stour, and conflicts with established tourist activity, particularly yacht moorings, in the Orwell and Deben. The width of the channels of all estuaries was also considered unsuitable for multiple parallel cable installations.

3.4 Crossing of the Orwell
15 During the definition of the Preferred Onshore Cable Route, the decision was made to rule out the crossing of the cable route through the Orwell River. A high level constraints review of the ICCA had indicated that there were two possible crossing points on the Orwell: one at Wade’s Lane, and one at the Orwell Bridge.

16 On further detailed review, the crossing at Wade’s Lane was discounted due to technical reasons. The crossing of the Orwell at this location was unlikely to be feasible given the length of the crossing, and also because of Environment Agency proposals to flood parts of this area to create new intertidal habitat.

17 The alternative crossing point of the Orwell at the Orwell Bridge was discounted due to the large number of environmental constraints east of the Orwell Bridge, including ancient woodland, County Wildlife Sites, the Orwell Country Park, woodland blocks and proximity to properties and caravan parks.

18 Given the landfall at Bawdsey and the constraints preventing routing across the Orwell River, the Preferred Onshore Cable Corridor was thus defined as north of Ipswich.

3.5 Route Options North of Ipswich

19 The review of the ICCA indicated two possible routes to the north of Ipswich. One route led to the south of Martlesham, with the other between Martlesham and Woodbridge.

20 The route south of Martlesham was discounted due to the presence of large areas of woodland around Walk Farm and the Martlesham plantation, and a County Wildlife site (heathland mosaic) east of the A12.
Chapter 4
Bealings Area
4 Bealings Area

4.1 Consultation on the Cable Route

1 The East Anglia ONE Statement of Community Consultation (SoCC) set out details on how EAOW would keep communities informed through the windfarm development process, and the means by which communities could comment on the project proposals.

2 In accordance with the SoCC, EAOW published the Electrical Transmission Works: Environmental Impact Assessment (EIA) Scoping Report in July 2011. This document provided high-level information on the proposed electrical transmission works required for East Anglia ONE. It also described survey works and EIA methodologies, in order to allow consultees to provide meaningful comments on the scope of the EIA for the electrical proposals. In terms of the cable route, this Scoping Report was based on the Indicative Cable Corridor Area (ICCA).

3 Following publication of the Scoping Report in July 2011, feedback on the ICCA was received. This feedback was considered alongside further constraints work and focused consultation, in order to identify a more defined cable route. This route was referred to as the Onshore Area of Search. The Onshore Area of Search was further refined, after yet more focused constraints work and consultation, to a Preferred Onshore Cable Route and then finally a Preferred Onshore Cable Corridor.

4 In February 2012, in accordance with the SoCC, EAOW published a Preliminary Environmental Information Report (PEIR) on the East Anglia ONE proposals. This PEIR contained a description of the project proposals, the baseline environmental information gathered to date, likely environmental effects and possible measures to mitigate those effects.

5 In respect of the onshore cable route, the PEIR presented both the Onshore Area of Search plus the further refined Preferred Onshore Cable Corridor. It outlined the method by which the Preferred Onshore Cable Corridor had been selected. Feedback was sought by EAOW on this PEIR. A number of organisations and individuals responded within the six week response period.

4.2 Consultation Responses from Little Bealings and Great Bealings

6 Responses to the PEIR were received from Little Bealings Parish Council and Great Bealings Parish Council regarding the section of the route
between Little Bealings and Great Bealings. Broadly speaking, these concerns may be summarised as follows:

- traffic disruption particularly between Great Bealings and Little Bealings during installation
- noise effects during installation
- landscape effects in respect of tree felling, the presence of jointing pits, in light of the designated Special Landscape Area
- effects on land drainage and water supplies for agriculture/private domestic use/recreational use
- safety concerns regarding proximity of cables to residences and high pressure gas mains
- duration and timings of the works

These concerns were expressed in regards to initial installation of cables for East Anglia ONE, and also subsequent phases of cable installation for further East Anglia projects. Great Bealings Parish Council specifically requested that ‘further consideration be given to finding an alternative route which will have minimal effect on our two communities and on the landscape of the Fynn and Lark Valleys’.

In early April 2012, representatives of EAOW met with representatives of both Little Bealings and Great Bealings Parish Councils, and Councillor Fryatt of Suffolk Coastal District Council, to discuss concerns raised through PEIR.

Thereafter, EAOW commissioned a review of routings options in the area surrounding the villages of Little Bealings and Great Bealings. The full review is appended to this report. The following sections aim to summarise the key findings of this review.

### 4.3 Scope of Study & Methodology

In April 2012, EAOW commissioned RSK to conduct an independent review of routing options around the villages of Little Bealings and Great Bealings (see Appendix 2: Routing Alternatives Study).

The study collated mapped environmental and technical constraint information held for the area west of Woodbridge, to examine whether there were any viable alternative routing options in the vicinity of the two villages.
The routing options were investigated using the Preferred Onshore Cable Corridor as a base. Using mapped information on environmental constraints and technical constraints two possible alternative routes were identified.

These alternatives were then subject to further review, in order to compare each on environmental and technical grounds. Recommendations were then made on which route would be preferred for development.

### 4.4 Results of Study

Figure 2 shows the original proposed cable route alongside the two potential alternative routes identified in the Routing Alternatives Study. Both routes leave the Preferred Onshore Cable Corridor at National Grid Reference 624885, 248340 and connect back with the Preferred Onshore Cable Corridor at National Grid Reference 621283, 248590. Alternative A routes north around Great Bealings, while Alternative B loops south around Little Bealings.

The two possible alternatives A and B were compared with the original Preferred Onshore Cable Corridor. Key environmental and technical considerations were as follows:

- ecological designations
- landscape designations
- woodland
- length of cable corridor
- road and rail crossings
- rivers and water courses
- floodplain
- cultural heritage and archaeological sites
- Public Rights of Way
- Agricultural Land Classification.

Full details of the comparison of routes can be found in the report in the Appendix. In summary, the review concluded that the original proposed route was the best option for routing in the Bealings area. The Preferred Onshore Cable Corridor is the shortest option, is considered to have the least environmental impacts, and crosses lower grade agricultural land.

The preferred onshore cable corridor crosses fewer boundaries containing tree lines than option A and avoids areas where denser tree cover occurs. The preferred onshore cable corridor also only involves one main river crossing, and is routed further from housing than option B.
18 Where the preferred onshore cable corridor is in close proximity to housing (at the pinch point between Little Bealings and Great Bealings) measures to minimise disruption to local communities (for instance, trenchless technology or reduction of trench width) will be considered.
Chapter 5
Impacts and Mitigation
5 Impacts and Mitigations

1 The preceding chapters describe the process by which EAOW defined a cable route which minimises impacts on the biological, human and physical environments. Since publication of the PEIR, EAOW has been undertaking work to further define a narrower iteration of the Preferred Onshore Cable Corridor, and develop detailed construction methodologies for this narrower route.

2 The narrower iteration, the Onshore Cable Route, will constitute a 75m width route within the Preferred Onshore Cable Corridor. This 75m will represent a width allowing for laying three sets of cables/ducts, plus width for temporary construction and access works.

3 Both the narrower route and the construction methodologies will be reported on in June, as a second part of Phase 2 Consultation. The decision was taken to add a second stage to Phase 2 Consultation, over and above what was outlined in the SoCC, in order to address location-specific concerns such as those raised by the communities in the Bealings area.

4 Outline construction methodologies will be reported, giving information on the techniques for laying cables and ducts across open and constrained land. The methodologies will also give an overview of the duration and sequencing of construction works. While it will be possible to give substantial detail on these methodologies, it should also be noted that some detail is not possible to confirm in advance of EAOW placing contracts for construction.

5 The construction methodologies outlined above will be assessed for negative impact on the biological, human and physical environments. The results of this impact assessment will be reported on within the East Anglia ONE Environmental Statement (ES), alongside proposed mitigation measures in order to reduce negative impacts. Potential mitigation measures could include replacement of hedgerows, and targeting any open cut road crossings for periods of low traffic.
Chapter 6
Next Steps
6 Next Steps

1 The next steps for discussion of the Final Preferred Onshore Cable Route and impacts of the construction of the onshore cable route are:

- Publication of information report as Part 2 of Phase 2 Consultation – June 2012
- Public Information Days – July 2012
- Submission of application for DCO, accompanied by Environmental Statement – final quarter of 2012
- Application for DCO Examination Process – run by the National Infrastructure Directorate of Planning Inspectorate, from the end of 2012 onwards.

6.2 Information Report and Public Information Days

2 In June 2012, EAOW will publish an information report as Part 2 of Phase 2 Consultation. As outlined in the previous chapter, this report will provide details on a narrower Onshore Cable Route, as well as detail on construction methodologies.

3 Public Information Days will be held at Woodbridge and Bramford (3rd and 4th July) and Bawdsey (date to be confirmed) in order to offer local communities the opportunity to discuss the proposals directly with the EAOW team.

6.3 Submission of DCO application and Examination Process

4 In the final quarter of 2012, EAOW will submit its application for a DCO to the National Infrastructure Directorate (NID) of the Planning Inspectorate. This application will be supported by an Environmental Statement, outlining the potential impacts of the proposals and mitigation measures proposed.

5 Following submission of this application, the NID will run an examination process considering the application. A recommendation will then be made to the Secretary of State who will take the final decision as to whether the scheme should be awarded consent.
Appendix A

PEIR – Volume 1 : Chapter 6
6 SITE SELECTION

6.1 ZONE 5 AND THE FIRST PROJECT

6.1.1 Identification of Zone 5

1 Zone 5 was identified by The Crown Estate as part of the Round 3 offshore wind licensing process and is located within an area of the southern North Sea.

2 The Crown Estate Round 3 zones have been the subject of an Offshore Energy Strategic Environmental Assessment (OESEA). This assessment was undertaken in 2008/2009. OESEA was prepared to assess the implications of further rounds of offshore windfarm leasing in the UK Renewable Energy Zone and the territorial waters of England and Wales, as well as the implications of other industry activities. It was clear from this strategic level analysis that the zones represent suitable ‘areas of opportunity’ for offshore wind projects, and have the ability to deliver the required capacity of offshore wind within acceptable environmental limits. It was recognised that there may be many local or regional constraints to the development of offshore wind projects within the zone boundaries.

3 Further information on the zone identification process can be found in Section 3.6 of this volume.

6.1.2 Identification of the East Anglia ONE Site

4 The location of East Anglia ONE within the Zone was established by EAOW following a robust screening exercise, undertaken to gain an initial understanding of the consenting and technical risks within the Zone.

5 The first stage of this screening exercise involved a review of the Zone 5 characteristics using Geographical Information Systems (GIS) to map available data sets. This allowed areas within the Zone with the least consenting and technical risk to be identified. The Crown Estate’s Marine Resource System (MaRS) data were utilised in this process.

6 The consenting information reviewed during this exercise included:

- civil aviation radar;
- military air defence radar;
- commercial fisheries interactions;
• shipping and navigation in terms of designated and heavily used routes;
• Ministry of Defence (MoD) training and exercise areas (PEXA areas);
• landscape, seascape and visual resources;
• tourism and recreation, eg recreational sailing routes;
• oil and gas operations;
• cables and pipelines;
• aviation routing, in particular helicopter flight paths;
• disposal sites;
• nature conservation designations and protected habitats;
• fish spawning and nursery areas; and
• cumulative impacts with other windfarms.

7 The technical information reviewed included:

• distance to the nearest port;
• geological information and identification of distinct geological zones;
• geotechnical design parameters;
• identification of seabed risks such as gas blanking and seabed mobility; and
• known metocean information.

8 By reviewing these risks, a ‘heat map’ was produced which aggregated the constraints in order to facilitate identification of an area with the least consenting risk. An area in the southeast of the Zone was identified as the most favourable site in terms of known technical and consenting risk and therefore a suitable first project area.

9 The key reasons for selecting the location were because the site is:

• distant from Natura 2000 sites;

• outside any areas designated on the basis of ornithological activity and its distance offshore (more than 42km) reduces the potential for interaction with breeding and foraging bird species;

• located beyond 12nm from the shore, therefore reducing landscape and visual effects and the potential for interaction with inshore fisheries interests;

• outside the International Maritime Organisation (IMO) route and within an area of low density shipping in the context of the Zone;

• located outside any existing oil and gas infrastructure (wells) and licensed areas;
outside any areas licensed for dredging and aggregate extraction;

located outside any known Ministry of Defence (MOD) danger areas and outside the line of site of any known MOD Air Defence radars;

outside the line of site of the National Air Traffic Services (NATS) radar at Cromer and over 30km from any known civilian airports and airfield;

located such that it reduces the number of cable and pipeline crossings likely to be required and therefore third party agreements - in particular the western boundary of the project area has been clipped to the Zeebrugge to Bacton high pressure gas pipeline, plus a 500m buffer; and

outside any known military PEXA areas and based on initial modelling was found to have minimal interaction with both Trimingham and Coltishall MOD radars.

The location of East Anglia ONE within Zone 5 is shown in Volume 1, Figure 1.1. The boundaries of East Anglia ONE are delineated to the west by the Zeebrugge to Bacton high pressure gas pipeline from which a setback distance of 500m has been applied and to the east by an IMO shipping route, from which a set back buffer of 1 nm has been applied. To the south of the site, the boundary is constrained by a higher density shipping route (including the Harwich to Rotterdam cargo and passenger ferry routes). To the north the site boundary is constrained by line of sight from Trimingham Air Defence Radar and Cromer NATS en-route radar.

The Zone Appraisal and Planning (ZAP) process currently being completed will be used to validate the location of East Anglia ONE.

6.2 The Electrical Transmission Works for East Anglia ONE

6.2.1 Introduction

A connection offer was received from National Grid in August 2010 which named Bramford, Suffolk, as the connection point for East Anglia ONE. Following the naming of this connection location, corridors for the offshore and onshore export cables and a potential onshore converter station location have been established. Identifying these areas involved a three staged process including environmental constraints mapping, engineering feasibility studies and preliminary landowner discussions. The process is described below and summarised in the flow chart.
shown in Diagram 6.1. The preferred onshore cable corridor and development constraints are shown in Volume 1, Figure 6.1 and Figure 6.2 shows the offshore cable corridor and constraints.

Diagram 6.1 East Anglia ONE Electrical Transmission Works Site Selection Process

6.2.2 Indicative Cable Corridor Area for Offshore and Onshore Works

Following the grid connection offer from National Grid in August 2010 which named Bramford as a suitable connection point to the electricity transmission network, a red line boundary was formulated by EAOW, from Lowestoft in the north (along the River Waveney) to Harwich in the south, essentially reflecting local authority boundaries. Direct lines were then drawn offshore to the north and southern edges of East Anglia ONE. This boundary formed the basis for discussions regarding a suitable route for the electrical transmission works from East Anglia ONE.

During August and September 2010, meetings were held between EAOW, the relevant planning authorities (Suffolk County Council, Waveney District Council, Suffolk Coastal District Council, Babergh...
District Council and Mid Suffolk District Council), Natural England and Suffolk Wildlife Trust to present and discuss this redline boundary.

During these meetings, it was agreed that the location of the landfall boundary should be moved south of Orford Ness as this is an area of highly unstable shingle bank covered by numerous environmental designations.

The planning authorities also expressed a preference for offshore cables to remain offshore as far as possible and asked whether laying cables up one of the local estuaries, the Deben, the Orwell or the Stour, would be feasible.

Following the meetings, the initial redline boundary was refined to provide an Indicative Cable Corridor Area (ICCA), included in the East Anglia ONE Scoping Report (September 2010). This area was defined as follows:

- the area encompassed a wide area around Ipswich to allow onshore routeing to the southwest and northeast of the town;
- the three estuaries, the Deben, Orwell and Stour, were included;
- the northern boundary of the landfall was drawn at Hollesley to avoid the environmental designations of the Alde, Ore and Butley estuaries and Orford Ness / Shingle Street;
- the southern boundary of the landfall was drawn east of Little Oakley to avoid the environmental designations of Hamford Water; and
- a cone was drawn from the new landfall boundaries to the northerly and southerly tips of the western edge of East Anglia ONE.

Following further consultation, EAOW agreed to amend the southern boundary in line with the Essex / Suffolk border, as it became clear that no transmission works would be undertaken in Essex.

The revised Indicative Cable Corridor Area is shown in Volume 1, Figure 6.3. The area is centred around the town of Ipswich and the ports of Felixstowe and Harwich and includes the Orwell, Stour and Deben estuaries. The remaining land includes a mix of smaller towns and villages, arable farmland, marshland and woodland areas and a network of major and minor roads, railways and rivers.

The following sections outline the process by which EAOW has refined the high level indicative cable corridor originally identified to firstly a
broad area of search followed by a preferred cable corridor. These refinements have been informed by site works, consultation and desk study.

6.2.3 Offshore Export Cable

Consultation with Harwich Haven Authority

10 Following the formulation of the initial Indicative Cable Corridor Area, EAOW met with Harwich Haven Authority (HHA) (Harwich Harbour, 22nd November 2010). HHA expressed major concerns regarding routeing up the Orwell and Stour estuaries due to potential disruption to port activities. Felixstowe is Britain’s largest container port, and there were concerns about the feasibility of cable burial in areas subject to regular maintenance dredging. In relation to offshore routes, HHA also raised the following issues:

- the sandbanks around the mouth of the Deben are relatively mobile and possibly unsuitable for cable burial;

- there is a large amount of shipping traffic in the area between Harwich Harbour and the North Shipwash buoy up the Shipway, an area which may be suitable for deepening in the future; and

- if a landfall was chosen to the south of Harwich Harbour, the dredged channel could not be crossed inshore due to high shipping densities and the dredged channel in the harbour entrance.

11 HHA suggested routeing through the Sledway and along the northern part of the Indicative Cable Corridor Area. This would keep activities away from the main densities of shipping traffic en route to Harwich Harbour and utilise relatively stable areas of seabed. The meeting with HHA has strongly influenced the final choice of landfall and offshore cable corridor.

12 The results of the meeting were included within the constraints mapping exercise explained below.

Constraints Mapping and Engineering Feasibility

13 Constraints within the offshore section of the Indicative Cable Corridor Area, ie to Mean High Water Spring (MHWS), were mapped using publicly available data, and heat maps were produced showing undevelopable, heavily constrained and constrained areas of sea.
The main constraints to cable installation were highlighted as being:

- existing and potential aggregate dredging areas;
- areas associated with port operations, such as named and unnamed anchorage areas and deep water channels;
- a disused explosives’ dumping ground; and
- existing and proposed cables and pipelines.

Much of the inshore section of the Indicative Cable Corridor Area is covered by the Outer Thames Estuary SPA, however this designation affects all potential routes equally.

Environmental data from the Thames Regional Environmental Characterisation (REC) study were also reviewed to highlight specific biological and geological features within the area. Features included potential Sabellaria reef at three locations, a geogenic piddock reef running through the centre of the area, palaeochannels throughout the southern half of the area indicating an increased likelihood of archaeological finds, and the presence of large sandwaves in the deeper waters of the area, close to the windfarm.

In parallel with the constraints study, the engineering feasibility of routing cables within the Indicative Cable Corridor Area was also evaluated. This included a review of water depth, seabed topography and tidal currents to assess the ease of both installation and maintenance within the area. The study also included information on required cable separation distances, both for technical reasons and to provide sufficient space for installation and maintenance. The potential to route cables for up to three projects in Zone 5 was also considered.

Using the environmental constraints map as a baseline, potential offshore cable route options were developed according to the following criteria:

- avoidance of key environmental constraints;
- development of the shortest routes possible to minimise cable length and therefore cost;
- avoidance of / minimizing route length in areas which could present extreme technical difficulties for installation and/or maintenance, eg sandbanks, shallow waters;
- avoidance of areas where there is an increased risk of cable damage, eg anchorage and dredging areas; and
• separation from, or right angle crossings of, existing cables and pipelines.

**Offshore Area of Search**

19 Consultation, constraints mapping work and the engineering feasibility study have allowed the Indicative Cable Corridor Area to be refined to the offshore Area of Search shown in *Volume 1, Figure 6.4*.

20 This offshore Area of Search was formulated as follows:

• 1500 m buffers were applied to potential cable route options to allow room for up to twelve cables (up to four from each of three potential projects) and to provide flexibility for micro-siting;

• landfall options south of Harwich were removed to reduce disruption to port activities;

• the Shipway and the area to the northeast of the Shipway was avoided to remove conflicts with port activities, named anchorages, aggregate dredging areas, a potential piddock reef structure and palaeochannels;

• the explosives dumping ground was excluded from the Area of Search, but options to route north or south of it were retained;

• the width of the area at its eastern end was aligned with potential converter station locations within the windfarm, i.e. within the middle third, and was made sufficient to allow for routeing through the large bedforms in this region; and

• sufficient width was maintained where the Galloper and Greater Gabbard windfarm cables bisect the area to allow for potentially complex crossing arrangements.

21 The final offshore Area of Search encompassed an area from potential landfall points at Bawdsey and Felixstowe, through the Sledway, with options to route north or south of the explosives dumping ground. This area was presented within the Electrical Transmission Works Scoping Report (July 2011) and used as the basis for Phase 1 consultation (July 2011).

**Offshore Cable Corridor**

22 Following Phase 1 consultation and utilising information from the scoping process and advice from specialists, the Area of Search was further refined to provide an offshore cable corridor suitable for up to
The consultation process revealed no clear preferences for a corridor north or south of the explosives dumping ground. Information provided by marine and archaeological specialists showed that, although micro-siting around specific features may be required, there were no known major constraints to either option other than those already identified during initial constraints mapping. The northernmost option was therefore chosen as the most direct. During further discussions, HHA (Harwich, 22nd July 2011), indicated that this corridor, avoiding the Shipway and the harbour entrance, would address their key concerns.

During the process of refining the Area of Search, the potential for a Marine Conservation Zone to be designated across the corridor south of the explosives dumping ground, east of the Greater Gabbard and Galloper windfarm cables, was highlighted. This supported the choice of the northern corridor as direct conflict with a potential designated area could be avoided.

For the purposes of defining a cable corridor, the potential northern route was buffered by 1150m either side. The following adjustments were then made:

- the width of the corridor was increased to provide routeing flexibility within the area southwest of the Sledway to avoid anchored vessels;
- a 500 m buffer around the Bawdsey and Cork anchorages was included to avoid interference with shipping;
- the width of the corridor where it crosses the Greater Gabbard and Galloper windfarm cables was maximised to allow routeing flexibility in this area; and
- the width of the corridor at its eastern end was retained from the Area of Search to allow for connection to the offshore converter stations and to facilitate routeing through the large bedforms in this area.

The offshore cable corridor is shown in Volume 1, Figure 4.4.

Further Work Required

A geophysical survey of the offshore cable corridor is scheduled for completion in the first quarter of 2012 and information from this will be available following the publication of the PEIR. This survey will provide
data on depth, seabed topography, shallow geology and magnetometry which will be utilised during the EIA.

28 The results of consultation to date, identification of known constraints and preliminary engineering design work have enabled the production of an offshore cable corridor sufficient for up to four cables from East Anglia ONE, and potential for a further eight cables from two additional projects within Zone 5. Information gathered during Phase 2 consultation and the results of the geophysical survey will be used to provide indicative cable routes, micro-sited as required around specific features identified. The potential impacts of the indicative routes will be assessed for the purposes of EIA.

29 Precise routeing will be decided post-consent during the detailed design phase following the collection of geotechnical information and further review of the geophysical data.

6.2.4 Landfall Location

30 Early consultation with local authorities identified that potential landfall locations were restricted by designations of the Alde Ore and Butley estuaries and Orford Ness-Shingle Street in the north and Hamford Water in the south.

31 As with the offshore corridor, constraints at or near the shoreline were mapped and areas were assigned a rating based on their developability. Constraints included:

- presence of infrastructure, eg housing and coastal defences;
- European, national and local ecological designations; and
- landscape and cultural heritage designations, eg archaeological sites.

32 Following this process, three likely landfall locations were identified: the area between Bawdsey Martello Tower and Bawdsey Manor, the area between Felixstowe Ferry and Felixstowe, and the area east of Little Oakley south of Harwich.

33 Following consultation with Harwich Haven Authority on 22nd November 2010, it was clear that routeing across the approaches to the harbour would not be acceptable due to the high densities of shipping traffic en route to Harwich and Felixstowe and the dredged area in the harbour entrance. The landfall close to Little Oakley was therefore discounted.
Landfalls north and south of the Deben Estuary were included within the Electrical Transmission Scoping Report (July 2011) and used as the basis for Phase 1 consultation.

Further consultation with Natural England and local planning authorities raised a number of issues around the choice of landfall site. These included concerns regarding erosion along the coast, affecting both landfalls, and strong currents near shore around the Deben Estuary entrance, affecting the Felixstowe to Felixstowe Ferry landfall area. These issues affected the final choice of landfall. The presence of subterranean World War II infrastructure at Bawdsey was also highlighted, although sites had been chosen to avoid proximity to these areas.

An engineering feasibility study was commissioned to review the landfall options in terms of construction and cost. This included a review of beach and seabed geology, tides and currents, fishing and anchorage interactions, potential access for cable vessels and cable protection requirements. This study concluded that the only landfall sufficient to accommodate up to three projects from the East Anglia Zone was Bawdsey.

In order to assess in detail the movement and stability of the shoreline and shallow subtidal areas, and the effects of coastal management plans over the next 50 years, a cable landfall coastal assessment was also commissioned. This study showed that the coast north and south of the Deben is eroding and that erosion rates are likely to increase over time due to sea level rise and increased storminess. Management policies to 2060 are ‘Hold The Line’ at Felixstowe Golf Course and ‘No Active Intervention’ at Bawdsey Cliffs. The study also highlighted the instability of the sandbanks at the mouth of the Deben Estuary.

Using the information from both reports, the landfalls were evaluated. A preferred landfall location between Bawdsey Martello Tower and Bawdsey Manor has been identified and shown in Volume 1, Figure 4.1. This landfall has been chosen for the following reasons:

- this landfall is sufficient to accommodate ducts for up to three projects;
- the sea off the Bawdsey landfall is relatively sheltered in comparison with the strong tidal movement around the mouth of the Deben close to the Felixstowe Ferry landfall;
routeing through Felixstowe Golf Club is the least preferred option in terms of disruption, and there is also species-rich wet grassland designated as a County Wildlife Site at this location; and

assuming HDD is feasible, impacts on the SSSI designation at Bawdsey Cliffs could be avoided.

Coastal stability studies showed that erosion rates at Bawdsey would need to be factored in to the engineering design and that cable burial depths would need to allow for erosion to ensure cables do not become exposed over the lifetime of the proposed project.

**Further Work Required**

In order to assess the feasibility of HDD at the Bawdsey Cliffs, further geotechnical investigations are proposed, the results of which will be presented in the ES. Further consultation with the Environment Agency is also required regarding the coastal defences and planned works in this area.

**6.2.5 Onshore Export Cable**

**Constraints Mapping and Engineering Feasibility**

High level constraints within the onshore section of the Indicative Cable Corridor Area, ie from Mean High Water Spring (MHWS), were mapped using publicly available data and heat maps showing undevelopable, heavily constrained and constrained areas of land.

The main constraints to onshore routeing which were highlighted were ecology and nature conservation designations, landscape and cultural heritage designations, the presence of infrastructure, eg roads and railways and land uses (eg housing, lakes, rivers and farmland).

The heat mapping exercise concluded that:

- the built up area of Ipswich should be avoided;

- areas between the Deben and Orwell, the Orwell and the Stour, and the north and west of Ipswich were relatively unconstrained;

- the area south of the Stour would be constrained by the need for cables to cross Harwich Harbour and so a landfall south of Harwich should be discounted; and

- routeing under estuaries using HDD should be considered as this would open a number of additional routeing possibilities.
Key pinch-points for onshore routeing were identified between Martlesham and Woodbridge, at the Orwell Bridge and at Cattawade on the Stour.

**Option to Route up the Estuaries**

Early meetings with the local planning authorities had raised the possibility of routeing the cable up one of the three estuaries in an attempt to reduce disruption onshore.

A meeting was held with Harwich Haven Authority (HHA) (Harwich, 22nd November 2010) to discuss this option. HHA expressed the following concerns regarding routeing up the Orwell or the Stour estuaries:

- Felixstowe Port is Britain’s largest container port. There are continuing harbour works in Felixstowe and Harwich, together with plans to develop a new £300 million container terminal at Bathside Bay on the River Stour. There would therefore need to be guarantees that there would be no disruption to port operations during construction or operation of the cables.

- Dredging to accommodate larger vessels is a continuous operation. When deciding cable burial depth, EAOW will need to consider dredging operations over the lifetime of the project, as the required cable burial depths may be impracticable. Future deepening in other areas in the approach to the ports may also be required.

A high level engineering review of the potential installation challenges associated with the cabling up the Orwell, Stour and Deben estuaries was also commissioned. This report concluded that cable routeing through these estuaries was not recommended due to conflicts with harbour requirements, ie presence of commercial traffic and dredged channels (Stour and Orwell only), conflicts with leisure activities, particularly along the Orwell and Deben which contain a large number of yacht moorings, and environmental designations. The width of the estuaries was also considered unsuitable for multiple parallel cable installations.

The option to route up the estuaries was therefore removed from further consideration.

**Onshore Area of Search**

Detailed constraints mapping work within the Indicative Cable Corridor area was then used to further refine the search area.
Key international and national environmental constraints sourced from the public domain were mapped at 1:50,000 scale. These included National Parks, Areas of Outstanding Natural Beauty, World Heritage Sites, Sites of Special Scientific Interest, RAMSAR sites, Special Areas of Conservation, Special Protection Areas, National Nature Reserves, Scheduled Monuments and Registered Parks and Gardens. Local environmental constraints were then identified including areas of mature woodland. Potential route corridors, based on environmental constraints, were identified.

In parallel, an engineering feasibility study considered how cables could, in practice, route around, through or under existing infrastructure. Potential route corridors, based on engineering feasibility, were then identified using the following criteria:

- ease of installation and type of terrain;
- installation methods required, eg the need for directional drilling;
- availability of working area required for construction and installation;
- presence of other major services, eg gas pipelines and transmission circuits;
- number of obstacle crossings, eg rivers, railways and pipelines, and crossing methods; and
- potential impact on services and road users during construction.

Site walkovers at specific locations, by environmental and engineering specialists, were undertaken to assess cable route feasibility, including areas for construction compounds, construction hardstanding, site access tracks and passing places, and watercourse, rail and road crossings.

The identification of potential route corridors allowed the Indicative Cable Corridor Area to be refined to an onshore Area of Search. The onshore Area of Search was formulated as follows:

- broad 1km corridors were drawn to provide routeing flexibility;
- specific designated areas, including an area of ancient woodland and an SSSI, were removed from the Area of Search;
• a number of villages, hamlets and Suffolk Water Park were removed from the area of search;

• areas were added east and west of the existing Bramford substation to provide options for locating the converter station location;

• the site of the north Orwell crossing was widened to increase routeing flexibility in this area;

• an area close to Suffolk Showground was added to incorporate the road verge of the A14; and

• the landfall area was widened north of the Deben Estuary to match the offshore area of search.

54 The onshore Area of Search is shown in Volume 1, Figure 6.5. This area was presented within the Electrical Transmission Works Scoping Report (July 2011) and used as the basis for Phase 1 consultation. The onshore Area of Search included corridors north and south of Ipswich and allowed for a number of crossing points of the Deben and Orwell estuaries.

Preferred Onshore Cable Corridor

55 On 12th July 2011, following the publication of the Scoping Report, a meetings was held with Babergh District Council, Suffolk County Council, Mid Suffolk District Council, Suffolk Coastal District Council, NE, RSPB and Suffolk Wildlife Trust (SWT) to discuss the Area of Search with a particular focus on potential routes options and constraints. This meeting yielded detailed information on the potential issues within the onshore Area of Search (including converter station locations) and areas to avoid. The discussions in this meeting were key to the final choice of a preferred onshore cable corridor.

56 During this meeting, there was a clear preference from the statutory consultees to identify a preferred onshore cable corridor which was not only sufficient for up to four cables as required for East Anglia ONE, but would also accommodate ducting for the two future projects from Zone 5 to also connect in at Bramford. This strategic approach would reduce the level of disruption, particularly in key areas such as the landfall and the area between Martlesham and Woodbridge.

57 The broad onshore cable corridor options within the Area of Search were then reviewed in terms of technical and environmental constraints and cost.

58 The broad options reviewed were:
• Bawdsey, east of the Deben, Woodbridge / Martlesham, north of Ipswich to Bramford;

• Felixstowe / Bawdsey, west of Deben and east of Newbourne, Woodbridge / Martlesham, north of Ipswich to Bramford;

• Felixstowe / Bawdsey, west of Deben and west of Newbourne, Woodbridge / Martlesham, north of Ipswich to Bramford;

• Felixstowe, crossing at Orwell Bridge, north to Bramford (east or west of Westbrook); and

• Felixstowe, crossing Orwell at Wade’s Lane, north east to Belstead, north to Bramford (east or west of Westbrook).

Using the available technical and environmental information, and guided by feedback from statutory consultees, a preferred onshore cable corridor has been identified and is presented as Volume 1, Figure 4.2, showing the corridor within the onshore area of search for historical reference. The corridor is 160 m wide (including buffer) and is based on the worst case working width for cables from East Anglia ONE and ducts for two further projects (approximately 84m), plus a buffer on each side for ecological surveys.

The key issues affecting selection of the preferred onshore cable corridor are as follows.

• Local authorities and conservation bodies consulted provided strong guidance that routeing north of Ipswich would be preferable to avoid major estuary crossings.

• Assuming a landfall at Bawdsey, the environmental preference is to cross the Deben as quickly as possible to route away from the AONB and avoid marshland and bird overwintering areas. The archaeological relevance of this area (close to Sutton Hoo) is also a concern. The option to route west of the Deben to Woodbridge has therefore been chosen as preferred.

• Assuming a route north of Ipswich, a route east of Newbourne is seen as preferable as this is more direct, thereby reducing disruption, and avoids an SSSI.

• A route immediately to the south of Woodbridge is the preferred route as this avoids any areas of woodland and County Wildlife sites.
A route west of Suffolk Water Park is considered preferable to the route east as it avoids a potentially contaminated land site (a former fertiliser factory) and a landfill.

A potential route through the north end of Martlesham has been discounted due to the presence of large areas of woodland around Walk Farm and the Martlesham plantation, and a County Wildlife site (heathland mosaic) east of the A12.

A potential route across the Orwell close to Wade’s Lane has been discounted due to Environment Agency proposals to realign the estuary walls and create new intertidal habitat in this area.

The alternative crossing point of the Orwell at the Orwell Bridge has been discounted due to the large number of environmental constraints east of the Orwell Bridge, including ancient woodland, County wildlife sites, the Orwell Country Park, woodland blocks and proximity to properties and caravan parks.

The preferred onshore cable corridor has been adjusted to enable routeing around an area of ancient woodland and to increase separation from a conservation site and a listed building (Seckford Hall).

Due to the distance from the landfall to the converter station at Bramford, the preferred onshore cable corridor includes a number of major routeing constraints. These include the Deben Estuary close to Red House Farm, Martlesham Creek, the East Suffolk Line at Woodbridge, the A12 west of Woodbridge, the A14 north of Ipswich, the River Gipping and the Ipswich to Ely Line north of Ipswich.

Further Work Required

The results of detailed environmental baseline surveys will be used to refine the preferred onshore cable corridor to a preferred onshore route. A final working width (approximately 84m) will be set for the purposes of EIA. This width will be sufficient for the cables required for East Anglia ONE and ducts for two further projects.

Converter Station Location

Converter Station Area of Search

When considering the area of search for the converter station, land adjacent to the existing substation at Bramford, within the existing onshore Area of Search, was reviewed. It was also decided to explore potential brownfield sites around the substation on the basis that
locating the converter station in industrial areas could provide a reduced environmental, particularly visual, impact. A search area of 5km from the Bramford substation was used as this is the maximum length of cable between a converter station and the substation which would not require additional significant infrastructure at Bramford.

The onshore Area of Search, including the 5km brownfield search area, is shown in Volume 1, Figure 6.5. This area was discussed in the Electrical Transmission Works Scoping Report (July 2011) and in the material provided during Phase 1 consultation.

Review of Potential Brownfield Sites

Three potential brownfield sites were identified on the outskirts of Ipswich within the 5km brownfield search area. All sites fulfilled three basic criteria - the land needed to be available, of sufficient size to accommodate at least one converter station required for East Anglia ONE and up to three for further projects from Zone 5, and there was a possible route for the outgoing connection to Bramford. Following an initial desk review, two sites were discounted due conflicts with long term planning allocations. A disused British Sugar factory near Sproughton was considered to be a possible site and was therefore subject to further environmental review.

The environmental review showed that the British Sugar site was very close to a flood zone, the presence of bunding around the site suggested that the site itself is prone to flooding. The review also revealed the potential for soil and groundwater contamination and ground gas due to historical commercial operations. In addition, its location, 3.5km south of Bramford, would require additional cabling, and therefore disruption. This site was discounted from further consideration.

During a meeting with local authorities held on 12 July 2011, a former factory site at Paper Mill Lane near Bramford was highlighted as a potential location. Following further review, the factory building was found to be listed and therefore not appropriate for housing the required infrastructure.

It was therefore concluded that there were no suitable brownfield sites suitable for the converter station(s) required.

Sites close to the existing substation were then reviewed in more detail. Locating the converter station site adjacent to the existing substation has the following positive effects:
proximity to the existing substation means a reduced amount of outdoor AC infrastructure;

EAOW has committed to undergrounding the onshore cables and locating the converter station adjacent to the existing substation ensures that no long stretches of overhead lines will be needed; and

advice from local authorities and feedback from Parish Council meetings has indicated that, if land around Bramford is to be used, the preference is for the converter station to be located as close as possible to the existing substation.

**Converter Station Refined Area of Search**

A desk based assessment and a site visit, in June 2011, were undertaken covering the land around the existing Bramford substation. Potential site options were sought that would have the minimum environmental impact and would be feasible in terms of engineering requirement. The criteria used were that it must have sufficient area to accommodate the converter station, and that it should avoid:

- designated environmental areas;
- designated heritage and archaeological sites;
- woodland and hedgerows (but with due consideration of woodland to provide screening);
- areas of sensitive land use;
- areas of flood risk and groundwater source protection zones;
- existing and future development areas;
- close proximity to existing services;
- centres of population and occupied buildings;
- areas that are not suitable for safe access for construction;
- severe slopes and difficult ground conditions; and
- landfill or contaminated sites.

Based on this assessment, a converter station Refined Area of Search was identified and is presented in *Volume 1, Figure 6.6* along with the onshore cable route, shown within the onshore Area of Search for historical context. Within this area, four site options were defined, two to the north, one to the east and one to the west of the substation. Option 3, west of the substation, was subsequently discounted as a badger sett had been relocated here as part of the Bramford substation extension works.

The remaining three sites were then evaluated in detail. All sites were considered feasible, however Site 2 has been chosen as the preferred
converter station location for East Anglia ONE due to its proximity to the existing substation.

Further Work

The preferred converter station location and surrounding area will be subject to detailed environmental surveys for the purposes of EIA.
Appendix B
Routing Alternatives Study
RSK GENERAL NOTES

Project No.: P41388

Title: East Anglia ONE Offshore Windfarm
       Routing Alternatives Study- West of Woodbridge

Client: ScottishPower Renewables & Vattenfall Wind Power Limited

Date: 22nd May 2012

Office: Helsby

Status: Rev 02

Project manager: Sally Rotherham
Date: 22nd May 2012

Technical Reviewer: Wendy Hogben
Date: 22nd May 2012

RSK Environment Ltd (RSK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and RSK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by RSK for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Environment Ltd.
CONTENTS

1 INTRODUCTION ..............................................................................................................................1
  1.1 Purpose of the Study ..............................................................................................................1
  1.2 Overview of Cable Corridor Routing ..................................................................................1
  1.3 Study Methodology ..............................................................................................................2

2 POTENTIAL ROUTING OPTIONS .................................................................................................3
  2.1 The Preferred Onshore Cable Corridor ................................................................................3
  2.2 Alternative Onshore Cable Corridor A ................................................................................3
  2.3 Alternative Onshore Cable Corridor B ................................................................................3

3 SUMMARY OF CONSTRAINTS ......................................................................................................6

4 CONCLUSIONS .............................................................................................................................12
  4.1 General Conclusions ............................................................................................................12
  4.2 Alternative Onshore Cable Corridor A ..............................................................................12
  4.3 Alternative Onshore Cable Corridor B ..............................................................................14
  4.4 The Preferred Onshore Cable Corridor .............................................................................14
1 INTRODUCTION

1.1 Purpose of the Study

This report has been prepared to examine potential routing options to the west of Woodbridge, primarily to identify ways in which the Preferred Onshore Cable Corridor could be located away from the villages of Great Bealings and Little Bealings.

1.2 Overview of Cable Corridor Routing

In common with other types of linear development, the effect that a cable may have on the environment largely depends on the route chosen. Consequently, careful selection of a route is of prime importance in avoiding wherever possible, and thereafter minimising, potential adverse environmental effects.

It is for this reason that the 160m wide Preferred Onshore Cable Corridor (as shown within the Preliminary Environmental Information (PEI) Report) has been established following a series of studies which have become progressively more focused to establish an optimum corridor to be taken forward.

A systematic route selection process has been utilised, consisting of the following stages:

- Identification of a large Area of Search encompassing potential landfall points and grid connection. This was made large enough to consider potential routing options to the north and south of Ipswich and include the Stour, Orwell and Deben Estuaries in response to a clear preference from the local authorities to minimise onshore impacts. However the Area of Search was restricted to the north due to the environmental designations of the Alde – Ore Estuary and restricted to the south due to the environmental designation of Hamford Water.

- Following a review of key high-level constraints with the Area of Search, broad potential route corridors were identified (these formed the focus of the Environmental Scoping Report produced in June 2011). Onshore, the main development constraints were urban conurbations and the need to reduce the numbers of rail, road and estuary crossings. The areas between the Deben and Orwell, the Orwell and Stour and north and west of Ipswich were identified as relatively unconstrained, with Ipswich and the area north of the Deben identified as the most heavily constrained areas. Potential landfall locations were identified as either between Bawdsey Martello Tower and Bawdsey Manor or between Felixstowe and Felixstowe Ferry.

- Following this a Route Corridor Investigation Study was undertaken to select a Route Corridor. A corridor to the north of Ipswich was selected due to constraints in the south, including the River Orwell, its floodplain and associated statutory ecological designations, Area of Outstanding Natural Beauty and the frequency of Schedule Monuments.
• Within the Route Corridor a 160m wide survey corridor was selected (known as the Preferred Onshore Cable Corridor). This was the focus of the PEI report.

• Defining a working width suitable for cable construction (this has yet to be undertaken); and

• Identification of the final route during the conceptual and detail design stages of the project, based on the results of increasingly detailed surveys, studies and consultations with environmental advisory bodies and landowners.

This report focuses on the justification of the Preferred Onshore Cable Corridor to the west of Woodbridge only and does not attempt to assess routing prior to this point. This has already been fully explored within the Route Corridor Investigation Study.

1.3 Study Methodology

Due to ongoing environmental investigations, the project team holds a wealth of environmental information for this area. This study aims to collate all mapped environmental constraint information held for the area to the west of Woodbridge to examine whether there are any viable alternative routing options in the vicinity of the villages of Great Bealings and Little Bealings.

Routing options have been investigated leaving the Preferred Onshore Cable Corridor at National Grid Reference 624885, 248340 and connecting back with the Preferred Onshore Cable Corridor at National Grid Reference 621283, 248590.
2  POTENTIAL ROUTING OPTIONS

2.1  The Preferred Onshore Cable Corridor

The Preferred Onshore Cable Corridor was selected in this area due to the large open fields providing a direct route through an existing gap within settlements and vegetation.

It is anticipated that mitigation measures could be put in place to minimise disruption caused by crossing Lodge Road (which connects Little Bealings and Great Bealings).

Routing in this area was constrained by the settlement of Grundisburgh and woodland cover in the north and the railway line, and the River Fynn (and its associated floodplain) in the south. The settlement of Little Bealings itself posed a constraint to routing in the south as the aforementioned constraints and the space required during construction would mean routing the cable within private gardens.

The Preferred Onshore Cable Corridor is 3.61km in length, nearly 0.5km less than the alternatives considered below.

2.2  Alternative Onshore Cable Corridor A

Alternative Onshore Cable Corridor A diverts from the Preferred Onshore Cable Corridor to the west of Seckford Hall. From here it is routed north west to the east of Birds Hill, Bealings House and across the edge Queech Wood. The cable crosses the unnamed road to the north of Queech Wood. The cable diverts west to make use of existing tree gaps (where possible) before crossing Bealings Lanes. The cable passes to the south of the sewage works and crosses the River Lark (Main River and tributary to a reservoir) before turning south west crossing two ordinary watercourses. Hill Farm is bypassed on the east of the cable corridor. The cable corridor crosses Grundisburgh Road before connecting back into the preferred onshore cable corridor to the south of Playford Corner.

Alternative Onshore Cable Corridor A is 4.51km in length, nearly 420m more than Alternative B below and 900m more than the Preferred Onshore Cable Corridor.

2.3  Alternative Onshore Cable Corridor B

Alternative Onshore Cable Corridor B diverts from the Preferred Onshore Cable Corridor to the east of Little Bealings and south of Lodge Road. The cable corridor has been routed south west to skirt around the southern end of Little Bealings. The cable crosses the River Lark and passes to the east of Dower House. The cable will need to undergo two crossings of the River Fynn to avoid properties on The Street to the north of the river. This will involve works within the floodplain of the River Fynn near Bealings Bridge. This is the only available gap between the properties and the railway line. To return north, there may be an impingement onto the private gardens of those properties on the western side of The Street. The cable corridor travels north west avoiding a band of woodland on the east. The cable crosses two ordinary watercourses which are
tributaries to the River Fynn, before connecting back within the Preferred Onshore Cable Corridor on the western side of Church Street.

This corridor may be further constrained by the presence of other utilities. This is made evident on 1:5000 scale O/S base mapping as a short stretch of pipeline is indicated within a track to the south east of Sandy Lane; this should be investigated further.

It should also be noted that parts of this cable corridor are located outside of the Cable Corridor Onshore Area of Search as this is the only viable option for routing south of Little Bealings.

Alternative Onshore Cable Corridor B is 4.09km in length; 480m longer than the Preferred Onshore Cable Corridor.
Figure 1: Route Alternatives
### 3 SUMMARY OF CONSTRAINTS

#### Table 1: Summary of Environmental Constraints

<table>
<thead>
<tr>
<th>Feature</th>
<th>Preferred Onshore Cable Corridor</th>
<th>Alternative Onshore Cable Corridor A</th>
<th>Alternative Onshore Cable Corridor B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of Cable Corridor</td>
<td>3.61km</td>
<td>4.51km</td>
<td>4.09km</td>
</tr>
<tr>
<td>Statutory Designated Ecological Sites (Ramsar, SAC, SPA, SSSI, NNR, LNR)</td>
<td>None affected</td>
<td>None affected</td>
<td>None affected</td>
</tr>
<tr>
<td>Areas of Outstanding Natural Beauty</td>
<td>None affected</td>
<td>None affected</td>
<td>None affected</td>
</tr>
<tr>
<td>Ancient Woodland</td>
<td>None affected</td>
<td>Queech Woodland</td>
<td>None affected</td>
</tr>
<tr>
<td>World Heritage Sites</td>
<td>None affected</td>
<td>None affected</td>
<td>None affected</td>
</tr>
<tr>
<td>County Wildlife Sites</td>
<td>None affected (although site close to route)</td>
<td>Crosses 1 county wildlife site (Queech Wood)</td>
<td>None affected (although site close to route)</td>
</tr>
<tr>
<td>Conservation Areas</td>
<td>None affected</td>
<td>None affected</td>
<td>None affected</td>
</tr>
<tr>
<td>Heritage Coast</td>
<td>None affected</td>
<td>None affected</td>
<td>None affected</td>
</tr>
<tr>
<td>Country Park</td>
<td>None affected</td>
<td>None affected</td>
<td>None affected</td>
</tr>
<tr>
<td>Historic Parks &amp; Gardens</td>
<td>None affected</td>
<td>None affected</td>
<td>None affected</td>
</tr>
<tr>
<td>Registered Battlefields</td>
<td>None affected</td>
<td>None affected</td>
<td>None affected</td>
</tr>
<tr>
<td>Listed Buildings</td>
<td>None affected</td>
<td>None affected</td>
<td>None affected</td>
</tr>
<tr>
<td>Conservation Areas</td>
<td>None affected</td>
<td>None affected</td>
<td>None affected</td>
</tr>
<tr>
<td>Scheduled Monuments</td>
<td>None affected</td>
<td>None affected</td>
<td>None affected</td>
</tr>
<tr>
<td>Public Rights of Way</td>
<td>7</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Open Access Land</td>
<td>None affected</td>
<td>None affected</td>
<td>None affected</td>
</tr>
<tr>
<td>Registered Common Land</td>
<td>None affected</td>
<td>None affected</td>
<td>None affected</td>
</tr>
<tr>
<td>National Trails</td>
<td>0</td>
<td>0</td>
<td>2 crossings of the Fynn Valley Walk</td>
</tr>
<tr>
<td>Agricultural Land Classification</td>
<td>Approximately 25% of the route corridor traverses grade 2, 50% traverses grade 3 and 25% traverses grade 4</td>
<td>Approximately 70% of the route corridor traverses grade 2 and 30% traverses grade 3</td>
<td>Approximately 20% of the route corridor traverses grade 2, 60% traverses grade 3 and 20% traverses grade 4</td>
</tr>
<tr>
<td>Environmentally Sensitive Area</td>
<td>Entirely within an ESA</td>
<td>Approximately 1673m of the route corridor traverses an ESA</td>
<td>Entirely within an ESA</td>
</tr>
<tr>
<td>Environmentally Sensitive Area Agreements</td>
<td>Approximately 700m of the route corridor traverses an area with Agreements in place</td>
<td>Approximately 338m of the route corridor traverses an area with Agreements in place</td>
<td>Approximately 1000m of the route corridor traverses an area with Agreements in place</td>
</tr>
</tbody>
</table>
### Environmental Stewardship Agreements
- Approximately 866m of the route corridor traverses an area with Entry Level Stewardship Agreements in place.
- Approximately 3054m of the route corridor traverses an area with Entry Level Stewardship Agreements in place.
- Approximately 134m of the route corridor traverses an area with Entry Level Stewardship Agreements in place.

### Countryside Stewardship Agreements
- None affected.
- Approximately 415m of route corridor traverses an area with Agreements in place.
- None affected.

### Source Protection Zones
- Zone II & III = 1.94km, Zone I = 170m.
- Zone II & III = 3.2km, Zone I = 87m.
- Zone II & III = 1.54km, Zone I = 170m.

### Woodlands
- Crosses approximately 10 boundaries containing approximately 75 individual trees and crosses approximately 2.65ha of isolated tree cover, although much of this could be avoided by micro routing.
- Crosses approximately 15 boundaries containing approximately 104 individual trees and crosses approximately 2.95ha where dense tree cover occurs that could not be avoided.
- Crosses approximately 9 boundaries containing approximately 103 individual trees and crosses approximately 2.73ha of woodland that could not be avoided.

### Road Crossings
- 6
- 8
- 5

### Railway Lines
- None affected
- None affected
- None affected

### Main Rivers
- Crosses 1 Main River at National Grid Ref 623436, 248190.
- Crosses 1 Main River at National Grid Ref 623048, 249591.
- 3 Main River crossings at National Grid Ref 623532, 247982, 623325, 247657 and 622924, 247598.

### Ordinary Watercourses
- 2
- 3
- 3

### Private Water Supplies
- None affected
- Data not available
- Data not available

### Floodplain
- Floodplain surrounding the River Lark
- Floodplain surrounding the River Lark
- Floodplain surrounding the River Lark and 2 crossings of the River Fynn

### Mineral Extraction Sites
- None affected
- Data not available
- Data not available

### Landfill Sites
- None affected
- Data not available
- Data not available
Figure 2: Constraints Mapping
4 CONCLUSIONS

4.1 General Conclusions

No statutory designated sites have been identified on any of the cable corridor options. The constraints identified relate mainly to river crossings (and their associated flood plains), the presence of Sources Protection Zones, impacts to the Queech Wood county Wildlife Site, woodland and tree loss, the proximity of the route to properties, the presence of the best and most versatile agricultural land (and associated agri-environment schemes), road crossings and Public Rights of Way.

From the constraints identified, the following conclusions have been drawn:

4.2 Alternative Onshore Cable Corridor A

4.2.1.1 Route Length

Alternative Onshore Cable Corridor A is almost a kilometre longer than the Preferred Onshore Cable corridor. It is best practice to choose the shortest available route unless significant issues have been identified and need to be avoided. Selecting the shortest route reduces environmental impacts by reducing the area affected (and the associated environmental receptors) by construction activities.

4.2.1.2 Agricultural Land Classification (ALC)

Alternative Onshore Cable Corridor A traverses mainly agricultural land classified as grade 2. ALC provides a method for assessing the physical quality of farmland so that the best and most versatile agricultural land can be protected through the planning system.

The best and most versatile land is defined as Grades 1, 2 and 3a in the National Planning Policy Framework (NPPF, 2012). This is the land that is most flexible, productive and efficient in response to inputs and which can best deliver future crops for food and non-food uses such as biomass, fibres and pharmaceuticals. The NPPF states that “local planning authorities should take into account the economic and other benefits of the best and most versatile agricultural land. Where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of a higher quality.”

Other corridors examined, although they do in part affect grade 2 land, largely affect agricultural land of grade 3 and 4.

4.2.1.3 County Wildlife Site

Alternative Onshore Cable Corridor A crosses the Queech Wood County Wildlife Site. The site is listed in Natural England’s Ancient Woodland Inventory and is surrounded by a ditch and bank which is typical of most ancient woods. The tree canopy is dominated by mature ash with frequent oak and field maple and a dense scrub layer is provided by hazel, blackthorn, rose and elder. Tangles of honeysuckle and ivy in the trees are
widespread. Dog's-mercury and nettle dominate the ground flora, although a number of more uncommon woodland plants are also present; wood spurge, violet, sanicle and hairy St John's-wort. The wood is mainly used as a cover for game birds. It would be preferable to avoid routing through this site as any tree loss will have significant impacts as described in section 4.2.1.4 below.

4.2.1.4 Woodland and Tree Cover

As well as impacting on Queech Wood County Wildlife Site, Alternative Onshore Cable Corridor A is constrained by other areas of woodland and dense tree cover. The development of Corridor A would unavoidably result in some loss of woodland/dense tree cover.

Woodland/dense tree cover loss has landscape and visual impacts and impacts to ecological receptors, particularly where the trees to be lost are mature trees and/or are part of a woodland area. This is because:

- Any mature trees lost will be replaced with younger stock that will take many years to mature;
- Restrictions imposed on the proximity within which certain tree species can be planted to the cable route will inevitably mean a change in the structure of the woodland around the cable route;
- The importance of trees to the landscape character is recognised within the Suffolk landscape character assessment;
- Mature trees can support bats and bat roosts, both of which are legally protected;
- Woodland is recognised as a nationally important habitat under the UK Biodiversity Action Plan;
- Mixed Broadleaved Woodland and Plantation are listed as Priority Habitats on the Suffolk Biodiversity Action Plan.

4.2.1.5 Conclusion

Due to:

- Alternative Onshore Cable Corridor A being almost 1km longer than the preferred route;
- Impacts to grade 2 ALC;
- Impacts to Queech Wood County Wildlife Site; and
- The unavoidable loss of woodland/dense tree cover associated with this alternative.

Alternative Onshore Cable Corridor A is not considered to be a better option than the Preferred Onshore Cable Corridor.
4.3 Alternative Onshore Cable Corridor B

From the constraints identified, Alternative Onshore Cable Corridor B is considered to be the least favourable for the following reasons:

- It involves a crossing of the River Lark and two crossings of the River Fynn;
- It involves significant works within the floodplains of the above watercourses;
- The cable will be routed closer to houses within the settlement of Little Bealings and will be in close proximity to houses within the settlement of Little Bealings for a greater length than the Preferred Onshore Cable Corridor;
- There is the potential for greater disruption to residents of Little Bealings, including the potential need to cross private gardens;
- There is the potential to encounter other utilities;
- There will be an unavoidable loss of woodland/dense tree cover;
- This route is 480m longer than the Preferred Onshore Cable Corridor.

4.4 The Preferred Onshore Cable Corridor

The Preferred Onshore Cable Corridor is the shortest option and is considered to have the least environmental impacts.

The preferred onshore cable corridor crosses less boundaries containing tree lines than option A and avoids areas where more dense tree cover occurs. The preferred onshore cable corridor also only involves one main river crossing, and is routed further from housing than option B. Where the route is in close proximity to housing (at the pinch point between Little Bealings and Great Bealings) it is anticipated that mitigation measures could be put in place in order to minimise disruption to the local communities.

In summary it can be concluded that the preferred onshore cable corridor is considered the best option for routing the cable in this area.
Dear Ms Pratt,

**Formal MMO response to the East Anglia THREE Offshore Wind Farm Scoping Report.**

Thank you for your letter dated 15 November 2012 and for providing the Marine Management Organisation (MMO) with the opportunity to be consulted on the East Anglia (EA) THREE Offshore Wind Farm Scoping Report.

The MMO sought the views of our scientific adviser Centre for Environment, Fisheries and Aquaculture Science (Cefas) and our MMO coastal office at Lowestoft and I have set out our comments below:

1. **Coastal Processes**

   1.1 The process of reviewing available information, identifying and assessing impacts, evaluating data, acquiring data where gaps exist and reviewing the information gathered is outlined in the report. However, characterising the existing environment still needs to be undertaken by the Applicant and the existing environment has yet to be described, other than in preliminary detail; this is appropriate for a Scoping Report.
1.2 The baseline information provided on bathymetry, tides and currents, waves, geology and sediments is accurate.

1.3 No details of quality standards or assurance methods have been given in the Scoping Report and this is unsurprising given the high-level nature of the document. It is expected any standards and assurance methods would be documented in the site-specific survey reports shown in Table 2.1 (Page 88), although these documents have not been provided for review. Modelled data on the physical environment have also not been presented. This is acceptable as this is a Scoping document but this information is required for the Environmental Statement (ES).

1.4 Inter-array cables are likely to be installed using either water jetting or ploughing to a depth likely to be from 0.5 to 5 meters. Scour mitigation proposals are briefly discussed and foundation scour protection options are still under consideration. Rock dumping, frond mats or grout bags may be used to protect cable ends. Full details of scour quantity need to be assessed in the ES to ensure the footprint is accurate.

1.5 Post-installation cable protection may be necessary, with any requirement informed by post-installation inspections or through periodic monitoring surveys. The mitigation strategy is outlined, although no specific measures are discussed. Full details of cable protection measures need to provided and assessed in the ES to ensure the project footprint is accurate. A detailed monitoring and mitigation plan must be developed as the design and Environment Impact Assessment (EIA) process develops.

2. Benthic Ecology

2.1 The report is well-written and comprehensive, providing a general overview of the likely impacts of wind farm construction, operation and decommissioning on the benthic environment. Such impacts are informed by the extensive benthic characterisation surveys targeted at the whole East Anglia Zone and cable route.

2.2 No significant occurrences of Annex I habitats have been found in EA THREE. However, *Sabellaria spinulosa* aggregations have been detected along the proposed cable route. The MMO expects to see appropriate mitigation included in the ES for cable laying operations to minimise adverse impacts on this habitat.

2.3 The proposed cable route also crosses a licensed marine disposal site; however, sampling for sediment surface contaminants at this site has
revealed no traces of contamination. Therefore, it is proposed that continued monitoring for sediment contaminants throughout the development footprint is scoped out of the EIA process and the MMO concurs with this decision.

2.4 We recommend removing paragraph 312 (page 125) from the report. The paragraphs start: “Although potentially viewed as a positive effect...” and are written in relation to the increased levels of local biodiversity following epifaunal colonisation of turbine foundations. The interpretation of any such effect as being positive is highly subjective and goes against the overall desire to maintain a benthic environment as close to a natural state as possible. It is not the objective of any development to artificially increase biodiversity at the expense of that which occurs naturally.

3. **Commercial fisheries, shellfisheries and spawning areas:**

3.1 The report has considered the ecological and commercial impacts to commercial fisheries in that particular area of the North Sea.

3.2 Overall, the report is well set out and makes good consideration of the marine community resident in the area.

3.3 Data sources provided in Table 2.3 (page 109) are appropriate. The MMO welcomes the inclusion of International Bottom Trawl Survey (IBTS) data.

3.4 We appreciate that the limitations of landings data has been acknowledged (Point 320, page 128). The most recently available data has been used and the document acknowledges that the most up-to-date information and data will be utilised throughout the EIA process.

3.5 We appreciate the thorough consultation process with the fishing industry which has already taken place and due to continue throughout the application process. The potential impacts of contaminant re-suspension, which have been scoped out for the rest of the EIA process, are appropriate. However there are a few minor points:

3.5.1 As well as referring to the Zonal Environmental Assessment (ZEA), we recommend referencing the survey design (Terms of Reference) and/or including a summary of the methodology within the Scoping Report.

3.5.2 There are no shellfish species included in Table 2.5 (Page 131). The MMO recommends including an equivalent table for key shellfish species.
3.5.3 There is currently only one short paragraph (Page 141) and a table (Table 2.6) covering the shellfish baseline. The MMO recommends that a thorough baseline is included in the report. This is because although the East Anglia (EA) zone as a whole is of little interest as a fishing ground for shellfish, to the best of our knowledge, the cable corridor may pass through some commercial shellfish grounds close inshore.

4. Species of conservation concern have been considered (point 325) and the potential disturbance to spawning and nursery fish will be addressed in the EIA. Figures 2.8 a-h show the spawning and nursery grounds for some finfish species, these highlight that demersal spawning species, sandeel and herring may be impacted by the development of the wind farms. The MMO expects that the impact assessment for these species will be addressed by the EIA process.

5. Point 341 refers to the creation of new habitat through installation of the turbines and associated scour protection. It should be noted that this is a modification of the existing habitat and not new habitat.

6. Some of the Coull et al., 1998 nursery and spawning ground plots for figures 2.8 a-h appear to be incorrect.

7. The MMO recommends that the spawning times of commercially important species e.g. Sole, Plaice and Cod are considered in the EIA and mitigation proposed where appropriate.

8. The MMO recommends that non-commercially important species e.g. Sprat and Herring are considered within the ES. This is because of the importance of such species in supporting ecosystems in the North Sea and supporting commercial species.

9. **Conclusion**

   The items highlighted in this letter should be considered in the EIA process, and the MMO would like to see the outcome of suggestions in the subsequent ES. However, the MMO does not see this letter as a definitive list of all ES/EIA requirements and other subsequent work may prove necessary should further information become available.

Yours sincerely,
K. Mongan

Kathleen Mongan

**Marine Licensing Case Officer (Offshore)**
**Marine Management Organisation**

**CC:** Keith Morrison (Scottish Power Renewables)

  Ross Hodson (MMO)

  Alan Gibson (MMO)
Your Reference: 121115_EN010056_1511915

Dear Ms Nelson

Site Name: East Anglia Three Offshore Windfarm

Site Address: East Anglia

Planning Application Number: 121115_EN010056_1511915

Thank you for approaching the Ministry of Defence (MOD) for a scoping opinion on the above proposal.

The principal safeguarding concerns of the MOD with respect to the development of wind turbines relate to their potential to create a physical obstruction to air traffic movements, and cause interference to air traffic control and air defence radar installations.

Air Traffic Control (ATC) Radar & Range Control Radar

Where wind turbines are visible to ATC radars they have been shown to have detrimental effects on radar performance. These effects include the desensitisation of radar in the vicinity of the turbines, and the creation of "false" aircraft returns which air traffic controllers must treat as real. The desensitisation of radar could result in aircraft not being detected by the radar and therefore not presented to air traffic controllers. Controllers use the radar to separate and sequence both military and civilian aircraft, and in busy uncontrolled airspace radar is the only sure way to do this safely. Maintaining situational awareness of all aircraft movements within the airspace is crucial to achieving a safe and efficient air traffic service, and the integrity of radar data is central to this process. The creation of "false" aircraft displayed on the radar leads to increased workload for both controllers and aircrews, and may have a significant operational impact. Furthermore, real aircraft returns can be obscured by the turbine's radar returns, making the tracking of conflicting unknown aircraft (the controllers’ own traffic) much more difficult.

Precision Approach Radar (PAR)

The MOD's PAR is a very accurate radar used by air traffic controllers to guide aircraft down in inclement weather (although the procedure is practised in all weather conditions). The accuracy and integrity of this radar is critical as air traffic controllers must control the aircraft in descent and very close to the ground. Wind turbines constructed in line of sight of the PAR can cause localised "track seduction", leading to aircraft disappearing from the radar. A further possible effect is the overload of the radar's processor, in that wind turbines generate "false plots" which use up processing ability.
Once its threshold is reached the radar may be unable to detect smaller targets, which are likely to be aircraft in head-on profile. Technical aspects of the PAR are covered by international arms traffic regulations, and therefore cannot be released by the MOD, but on these grounds the MOD will object to any wind turbine constructed within the PAR's coverage.

**Air Defence (AD) radar**

Trials carried out in 2005 concluded that wind turbines can have detrimental effects on the operation of radar which include the desensitisation of radar in the vicinity of the turbines, and the creation of “false” aircraft returns. The probability of the radar detecting aircraft flying over or in the vicinity of the turbines would be reduced, and the RAF would be unable to provide a full air surveillance service in the area of the proposed wind farm.

**Secondary Surveillance Radar (SSR)**

SSR relies on co-operative transmission from aircraft carrying equipment known as transponders. For this reason confusion between returns from aircraft and from other objects is highly unlikely and many of the effects caused to normal radars will not occur. However reflection of transmissions could be caused by wind turbines particularly if they are in close proximity to an SSR site. In this eventuality misidentification or mislocation of aircraft could occur. This could have potential flight safety implications.

**Meteorological Office radar**

Wind turbines can interfere with Met Office Radars in similar ways to Air Traffic Control Radars as detailed above and impair their ability to detect weather phenomena.

**Low Flying**

The whole of the UK may be used for military low flying operations. The proliferation of obstacles is not only a safety hazard but also severely impacts on its utilisation for essential low flying training.

The MOD will often request that turbines be fitted with aviation warning lights.

**Area Air Traffic Control (ATC) radar**

There are 12 National Air Traffic Services (NATS) radars under contract to provide the MOD with airspace monitoring services throughout the UK.

**Physical Safeguarding**

Turbines constructed within statutory safeguarding zones have the potential to cause physical obstructions which could interfere with the safe operation of defence assets.

**Eskdalemuir Seismological Recording Station**

This might be applicable to development in the North of England or the South of Scotland.

Following research jointly commissioned by DTI (now the Department of Business, Innovation and Skills), BWEA (now RenewableUK) and MOD, it has been confirmed that wind turbines of current design generate seismic noise which can interfere with the operational functionality of the array. In order to ensure the UK complies with the Comprehensive Nuclear-Test-Ban Treaty, a noise budget based on the findings of the research has been allocated to a Safeguarding Zone around the array. At present the reserved noise budget has been reached, so the MOD must object to further applications if they are not accompanied by a MOD approved mitigation scheme.
The allocated noise can alter on a regular basis as new schemes reach planning and others do not obtain consent. We recommend you contact us regularly to ascertain current allocation levels. Any schemes to which the MOD does not object, which subsequently do not gain planning consent, will have their noise quota added back to the available noise budget.

Calculations are based on current turbine designs. If future technological solutions can be applied to turbines and be scientifically proven to reduce or remove the noise generated, the MOD will reassess its policies.

**Threat Radar**

This might be applicable to development in the North of England or the South of Scotland.

RAF Spadeadam, in north Cumbria, is home to an Electronic Warfare Tactical Range which provides vital training, using threat radars and targets, to prepare aircrews for operations which they are likely to face in contemporary warfare. This type of military flight training activity is conducted in air space extending across northern England and Southern Scotland interacting with Threat Radar sites which are scattered across the same region. In 2010 MOD conducted a trial that concluded that threat radar systems were subject to degradation from wind turbines.

**Long Range Very Low Frequency (VLF) Transmitters**

This might be applicable for developments in the vicinity of Carlisle and Penrith.

VLF radio is a very specialised area of electronics, and the effects of wind turbines have been subject to only limited scientific study. However, there are a number of known means by which wind turbines can adversely affect the characteristics of VLF transmission. It is probable that turbine constructed in the vicinity of an VLF transmitter would have a discernable adverse impact on transmission through one of these means. The MOD is currently undertaking various studies to further understand the effects of wind turbines on VLF transmission.

Planning guidance establishes that wind energy developers should assess the affects of their proposed development upon aviation and defence interests and that they should engage in dialogue with the MOD at an early stage to identify concerns and potential mitigation to support of their application.

Accordingly the applicant should take account of MOD aviation and radar operations in completing the EIA particularly in identifying a suitable site for development and the dimensions of the turbines that are to be installed.

We therefore ask that the MOD be consulted about all wind turbine developments with a height of 11m or more or a rotor diameter of 2m or more by the developer at the earliest possible time in the development process in accordance with “Wind Energy & Aviation Interests Interim Guidelines”. [http://www.bwea.com/pdf/Wind-Energy-and-aviation-interim-guidelines.pdf](http://www.bwea.com/pdf/Wind-Energy-and-aviation-interim-guidelines.pdf). This is so that the development can be fully assessed and any MOD concerns be made known to the developer at an early stage of the development process.

We also ask that MOD be consulted by Consenting Authorities regarding all applications for wind turbine developments with a height of 11m or more or a rotor diameter of 2m or more so we can ensure that our concerns are taken into account in the decision making process.
In order to assess a proposed development, we need the following information:

1. Accurate grid coordinates for each turbine to the nearest metre,
2. The height of the turbines to blade tip, hub height and rotor diameter,
3. The number of rotor blades,
4. The wind farm generation capacity,
5. The number of turbines

MOD Safeguarding wishes to be consulted and notified about the progress of planning applications and submissions relating to this proposal to verify that it will not adversely affect defence interests.

I hope this adequately explains our position on the matter. If you require further information or would like to discuss this matter further please do not hesitate to contact me.

Further information about the effects of wind turbines on MOD interests can be obtained from the following websites:

   MOD: http://www.mod.uk/DefenceInternet/MicroSite/DIO/WhatWeDo/Operations/ModSafeguarding.htm

Yours sincerely

Dominic Martin

Defence Infrastructure Organisation

SAFEGUARDING SOLUTIONS TO DEFENCE NEEDS
Dear Sir/Madam,

Proposed East Anglia THREE Offshore Windfarm - Scoping Opinion

I refer to your letter of 15th November regarding the above. I would like to submit the following comments on behalf of National Grid:

National Grid electricity transmission infrastructure within the preferred onshore cable corridor and preferred converter station location

National Grid high voltage electricity overhead transmission lines lie within or in close proximity to the preferred onshore cable corridor and the preferred converter station location (as shown on the Onshore Cable Route Plan).

Details of the overhead transmission lines are as follows:

- 4YL 400kV from Bramford substation to Braintree substation;
- 4YM 400kV from Bramford substation to Norwich Main substation;
- 4ZW 400kV from Bramford substation to Sizewell 1 substation;
- 4ZX 400kV from Bramford substation to Sizewell 2 substation.

In addition, National Grid’s Bramford (400kV/132kV) electricity substation is located adjacent to the preferred converter station location.

The preferred onshore cable corridor crosses the 4ZX and 4ZW lines at two locations in the corridor. In addition, the preferred converter station location is crossed by all of the four National Grid overhead transmission lines described above.

The overhead lines and substation form essential parts of the electricity transmission network in England and Wales. National Grid’s approach is always to seek to retain our existing overhead
lines in situ. Our overhead lines and towers are retained by means of either wayleave agreements or permanent easements with the landowner which provide a right of access to maintain, repair, renew and inspect the overhead line.

The following points should be taken into consideration:

- Statutory electrical safety clearances must be maintained at all times. Any proposed buildings must not be closer than 5.3m to the lowest conductor. National Grid recommends that no permanent structures are built directly beneath overhead lines. These distances are set out in EN 43 – 8 Technical Specification for “overhead line clearances Issue 3 (2004) available at:  
  http://www.nationalgrid.com/uk/LandandDevelopment/DDC/devnearohl_final/appendixIII/

- If any changes in ground levels are proposed either beneath or in close proximity to our existing overhead lines then this would serve to reduce the safety clearances for such overhead lines. Safe clearances for existing overhead lines must be maintained in all circumstances.

- Further guidance on development near electricity transmission overhead lines is available here: http://www.nationalgrid.com/NR/rdonlyres/1E990EE5-D068-4DD6-8C9A-4D0B06A1BA79/31436/Developmentnearoverheadlines1.pdf

- The relevant guidance in relation to working safely near to existing overhead lines is contained within the Health and Safety Executive’s (www.hse.gov.uk) Guidance Note GS 6 “Avoidance of Danger from Overhead Electric Lines” and all relevant site staff should make sure that they are both aware of and understand this guidance.

- Plant, machinery, equipment, buildings or scaffolding should not encroach within 5.3 metres of any of our high voltage conductors when those conductors are under their worse conditions of maximum “sag” and “swing” and overhead line profile (maximum “sag” and “swing”) drawings should be obtained via the National Grid’s Policy Team at Warwick.

- If a landscaping scheme is proposed as part of the works, we request that only low growing and slow growing species of trees and shrubs are planted either directly beneath or immediately adjacent to the existing overhead line, as ultimately they may grow to attain heights that compromise safe statutory clearances to the conductors.

- Drilling or excavation works should not be undertaken if they have the potential to disturb or adversely affect the foundations or “pillars of support” of any existing tower. These foundations always extend beyond the base area of the existing tower and foundation (“pillar of support”) drawings can be obtained via the Asset Protection Team at Warwick.

I enclose a copy of a plan showing the location of National Grid’s electricity transmission assets in the vicinity of the proposed cable route corridor and the preferred converter station location, including a detailed map of our landholdings and infrastructure at Bramford substation.
National Grid gas distribution infrastructure within the preferred onshore cable corridor and preferred converter station location

National Grid Gas Distribution owns and operates the gas distribution network in the area where the onshore elements of the proposed project are located. Gas distribution pipelines are located within or in close proximity to the preferred onshore cable corridor. Further information about the location of our gas distribution assets in the area can be provided on request.

The following points should be taken into consideration:

- Our underground pipelines are protected by permanent agreements with landowners or have been laid in the public highway under our licence. These grant us legal rights that enable us to achieve efficient and reliable operation, maintenance, repair and refurbishment of our gas transmission network. Hence we require that no permanent structures are built over or under pipelines or within the zone specified in the agreement, materials or soil are not stacked or stored on top of the pipeline route and that unrestricted and safe access to any of our pipeline(s) must be maintained at all times.

- No buildings or structures should encroach within the Easement strip of the pipeline

- Please be aware that written permission is required before any works commence within the National Grid easement strip.

- Where existing roads cannot be used, construction traffic should ONLY cross the pipeline at agreed locations.

- No protective measures including the installation of concrete slab protection shall be installed over or near to the National Grid pipeline without the prior permission of National Grid. National Grid will need to agree the material, the dimensions and method of installation of the proposed protective measure.

- The information supplied is given in good faith and only as a guide to the location of our underground pipelines. The accuracy of this information cannot be guaranteed. The person(s) responsible for planning, supervising and carrying out work in proximity to our pipeline(s) shall be liable to us, as pipeline(s) owner, as well as to any third party who may be affected in any way by any loss or damage resulting from their failure to locate and avoid any damage to such a pipeline(s).

- The relevant guidance in relation to working safely near to existing underground pipelines is contained within the Health and Safety Executive’s (www.hse.gov.uk) Guidance HS(G)47 “Avoiding Danger From Underground Services” and all relevant site staff should make sure that they are both aware of and understand this guidance.
- Any works within close proximity to our pipelines must comply with National Grid specification T/SP/SSW22.

To view the SSW22 Document, please use the link below: 
http://www.nationalgrid.com/uk/LandandDevelopment/DDC/GasElectricNW/safeworking.htm

I have enclosed plans showing the location of distribution apparatus.

Yours sincerely,

[Embedded Image]

Vicky Stirling
Land and Development
(Submitted Electronically)
This plan shows those pipes owned by National Grid Gas plc in their role as a Licensed Gas Transporter (LGT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty and the accuracy thereof cannot be guaranteed. Service pipes, valve, syphon, stub connections, etc., are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by National Grid Gas plc or their agents, servants or contractors for any error of omission. Safely digging practices, in accordance with HSE(G47), must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be relied upon beyond a period of 28 days from the date of issue.
NATS has reviewed both Scoping reports for Anglia Three and Anglia Four Offshore wind farms.

Please note that the following applies to both consultations.

NATS has no comments to make on either report. However, we would like to notify that the self assessment maps have been updated since the report. As such, the developer should be made aware of these updates. NATS also notes the developer’s statement that no impact is anticipated due to the development. However, due to this area being borderline with regards to radar cover, NATS kindly requests that the zone boundary coordinates are forwarded on to us, so that a formal assessment can be carried out.

NATS would like to be consulted on any changes to the zone, and would like to receive confirmation of the number, tip height, and location of the turbines once these are known.

Please contact NATS using the following details:

NATS LTD
Safeguarding Office
4000 Parkway
Whiteley
Fareham
Hampshire
PO15 7FL

📞: 01489 444687
📧: natssafeguarding@nats.co.uk
🌐: http://www.nats.co.uk/windfarms

Regards
S. Rossi
NATS Safeguarding

Mr Sacha Rossi
ATC Systems Safeguarding Engineer
📧: sacha.rossi@nats.co.uk

NATS Safeguarding
4000 Parkway,
Whiteley, PO15 7FL

http://www.nats.co.uk/windfarms

04/12/2012
The New Orford Town Trust has considered the documents relating to both proposed offshore wind farms and would comment as follows:

The Trust is concerned that any excavation of shingle in connection with the windfarms might affect our shoreline, and we would like an assurance that this will be fully investigated before work is carried out.

Yours faithfully,

Kara Reed
Clerk to New Orford Town Trust
Dear Sir/Madam

Following your recent correspondence on the above I write to confirm that having discussed the above at the Newbourne Parish Meeting on 3rd December 2012, the Parish Council does not have any comments to make with regards the proposals.

regards

Amanda Parker
Newbourne Parish Clerk

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Norfolk County Council Comments on: -
East Anglia Three and Four Offshore Wind Farms –
Scoping Report

December 2012

1. Preface

1.1. The officer-level comments below are made on a without prejudice basis and the County Council reserves the right to make further comments at the formal application stage.

1.2. Norfolk County Council welcomes the opportunity to comment on the proposed East Anglia Three and Four Scoping Report.

2. Strategic Comments

2.1. While the above East Anglia schemes are unlikely to raise any significant issues in their own right (in relation to Norfolk), there are wider issues which any proposal forming part of the East Anglia Array would need to address. In particular it is considered that the ES will need to address the following cumulative impacts (i.e. taking into account East Anglia One proposal):

2.2. (a) Offshore and Port Impacts
   - Landscape/seascape Impacts;
   - Maritime export cable routes;
   - Impacts on the local Fishing Industry;
   - Impact on shipping, navigation and capacity of port infrastructure;

(b) Onshore Impacts
   - Consideration of where landfall will take place;
   - Grid Connection - whether there will be a need for additional overhead power lines (OHLs) or upgrading of existing OHLs and where this will take place;
   - Substations – whether there is a need for new or improved sub-stations and the location of any new facility;

(c) Economic Implications
   - Consideration of the opportunities for new business (e.g. involved in the manufacturing process and supply);
   - The wider economic implications including impacts on tourism;
   - Implications for the Ports of Great Yarmouth and Lowestoft (i.e. opportunities for expansion);

See more detailed economic issues in Appendix 1.
(d) Highway/transport Implications

- Depending on where the turbines are manufactured and/or assembled this could have a significant impact on the highway infrastructure (if transported by road to the ports) given the size of the turbines;

- In addition the supporting onshore ancillary infrastructure, such as the construction of new or upgraded OHLs and any new or expanded electricity sub-stations may have an impact on the road network (i.e. during construction).

(e) Cross-boundary Issues (Norfolk/Suffolk)

There will need to be consideration of potential cross boundary issues including,

- Highway matters – in the event that the turbines are transported between LA areas;

- Economic development – ascertaining where any manufacturing/assembly of turbines might take place (supply-chain issues) and how the on-going servicing of offshore wind turbines will be undertaken.

(f) Decommissioning – the ES should address the decommissioning and the impacts on both the onshore and offshore environment.

2.3. In addition to the above comments Norfolk County Council has prepared a Standard Pro-forma covering offshore wind farms setting out in general terms the issues, which will need to be considered in any ES (see Appendix 2 below).

3. Conclusion

3.1. The ES accompanying the above East Anglia One proposal (1,200 MW) will need to consider the cumulative impacts associated the wider East Anglia Array (Round 3) proposal (7,200 MW). In particular the ES should address:

- The export cable routes from the windfarm to the shore;

- The location of where the cable makes landfall; and

- Onshore connection provision including consideration of new or upgraded overhead power-lines and the need for new or upgraded sub-stations.

3.2. Therefore while this particular proposal (East Anglia ONE Offshore Windfarm) is unlikely to raise any significant strategic issues in relation to Norfolk, there are the wider issues highlighted above, which would need addressing as part of any application (ES). The ES accompanying this and subsequent proposals will need to cover both offshore and onshore works and will need to take into account the decommissioning effects.

3.3. Should you have any queries with the above comments please call or email Stephen Faulkner (Principal Planner) on 01603 222752 (stephen.faulkner@norfolk.gov.uk)
**Further Detailed Economic Considerations**

In relation to existing levels of service and facilities, the ES should provide an assessment of the supply chain capability in Norfolk, Suffolk and Essex. It is clear that both the existing energy related businesses as well as the wider engineering/manufacturing community has the potential to make a substantial contribution to this project and the County Council would wish to ensure the applicant pays the fullest possible regard to it. Both the East of England Energy Group and the Hethel Engineering Centre are ready and willing to support this piece of work. While the UK is one of the world's largest market for wind development, the recognised supply chain to meet that market demand lies elsewhere. Every possible effort should be made to direct more of that investment to the benefit of the UK (and preferably local) economy.

The Eastport project is now operational, rather than "currently undergoing... expansion". As well as construction and maintenance, the port facility and adjacent land could accommodate manufacturing capability as well.

It is felt that the EIA should acknowledge the existing major energy supply chain which has developed over 45 years and encompasses some 400 businesses and over 10,000 highly skilled personnel. This sector is rapidly evolving into wind and other energy sectors.

The investment in Wells by SCIRA is also notable, especially as this has involved developing new infrastructure in a port previously unrelated to the energy sector. It demonstrates both the capacity and the willingness of the local economy to accommodate energy investment.

The reference to the UEA could be expanded to acknowledge its world class status in environmental science, which is highly connected to this sector.

It is important to stress that the study by Renewables East did not assess the manufacturing capacity of the East of England, partly due to the ports offer not being clear at the time the study was undertaken. It is becoming clearer that the East coast has the capacity to accommodate major investment in terms of manufacturing particularly in Great Yarmouth as well as Harwich.

It is also vital that the EIA takes full account of the latest information about Eastport that was pulled together by BVG Associates.

The diversification of the wider engineering supply chain should be fully explored. There are over 17,000 engineering and manufacturing businesses in the East of England, which is more than twice the volume as the North East. Many of these businesses operate at the cutting edge in aerospace, automotive and motorsport, marine, agriculture and precision instruments. They have a great deal to offer the wind energy sector.

If you have any queries with the above comments please call David Dukes on 01603 223142 (Economic Development Manager).
Norfolk County Council Standards

Wind Farm Proposals - Potential Requirements for inclusion in an Environmental Statement / Environmental Impact Assessment

Offshore Wind Proposals - (Date)

Thank you for consulting the County Council on the above pre-application proposal. The officer-level comments below are made without prejudice and as such the County Council reserves the right to make further comments on any potential application that may be brought forward.

I would suggest the following areas ought to be addressed/covered in an Environmental Statement (ES) / Environmental Impact Assessment (EIA):

(a) Landscape

1. Landscape and Visual Assessment Including Impact on Heritage Landscape
   For both off-shore and any associated on-shore developments (e.g. work compound, substation) the ES/EIA would need to provide:
   • An assessment of the impact of the development on the landscape and seascape character, including landscape in neighbouring counties where they fall within the zone of visual influence;
   • An assessment of the visual intrusion caused by the development which should include the preparation of a Zone of Visual Intrusion plan/map;
   • Photomontages illustrating the impact of the development (See also Grid Connection Issues below);
   • An assessment of the cumulative impact of this development taken together with the other (a) operational wind farms, (b) permitted wind farms in the area and (c) development proposals likely to come forward; and
   • An assessment of the impact of the development on the heritage landscape.

2. Transport and Landscape Issues
   The ES/EIA will need to evaluate the impact on the landscape of upgrading existing roads and creating new access routes in the construction and operational phase of the project (including enhanced signage) as all of this can sub-urbanise a rural landscape. It will also need to consider how these should be mitigated, perhaps through removal and reinstatement at the end of the project. Please also refer to Highway - Traffic and Access section.

3. Tourism and Landscape Issues
   The ES/EIA will need to address the impact of the wind farm on tourism, including tourism occurring in neighbouring counties, which may be affected if the natural landscape is altered sufficiently.

4. Grid Connection and Landscape Issues
   The ES/EIA will need to address whether the existing overhead lines and substation are sufficient to be able to cope with the Wind Farm, or whether there will need to be any up-grading of
any of the existing overhead power lines. The ES/EIA should also address the cumulative impact on the Grid Network arising from any existing or proposed Wind Farms/Wind Turbines in the area.

In the event that new power lines are needed (or existing power lines up-graded) or any other infrastructure needs up-grading (e.g. sub-station) there would need to be a description of the route(s) including plans at an appropriate scale incorporating, for example:

- an assessment of their impact (e.g. photomontages etc).
- details of temporary construction compounds
- identification of any sensitive features along route

The ES/EIA should consider the possibility of putting over head power lines underground in order to minimise their impact.

For further information I would suggest you contact David Yates (Landscape Officer) on 01603 222771. For further information on Heritage Landscape issues, please contact Caroline Davison on 01362 869363.

(b) Ecology
The ES/EIA will need to address the potential impact on Ecology, including in particular, impact on the following interests:
- designated sites e.g. Sites of Special Scientific Interest (SSSI), National Nature Reserves, Special Protection Areas (SPA), Special Area for Conservation (SAC), County Wildlife Sites (CWS) etc;
- Coastal and sedimentary processes;
- Marine benthos (wildlife of the seabed);
- Fish resources;
- Marine mammals; and
- Birds.

The need to consider cumulative impact is a requirement of the EIA process. This is of particular importance when considering ecological impacts. Projects to be incorporated in such an assessment must include those in the past, present and foreseeable future. Projects to be incorporated in such an assessment must include not only other potential wind farms but also other types of project taking place in the marine environment or onshore so that all elements of the infrastructure are assessed.

For further information please call Heidi Thompson on 01603 222773.

(c) Cultural Heritage and Archaeology
These issues ought to be discussed with the County Council’s Historic Environmental Services section (Ken Hamilton – Archaeologist) 01362 – 869275.

(d) Socio-economic
It would be helpful if the ES/EIA could provide accurate figures of those likely to be employed both during construction and once the Wind Farm is fully operational. There should also be a statement as to whether the labour would be sourced from local firms or if
expertise would need to be imported to the region. In addition the ES should provide an indication of the likely impact on the local fishing industry particularly when other proposals are taken into account.

An economic assessment ought to be carried as part of the EIA considering how the project could utilise existing the supply chain capabilities in Norfolk, which is home to the Hethel Engineering Centre and other engineering and manufacturing businesses.

For further information please call David Dukes (Economic Development Manager) on 01603 223142.

(e) Highway – Traffic and Access

The comments below relate to the on-shore works associated with any offshore schemes including: construction of ancillary facilities such as sub-stations; cabling routes; and transporting and servicing of equipment.

1. **Vehicles** – define the nature of the traffic likely to be generated. In addition for the largest vehicles proposed to use each access route(s) this must include: -
   - minimum width (including unhindered horizontal space)
   - vertical clearance
   - axle weight restriction

2. **Access & Access Route** – description of the route (including plans at an appropriate scale incorporating swept-path surveys). Assessment to include site inspection and details of contact with the appropriate Highway Authority (including the Highways Agency for Trunk Roads where applicable). In addition:
   - details of any staff/traffic movements/access routes;
   - detailed plans of site access/es incorporating sightline provision
   - confirmation of any weight restrictions applicable on the route together with details of contact with the relevant Bridge Engineer
   - overhead/ underground equipment – details of liaison with statutory undertakers - listing statutory undertakers consulted together with a copy of their responses
   - details of any road signs or other street furniture along each route that may need to be temporarily removed/relocated

3. **Impacts during construction** – are any special requirements needed and if so provide details e.g.:-
   - timing of construction works
   - removal of parked vehicles along the route(s) – full details will need to be provided – including whether or not alternative parking arrangements are being offered or bus services provided in lieu of potential loss of ability to use private cars
   - removal and reinstatement of hedgerows – since these are usually in private ownership has contact been made with the owners. Has formal legal agreement been reached or are negotiations pending/ in progress
   - identification of the highway boundary along the construction traffic route together with verification from the Highway Authority
• confirmation of whether the identified route involves the acquisition of third party land and if so has consent been given, (verbal or has a formal legal agreement been entered into)
• confirmation of any required third party easements – e.g. will construction vehicles need to overhang ditches (these are usually in private ownership), private hedges or open land adjacent to the highway. If so, details of consent (verbal or a formal written agreement)
• any modifications required to the alignment of the carriageway or verges/over-runs
• identification of sensitive features along route
• trimming of overhead trees – has a survey been undertaken to identify trees that will need to be trimmed and if so what steps have been undertaken to identify the owners of those trees
• confirmation of whether any affected trees are covered by a tree preservation order
• confirmation of whether any of the verges along the route(s) are classified as SSSI or roadside Nature Reserve status. If so, detail any impact
• confirmation of any extraordinary maintenance agreement/s required by the Highway Authority

4. Cabling route/grid connection – description of the route/s including plans at an appropriate scale, incorporating, for example:
• assessment to include site inspection and details of contact with the appropriate Highway Authority (including the Highways Agency for Trunk Roads where applicable)
• traffic details of grid connection enabling works
• NOTE – only statutory undertakers are allowed to place longitudinal apparatus – including cables – within land forming part of the public highway.

5. Impacts during operation
• details of type and frequency of vehicle to be used to service the facility/structure(s) when in operation
• details of any long-term highway impact e.g. will trees and hedgerows need additional trimming to allow access for service vehicles
• position of structures relative to public highways and/or public rights of way – the minimum distance of which should be no less than 50m
• assessment of any impact on adjacent/affected public rights of way e.g. horses and pedestrians – e.g. with a wind farm are the blades positioned in close proximity to bridleways such that flicker may startle horses

6. Impacts during decommissioning – define the expected life span of the facility/structure(s).
• provide details of decommissioning works including an assessment of whether or not the structure is to be scrapped - i.e. can it be broken up on site and removed or will it require the same logistical process as initial construction.

For further Information on highway related matters I would suggest you contact John Shaw (Senior Engineer) on 01603 223231.

If you have any general queries with any of the above comments please call or Stephen Faulkner (Principal Planner) email on 01603 222752 (stephen.faulkner@norfolk.gov.uk).
Dear Ms Pratt

East Anglia Three Offshore Windfarm

I refer to your letter dated 15 November 2012 which has been passed to me for response.

The Water Services Regulation Authority (Ofwat) is the economic regulator for the water and sewerage companies of England and Wales. Your correspondence relates to essentially a local matter in respect of impacts on water and sewerage service provision and in this respect the relevant water company/companies local to the area and the Environment Agency are your key Statutory Consultees. We expect that normal commercial arrangements will apply and that planning matters related to water and sewerage service provision will be resolved locally.

I confirm that we therefore do not have any comments.

Yours faithfully

[Redacted]

On behalf of Water Services Regulation Authority (OFWAT)
Dear Hannah,

I can confirm that the RNLI do not wish to make any comment about the East Anglia Three and Four Offshore Wind Farms.

Thank you for giving us the opportunity so to do.

Simon Pryce.
Dear Ms Pratt,

I refer to your letter dated 15 November 2012 relating to a scoping opinion for the above referenced development.

The Council confirms it does not have any comments to make, in this instance.

Yours sincerely,

Helen Mellors

Helen Mellors (Mrs)
Area Planning Officer
Development & Environment
South Norfolk Council
Swan Lane
Long Stratton
Norfolk
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Dear Sirs,

Thank you for advising us of the above application.

I am able to advise you that St Edmundsbury Borough Council do not have any comment to make on this application.

Regards

Karen Palmer
Planning Helpdesk
01284 757675

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Dear All,

Please be advised that Suffolk Coastal District Council support the views expressed by Suffolk County Council in respect of the EIA Scoping submitted for East Anglia Three, in particular those issues that relate to the cable route through our administrative area.

Regards,

Bob Chamberlain
Principal Planner (Major Projects)
01394-444429.

Please find attached Suffolk County Council’s response on this matter, and an additional document referred to in this letter

Michael Wilks
Spatial Planning Projects Manager
Economy, Skills & Environment Service Office (B2F5D17)
Suffolk County Council
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Ms Hannah Pratt  
EIA Team  
Planning Inspectorate  
National Infrastructure Directorate  
Temple Quay House  
Temple Quay  
Bristol  
BS1 6PN

Dear Ms Pratt

Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 SI 2263 (as amended) (the EIA Regulations) Proposed East Anglia THREE Offshore Wind Farm (the project) Proposal by East Anglia Offshore Wind Limited (the applicant) - Response to Scoping Report of Suffolk County Council

General points

1. In accordance with the relevant Regulations\(^1\), the applicant is required to provide “a brief description of the nature and purpose of the development and of its possible effects on the environment”. We understand that the level of detail available for the project at this time is limited for technological reasons and due to the uncertainty related to the extent of development that may receive Development Consent for EA ONE.

2. Nevertheless, while we accept the rationale of a Rochdale Envelope approach and the notion that EIA Scoping should proceed on a worst case scenario, we feel that the EIA needs to distinguish clearly between the impacts of the two proposed options for the onshore cabling; i.e. pulling cables through existing ducts (consented as Associated Development for EA ONE) and open trenching. These are two quite different developments, and it is not clear from the Scoping Opinion exactly how they differ with respect to their effects on the environment.

3. As you will be aware the County Council is fully supportive of the developer’s intentions to construct additional ducts as part of EA ONE and we have made representations to the Department of Communities & Local Government and are hopeful of a positive outcome. For this reason we wish to understand in more detail than what is presented in the Scoping Opinion the nature of the operations and impacts that would be associated solely through the use of pre-installed ducts. For example, paragraph 143 refers to Construction Consolidation Sites but provides no indication of the scale of need for a cable pull through scenario versus open trenching. We would also wish to understand in this context how such provisions for EA THREE may interact with the restoration and mitigation provisions in EA ONE (or EA FOUR, should it precede EA THREE) – specifically does it delay either.

4. While recognising that EAO Wind THREE and FOUR are separate projects, and therefore subject to separate consents, we are keen to minimise the cumulative impacts of the two projects, which would be a particular concern if they were not constructed in tandem. The same concern applies as outlined above in the context of EA ONE – each successive project has the potential to delay the environmental restoration and mitigation of the previous one. Every effort should therefore be made to concentrate the significant impacts to as shorter period of time as possible, for example by

\(^1\) The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009, Regulation 8 (3) b
including onshore ducting/trenching works for EA FOUR (presuming it follows EA THREE) within the consent for EA THREE, should they not be consented with EA ONE. It is not clear if efficiencies in land-take could be achieved by aligning the onshore works of the two projects but if there are, every effort should be made to exploit this opportunity. These are alternatives that the EIA should consider.

**Cumulative Impacts**

5. In the case of EA ONE the County Council has consistently made representations of the need for a comprehensive cumulative impact assessment. EA THREE and FOUR appear in the Need Case for National Grid’s “Bramford to Twinstead Overhead Line” project (also a Nationally Significant Infrastructure Project). There is a clear causal effect between EA THREE and FOUR and Bramford to Twinstead and the EIA should therefore consider the cumulative impact with this project, which is a striking omission from paragraph 206 of the Scoping Opinion.

6. While we recognise that EAOW has a connection agreement with National Grid to connect to Bramford substation, we remain dissatisfied at the way that these agreements seem to preclude the consideration of alternative connection options which may have reduced environmental effects. As you are aware, the Regulations\(^2\) require the consideration of alternatives in the EIA and a reasoned justification for the preferred option “taking into account environmental effects”. We would therefore expect the EIA to address this matter.

7. It is pertinent to note that the Strategic Environmental Appraisal that supported the Round 3 allocations (referred to in paragraph 74) did not consider how the respective development zones would be connected to the National Grid, it focused on the direct impact of the windfarm developments, not the associated onshore infrastructure that would be needed to accommodate them. In short, a strategic environmental assessment determining where offshore wind farms should be connected to the National Grid has not been undertaken, hence our concern with the inability to challenge the terms of the connection offer with National Grid. Please find attached the JNCC’s advice on this matter.

**Site selection**

8. Notwithstanding the strategic comments above, if EA Three is to connect to Bramford, we would agree (subject to the points below) with the site selection process for the landfall point, cable route and converter station and are content that the EIA proceeds on this basis.

9. However, although the County Council advised otherwise, there has been no intrusive archaeological field work at any of these locations prior to the submission of the development consent order for EA ONE. Consequently in the course of the development of EA ONE (subject to development consent being granted), constraints may emerge which require alternative siting or routing of infrastructure. This may have knock on effects for EA THREE.

10. Similarly, we would wish to be satisfied that the proposals for bringing the cabling ashore at Bawdsey do not cause issues with cliff stability and interfere with coastal processes. Experiences with EA ONE should therefore inform the approach for EA THREE.

**Socio economics**

11. The relevant section of the scoping opinion (4.1.1) does not appear to consider the nature of any mitigation for socio-economic impacts.

12. We welcome the support that EAOW is giving to working towards UK firms providing more than 50% of the content of future windfarms and therefore the intention to work with UK and, in particular, East Anglian suppliers to seek to achieve this (paragraph 723). However, there could be greater detail on how it is intended to do this.

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\(^2\) The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009, Schedule 4, Regulation 18
13. The expected impact on the local economy and labour market should be examined and the assessment should also consider possible cumulative impacts with other major construction projects in the locality and any mitigation necessary. This could include initiatives related to education and skills and specific measures that EAOW might take should be outlined. Particular consideration should be given as to how such initiatives might be implemented and complement parallel initiatives being undertaken alongside other major infrastructure projects in the region.

14. Consideration should be given as to what impact the use of tourist accommodation for the mobile workforce would have on the short, medium and long term situation for the tourist industry. In particular, assessment of whether the use of a high proportion of tourist accommodation (possibly in combination with the Sizewell C and Galloper projects) would squeeze out the existing established visitor patterns, which could then take some time to return, and which might jeopardise trade for other related tourist businesses, such as restaurants and visitor attractions.

Public Rights of Way

15. With regard to paragraph 614, as a point of clarity, ‘diversions’ of rights of way should properly be referred to as temporary closures with alternative routes provided. On a similar theme, when access is restricted to National Cycle Routes, then Diversionary National Cycle Route signs must be used to guide cyclists back to the open route sections.

16. Paragraph 619 refers to mitigation though it is not stated where the provisions for the restoration of rights of way will be set out – we suggest that this is something the Code of Construction Practice should consider. The same paragraph also refers to the role of Agricultural Liaison Officers – we suggest that they could also be the appointed contact for the restoration of rights of way.

Archaeology

17. The surveys that have been completed along the corridor to date are sufficient to determine the application in relation to the corridor only (see below). If consent is forthcoming, a full field evaluation will then be required along the corridor to inform the mitigation strategy. As the county council has stated for EA ONE, systematic evaluation is crucial to enable the scheme of archaeological investigation/requirements to be accurately defined. This is likely to consist of avoidance (in some cases), full excavation in others (in advance of construction), monitoring in other cases during construction.

18. In the case of the converter station, however, the field evaluation must be undertaken before consent (geophysical survey and trial trenching) because there is less flexibility to preserve important remains in situ (along the cable route, there is flexibility to avoid important remains with the use of directional drilling, etc.). Again, this is consistent with the approach that we have agreed with the developer for EA ONE.

19. Buried archaeology should be a ‘primary consideration’ during construction (see Table under paragraph 686).

20. It should be clear that the use of HDD will not necessarily avoid impact, though it may reduce it.

Transport

21. The proposals for mitigation (paragraph 716) are acceptable in principle. We would expect that the requirements of the county council regarding routing etc, that are agreed for EA ONE to also apply to EA THREE. We would expect a transport assessment to be undertaken which details the impacts of both scenarios (ducting pre-installed versus open trenching) and any proposed mitigation.

22. Please also see comments above regarding the transitional arrangements for the Construction Consolidation Sites for the successive phases of the development of the East Anglia Zone.

Environment
23. With reference to the baseline assessment (paragraph 578), while the majority of the onshore cable route is across arable fields, this understates the significance of the crossings across the Deben estuary and other sensitive habitats, such as ancient and semi-natural woodland, ancient and species-rich hedgerows and extensive marshlands.

24. The Shadow Habitats Regulations Assessment (HRA) will need to consider the potential impacts on the European Site features of the Deben Estuary from any works which have to be timetabled during the winter months, for example further archaeological surveys and movements of construction traffic. The Shadow HRA will also need to consider the cumulative and transboundary impacts of the various offshore projects on offshore European Sites.

25. The EIA needs to consider the potential impacts of HDD on the stability of the cliffs at Bawdsey (paragraphs 89/579). It is paramount that any drilling does not destabilise these unconsolidated cliffs and necessitate the need for future coastal protection. To compound this, while the sea off the Bawdsey landfall may appear “relatively sheltered”, this stretch of coastline is in fact one of the fastest eroding in Suffolk and is a predicted area of embayment as a consequence of the sea defences further north. Consequently, it is critical that the impacts on coastal processes of the cabling near the landfall point is understood and that cables do not in the future become exposed and necessitate defending. It is also important that measures to address the risk of tidal inundation during the construction phase need to be considered.

26. There is a degree of risk with the use of HDD. The EIA needs to cover the eventuality that HDD fails and alternative approaches, such as open trenching, are needed.

27. It is not clear whether any flood protection measures are needed for the proposed jointing bays (paragraph 131). This is particularly relevant to any on the north shore of the Deben. We would not wish to see prominent structures in the landscape thus flood protection must be designed accordingly.

28. Ancient and species rich hedgerows are also a priority Biodiversity Action Plan habitat and potentially host to protected species. HDD under such hedgerows should also be considered (paragraph 654). The developer should have regard to the Suffolk Hedgerow Survey, published by Suffolk Coastal District Council’s Greenprint Forum3.

29. Paragraph 650 states that no statutory sites would be impacted by the landfall, though the location of the landfall point in Figure 3.1 (page 268) identifies that the landfall point is within the Bawdsey Cliffs SSSI. It is recognised that this is a SSSI of predominantly geological, as opposed to biological, interest.

30. With reference to landscape mitigation and the converter station (paragraph 765), consideration should also be given to the potential for landscape bunding, reducing the bed level and off-site planting. An assessment of the cumulative impacts with existing (and proposed) infrastructure in the locality should be undertaken (paragraph 754).

31. As a general point with reference to potential impacts on habitats and species, the EIA needs to clarify the mitigation hierarchy including compensation and offsetting of any permanent losses, for example habitats within the cable corridor and the converter station site (paragraphs 314 & 340).

32. Regarding the offshore works, the County Council identified concerns for EA ONE of collisions between marine mammals and high speed watercraft accessing the wind farm sites. We would, therefore, like to see the cumulative impacts of the increasing number of sites and subsequent trips by maintenance teams. The marine mammals mitigation plan also needs to identify best practice to minimise impacts, for example from piling works, on cetaceans.

33. There are a number of minor errors in the documentation;

Table 3.2 – page 249-252
- Mill Stream Local Nature Reserve (LNR) is also a County Wildlife Site (CWS)

3 See http://www.suffolkcoastal.gov.uk/yourdistrict/greenissues/greenprint/hedgerows/
- Martlesham Creek and Sluice Wood CWS is missing
- Newbourne Springs SSSI – spelling error
- Bramford Meadows CWS & LNR is not just designated for ditch vegetation but is also of considerable importance for its invertebrate populations.

Paragraphs 626 & 628
- Fore and Bushey Groves CWS is also Ancient and Semi-Natural Woodland (ASNW)

Minerals & Waste

34. The proposals do not conflict with any existing or proposed minerals or waste sites.

I trust the above points are helpful. Please free to contact the County Council for any further information or clarifications using the details above.

Yours sincerely

John Pitchford
Spatial Planning Manager
Economy, Skills and Environment
Strategic Offshore Transmission Network Considerations: Joint Statutory Nature Conservation Agency (SNCA) Advice

Dear Sir/Madam,

Please find below recommendations developed jointly by the SNCA s (statutory nature conservation agencies - Joint Nature Conservation Committee (JNCC), Scottish Natural Heritage (SNH), Natural England (NE) and the Countryside Council for Wales (CCW), on the need for a strategic approach to planning, and assessment of the associated environmental implications, for an offshore electricity transmission network related to but not solely as a result of an expansion in offshore renewable energy infrastructure. We hope that you find this paper useful and that it adds to on-going discussions being held within the UK Government on offshore grid design and planning, and captures the views we have previously expressed in a number of different meetings recently held with regulators and industry to seek to minimise negative environmental effects through a planned, strategic approach to the development of offshore transmission network(s).

We have been involved in a variety of previous work and consultations relating to the development of offshore renewable energy infrastructure such as: the recent OESEA2 and its predecessor; DECC/Ofgem consultations on the enduring regulatory regime for offshore electricity transmission; and participation in workflows such as the Offshore Transmission Coordination Project. We have stated in earlier consultation responses that a coordinated approach to the development of the offshore transmission network is of particular importance in minimising the environmental impacts of cable laying and connection of offshore developments to the onshore national network.

As expressed in our response to the DECC/Ofgem regulatory regime consultation last year\(^1\), it has always been the SNCA s' view that offshore transmission infrastructure should be developed in a strategic manner to maximise resource use, reduce consenting complexity and minimise environmental impacts. This will facilitate compliance with the requirements of regulatory regimes affecting offshore renewable energy developments (e.g. the Marine Acts and potentially the Wildlife and Countryside Act and Habitats Regulations), thus reducing the planning/consenting risk faced by project developers. More recently, in a joint agency response to the findings and recommendations of the OESEA2\(^2\), in relation to offshore cabling and grid we noted that the OESEA2 recognises the potential for impacts arising from grid infrastructure and other onshore facilities but defers assessment to the project level. We considered that assessment at a strategic level is possible, and indeed necessary. We noted that the Offshore Development Statement 2010 (ODIS) prepared by National Grid had been used to inform the OESEA2, and recommended that further iterations of the ODIS should take account of the environmental implications to inform planning for grid infrastructure and reduce environmental and consenting risk.

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We would like to take this opportunity to expand in more detail upon the need for strategic assessment of the planning and design of offshore grid, and the benefits to regulators, industry and stakeholders that this could provide.

- **A coordinated, strategic approach to offshore network development should incorporate environmental as well as technical and financial benefit considerations.** In coordinating offshore transmission, consideration should be given to environmental constraints and sensitive receptors. Finding a solution that minimises environmental impact may also offer an opportunity to rationalise the level of infrastructure needed, simplify the consenting process, and reduce costs faced by the industry.

- **Emphasis should be placed on strategic, high-level consideration of environmental implications, and potential impacts, of offshore cabling and transmission infrastructure.** This should allow environmental issues to be addressed early, reducing the consenting risk faced by individual projects/developments later on. We note that the recently published Offshore Transmission Network Feasibility Study, conducted by National Grid and the Crown Estate, highlights similar points in relation to the need for strategic planning for an offshore transmission network: "the sequential consenting of radial connections allows no scope for minimising the cumulative effects of transmission links" and that "a coordinated strategy would demonstrate that consideration has been given to the overall solution, which would minimise the cumulative effect of projects seeking to connect".

Currently, the development of an offshore renewable energy site and its connection to the onshore grid tends to occur in isolation and on an *ad hoc* basis. As the number and scale of sites being developed in UK waters increases, the SNCAs are faced with increasing uncertainty over the cumulative effects of such developments. In the face of such uncertainty we may need to give precautionary advice in order to ensure that environmental impacts are minimised, that the requirements of the relevant legislation are met and the conservation status of key receptors is maintained. This uncertainty could therefore result in severe constraints being faced by individual developers, as well as compromising the ability to plan for and construct a strategic transmission network. Ensuring assessment of environmental impacts occurs before the project level can help minimise the cumulative effects of transmission infrastructure.

- **Connection to onshore infrastructure and potential subsequent need for grid reinforcements needs to be considered as one project, at both the project and strategic levels.** Offshore elements of renewable energy developments and the transmission infrastructure in the marine environment should not be considered in isolation; a holistic view of offshore, offshore-onshore connection, and knock-on effects on the national transmission system should be taken, to ensure that potential environmental effects are adequately accounted for. It has always been the SNCAs’ view that at the project level, unless all of the offshore and onshore elements of a development are assessed, the EIA and, where relevant, the Habitat Regulations Appraisal (HRA) processes will become disjointed and that impacts will not be assessed adequately and potential cumulative effects missed. This also represents a risk to developers who may not achieve consent for both parts of the project, either at the right time, or at all. Similarly, when considering development of an offshore transmission network in UK waters, connection to the onshore grid and any subsequent need for grid reinforcement/upgrading should also be taken into account, to prevent unforeseen barriers to development and consenting risk arising further down the development process at the project level.
• It should be possible to develop high level guiding principles for the development of
an offshore transmission network to minimise environmental impacts, informing
where developments are sited later on at the project level.
We recognise Government’s desire and current policy for offshore development to be
market-led and consequently it is difficult to develop prescriptive, locational plans on where
offshore transmission infrastructure is to be built. However, as demonstrated by the ODIS
and follow-up Offshore Transmission Network Feasibility Study Work, it is possible to
develop scenarios of what transmission networks may look like, and what direction
development and the market may take. Based on these scenarios it should also be possible
to begin exploring potential environmental implications and to develop
recommendations/guidance on where and how such offshore transmission infrastructure
(and associated interconnection with the onshore network) should be built. For example,
mapping of key environmental sensitivities could inform planners of the main environmental
constraints occurring in certain areas around the UK, and allow the development of suitable
generic mitigation measures and best practice for planning and siting of infrastructure. Such
‘high level guiding principles’ could then form the basis for more detailed, location-specific
plans to be developed at a project or regional level, incorporating environmental
considerations and the principles of sustainable development and benefiting from the holistic
view taken at a higher, strategic level. A Strategic Environmental Assessment is not
necessarily required to achieve this, and the SNCAs are keen to input to early engagement
between regulators and planners to assist in planning for a coordinated, strategic network
both onshore and offshore.

• It has been demonstrated elsewhere that a hierarchical approach to planning for
development in the marine environment and identifying environmental constraints
and potential impacts can be successfully implemented.
For example, the SNCAs believe that the approach taken by the Crown Estate in developing
the Round 3 offshore wind sites is a useful example of different hierarchies of planning with
increasing detail on the environmental parameters and issues to consider as the process
moves from plan-level SEA and HRA, through Zonal Appraisal and Planning (ZAP), to the
project-specific EIA. Issues outlined at the plan level and generic ‘best practice’ mitigation
measures filter down and help inform the increasingly detailed ZAP and site-specific
assessments, allowing cumulative and major impacts to be addressed from an early stage.
Identification of environmental issues at the strategic planning level also takes place in the
Regional Locational Guidance3 recently produced by the DETI for Northern Ireland, which
contains a high level review of possible cable landfall options for each of the offshore
renewable energy resource zones identified within NI waters. The guidance reviews at a
strategic level key issues to be taken into account at each of the landfall locations, and
includes a review of possible onshore connections to the existing electricity distribution
network.

• Planning and development of an offshore transmission network needs to be
integrated with marine planning.
This will help ensure that the resulting offshore network represents the best overall
environmental, economic, and sociological option, taking into account and helping to
balance all the different needs and demands on the marine environment and ensuring that
sustainable development is achieved. We recommend that offshore transmission planners
and decision-makers work closely with those responsible for developing marine plans in the
UK i.e. the MMO, Welsh Government, Marine Scotland and the DOENI.

3 Regional Locational Guidance (RLG) for Offshore Renewable Energy Developments in NI Waters. Department of
Enterprise, Trade and Investment, September 2011. Available at:
http://www.detini.gov.uk/regional_locational_guidance_rlg_for_offshore_renewable_energy_developments_in_ni_waters
• The SNCAs are keen to engage in the process of planning for and developing offshore transmission infrastructure and an offshore grid network, and assessing its environmental effects. We provide advice to regulators and developers of offshore renewable energy and are statutory consultees at the project level, but would welcome the opportunity to assist further with upstream engagement at the plan level rather than at individual project level stages. There are a number of different processes and workstreams where we believe we would be able to input to allow better consideration of environmental constraints:
  - Further development and future iterations of National Grid’s ODIS;
  - Any work following on from the National Grid/Crown Estate Offshore Transmission Network Feasibility Study;
  - Work to implement the outcomes of the DECC/Ofgem Offshore Transmission Coordination Project;
  - Future offshore energy SEAs;
  - Plans developed by National Grid as the NETSO for onshore grid reinforcements to meet the demands of the developing offshore renewable energy industry.

• We would welcome further discussion with your organisations to help identify different processes and key points where you believe we could usefully input and contribute to your work towards planning and assessment of an offshore transmission infrastructure network.

We hope that you find the above points useful in informing on-going discussions and work towards an offshore network that meets the demands of a growing marine renewable energy industry. We believe that developing offshore infrastructure in a strategic, coordinated manner can maximise resource use and reduce the consenting complexity faced at project level whilst minimising environmental impacts. We look forward to further engagement with your organisations to work towards a coordinated, efficient and effective offshore transmission network.

Yours sincerely,

Ollie Payne
Marine Protected Areas & Industries Adviser
Joint Nature Conservation Committee

Cc. Jessica Orr, Countryside Council for Wales
    James Bussell, Natural England
    Erica Knott, Scottish Natural Heritage
12 December 2012

Dear Ms Nelson,

RE Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 SI 2263 (as amended) (The EIA Regulations) Proposed East Anglia THREE and FOUR Offshore Windfarms (the Project) Proposal by East Anglia Offshore Wind Ltd. (The Applicant).

This letter is a formal consultation response on behalf of Tendring District Council in regard to the Scoping Opinion for the above mentioned development. This is an officer-lever consultation response.

The Council wish to address both the East Anglia THREE and East Anglia FOUR proposals within this letter.

This scoping report provides the following information –

- Information on the proposed connection location;
- Possible route (within a broad corridor) for the infrastructure required to connect East Anglia THREE and FOUR to this location;
- An indication of the infrastructure required; and
- The potential effects.

The Council do not wish to make any comment at this stage.

Thank you for consulting Tendring District Council in this matter.

Yours sincerely,

Gary Guiver BSc (Hons) PGDip
Planning Policy Manager
Thank you for your recent correspondence regarding the proposals by East Anglia Three and Four Offshore Wind farms.

This matter was discussed by our planning committee and we do not feel that we are a consultation body, since Trimley St Martin is not a ‘sea facing’ parish.

Regards

Mrs Kit Coutts
Trimley St Martin Parish Clerk
‘Mayfield’
Ataka Road
Felixstowe IP11 9DH
Tel: 01394 200039
Good afternoon Hannah,

Further to your e-mail dated 15 November 2012, I can advise that the comments below from Trinity House are relevant to both East Anglia Three OWF & East Anglia Four OWF projects.

Therefore, I can advise that Trinity House would expect the following to form part of each Environmental Statement:

**Navigation Risk Assessment**
- Comprehensive vessel traffic analysis in accordance with the requirements of MGN 371 by means of AIS and Radar augmented by visual observations where possible.
- The possible cumulative and in-combination effects on shipping routes and patterns should be fully assessed.

**Risk Mitigation Measures**
- We consider that the wind farm(s) will need to be marked with marine aids to navigation by the developer/operator in accordance with the general principles outlined in IALA (International Association of Marine Aids to Navigation and Lighthouse Authorities) Recommendation O-139 on the Marking of Man-Made Offshore Structures as a risk mitigation measure. In addition to the marking of the structures themselves, it should be borne in mind that additional aids to navigation such as buoys may be necessary to mitigate the risk posed to the mariner, particularly during the construction phase. All marine navigational marking, which will be required to be provided and thereafter maintained by the developer, will need to be addressed and agreed with Trinity House. This will include the necessity for the aids to navigation to meet the internationally recognised standards of Availability. In the event that it is not possible to present the final definitive layout of structures within the wind farm in the Environmental Statement, then indicative layouts and marking should be considered for likely scenarios.
- Appropriate buffer zones surrounding the two IMO Deep Water Routes should be fully considered.
- Any possible National trans-boundary issues should be assessed, through consultation with the Dutch authorities.
- A decommissioning plan, which includes a scenario where on decommissioning and on completion of removal operations an obstruction is left on site (attributable to the wind farm) which is considered to be a danger to navigation and which it has not proved possible to remove, should be considered. Such an obstruction may require to be marked until such time as it is either removed or no longer considered a danger to navigation, the continuing cost of which would need to be met by the developer/operator.
- The possible requirement for navigational marking of the export cables and the vessels laying them. If it is necessary for the cables to be protected by rock armour, concrete mattresses or similar protection which lies clear of the surrounding seabed, the impact on navigation and the requirement for appropriate risk mitigation measures needs to be assessed.

The applicant should note that an irregular arrangement of turbines is particularly difficult to satisfactorily mitigate the risk posed to the mariner in most cases. Therefore, every effort should be made to avoid having isolated turbine structures and the developer should aim to achieve as regular a shaped layout of turbines as possible.

Kind regards,

Stephen Vanstone
Navigation Services Officer

Trinity House
Trinity Square
Tower Hill
Dear Sir or Madam

Please find attached scoping consultation letters regarding the following two projects:

- East Anglia THREE Offshore Wind Farm
- East Anglia FOUR Offshore Wind Farm

Kind regards

Hannah

<<121115_EN010056_Letter to stat consultees-Scoping Letter&Reg 9 Notification.pdf>>
<<121115_EN010057_Letter to stat consultees-Scoping Letter&Reg 9 Notification.pdf>>

Hannah Pratt
EIA and Land Rights Advisor
National Infrastructure Directorate,
The Planning Inspectorate,
Temple Quay House,
Temple Quay,
Bristol,
BS1 6PN
Direct Line: 0303 444 5001
Helpline: 0303 444 5000
Email: Hannah.Pratt@infrastructure.gsi.gov.uk
Web: www.planningportal.gov.uk/planninginspectorate (Planning Inspectorate casework and appeals)
Web: www.planningportal.gov.uk/infrastructure (Planning Inspectorate's National Infrastructure Planning portal)
Advice may be given about applying for an order granting development consent or making representations about an application (or a proposed application). This communication does not however constitute legal advice upon which you can rely and you should obtain your own legal advice and professional advice as required.

A record of the advice which is provided will be recorded on the Planning Inspectorate website together with the name of the person or organisation who asked for the advice. The privacy of any other personal information will be protected in accordance with our Information Charter which you should view before sending information to the Planning Inspectorate.

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APPENDIX 3

Presentation of the Environmental Statement
APPENDIX 3

PRESENTATION OF THE ENVIRONMENTAL STATEMENT

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (SI 2264) (as amended) sets out the information which must be provided for an application for a development consent order (DCO) for nationally significant infrastructure under the Planning Act 2008. Where required, this includes an environmental statement. Applicants may also provide any other documents considered necessary to support the application. Information which is not environmental information need not be replicated or included in the ES.

An environmental statement (ES) is described under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (SI 2263) (as amended) (the EIA Regulations) as a statement:

a) ‘that includes such of the information referred to in Part 1 of Schedule 4 as is reasonably required to assess the environmental effects of the development and of any associated development and which the applicant can, having regard in particular to current knowledge and methods of assessment, reasonably be required to compile; but

b) that includes at least the information required in Part 2 of Schedule 4’.

(EIA Regulations Regulation 2)

The purpose of an ES is to ensure that the environmental effects of a proposed development are fully considered, together with the economic or social benefits of the development, before the development consent application under the Planning Act 2008 is determined. The ES should be an aid to decision making.

The SoS advises that the ES should be laid out clearly with a minimum amount of technical terms and should provide a clear objective and realistic description of the likely significant impacts of the proposed development. The information should be presented so as to be comprehensible to the specialist and non-specialist alike. The SoS recommends that the ES be concise with technical information placed in appendices.

ES Indicative Contents

The SoS emphasises that the ES should be a ‘stand alone’ document in line with best practice and case law. The EIA Regulations Schedule 4, Parts 1 and 2, set out the information for inclusion in environmental statements.

Schedule 4 Part 1 of the EIA Regulations states this information includes:

‘17. Description of the development, including in particular—
(a) a description of the physical characteristics of the whole development and the land-use requirements during the construction and operational phases;
(b) a description of the main characteristics of the production processes, for instance, nature and quantity of the materials used;
(c) an estimate, by type and quantity, of expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation, etc) resulting from the operation of the proposed development.

18. An outline of the main alternatives studied by the applicant and an indication of the main reasons for the applicant’s choice, taking into account the environmental effects.

19. A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the interrelationship between the above factors.

20. A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development, resulting from:
(a) the existence of the development;
(b) the use of natural resources;
(c) the emission of pollutants, the creation of nuisances and the elimination of waste,
and the description by the applicant of the forecasting methods used to assess the effects on the environment.

21. A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.

22. A non-technical summary of the information provided under paragraphs 1 to 5 of this Part.

23. An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information’.

EIA Regulations Schedule 4 Part 1

4.21 The content of the ES must include as a minimum those matters set out in Schedule 4 Part 2 of the EIA Regulations. This includes the consideration of ‘the main alternatives studied by the applicant’ which the SoS recommends could be addressed as a separate chapter in the ES. Part 2 is included below for reference:
4.22 Schedule 4 Part 2

- A description of the development comprising information on the site, design and size of the development
- A description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects
- The data required to identify and assess the main effects which the development is likely to have on the environment
- An outline of the main alternatives studies by the applicant and an indication of the main reasons for the applicant’s choice, taking into account the environmental effects, and
- A non-technical summary of the information provided [under the four paragraphs above].

Traffic and transport is not specified as a topic for assessment under Schedule 4; although in line with good practice the SoS considers it is an important consideration per se, as well as being the source of further impacts in terms of air quality and noise and vibration.

**Balance**

The SoS recommends that the ES should be balanced, with matters which give rise to a greater number or more significant impacts being given greater prominence. Where few or no impacts are identified, the technical section may be much shorter, with greater use of information in appendices as appropriate.

The SoS considers that the ES should not be a series of disparate reports and stresses the importance of considering inter-relationships between factors and cumulative impacts.

**Scheme Proposals**

The scheme parameters will need to be clearly defined in the draft DCO and therefore in the accompanying ES which should support the application as described. The SoS is not able to entertain material changes to a project once an application is submitted. The SoS draws the attention of the applicant to the DCLG and the Planning Inspectorate’s published advice on the preparation of a draft DCO and accompanying application documents.

**Flexibility**

The SoS acknowledges that the EIA process is iterative, and therefore the proposals may change and evolve. For example, there may be changes to the scheme design in response to consultation. Such changes should be addressed in the ES. However, at the time of the application for a DCO, any proposed scheme parameters should not be so wide ranging as to represent effectively different schemes.
It is a matter for the applicant, in preparing an ES, to consider whether it is possible to assess robustly a range of impacts resulting from a large number of undecided parameters. The description of the proposed development in the ES must not be so wide that it is insufficiently certain to comply with requirements of paragraph 17 of Schedule 4 Part 1 of the EIA Regulations.

The Rochdale Envelope principle (see *R v Rochdale MBC ex parte Tew (1999)* and *R v Rochdale MBC ex parte Milne (2000)*) is an accepted way of dealing with uncertainty in preparing development applications. The applicant’s attention is drawn to the Planning Inspectorate’s Advice Note 9 ‘Rochdale Envelope’ which is available on the Advice Note’s page of the National Infrastructure Planning website.

The applicant should make every attempt to narrow the range of options and explain clearly in the ES which elements of the scheme have yet to be finalised and provide the reasons. Where some flexibility is sought and the precise details are not known, the applicant should assess the maximum potential adverse impacts the project could have to ensure that the project as it may be constructed has been properly assessed.

The ES should be able to confirm that any changes to the development within any proposed parameters would not result in significant impacts not previously identified and assessed. The maximum and other dimensions of the proposed development should be clearly described in the ES, with appropriate justification. It will also be important to consider choice of materials, colour and the form of the structures and of any buildings. Lighting proposals should also be described.

**Scope**

The SoS recommends that the physical scope of the study areas should be identified under all the environmental topics and should be sufficiently robust in order to undertake the assessment. The extent of the study areas should be on the basis of recognised professional guidance, whenever such guidance is available. The study areas should also be agreed with the relevant consultees and local authorities and, where this is not possible, this should be stated clearly in the ES and a reasoned justification given. The scope should also cover the breadth of the topic area and the temporal scope, and these aspects should be described and justified.

**Physical Scope**

In general the SoS recommends that the physical scope for the EIA should be determined in the light of:

- the nature of the proposal being considered
- the relevance in terms of the specialist topic
• the breadth of the topic
• the physical extent of any surveys or the study area, and
• the potential significant impacts.

The SoS recommends that the physical scope of the study areas should be identified for each of the environmental topics and should be sufficiently robust in order to undertake the assessment. This should include at least the whole of the application site, and include all offsite works. For certain topics, such as landscape and transport, the study area will need to be wider. The extent of the study areas should be on the basis of recognised professional guidance and best practice, whenever this is available, and determined by establishing the physical extent of the likely impacts. The study areas should also be agreed with the relevant consultees and, where this is not possible, this should be stated clearly in the ES and a reasoned justification given.

**Breadth of the Topic Area**

The ES should explain the range of matters to be considered under each topic and this may respond partly to the type of project being considered. If the range considered is drawn narrowly then a justification for the approach should be provided.

**Temporal Scope**

The assessment should consider:

• environmental impacts during construction works
• environmental impacts on completion/operation of the development
• where appropriate, environmental impacts a suitable number of years after completion of the development (for example, in order to allow for traffic growth or maturing of any landscape proposals), and
• environmental impacts during decommissioning.

In terms of decommissioning, the SoS acknowledges that the further into the future any assessment is made, the less reliance may be placed on the outcome. However, the purpose of such a long term assessment, as well as to enable the decommissioning of the works to be taken into account, is to encourage early consideration as to how structures can be taken down. The purpose of this is to seek to minimise disruption, to re-use materials and to restore the site or put it to a suitable new use. The SoS encourages consideration of such matters in the ES.

The SoS recommends that these matters should be set out clearly in the ES and that the suitable time period for the assessment should be agreed with the relevant statutory consultees.

The SoS recommends that throughout the ES a standard terminology for time periods should be defined, such that for example, ‘short term’ always refers to the same period of time.
Baseline

The SoS recommends that the baseline should describe the position from which the impacts of the proposed development are measured. The baseline should be chosen carefully and, whenever possible, be consistent between topics. The identification of a single baseline is to be welcomed in terms of the approach to the assessment, although it is recognised that this may not always be possible.

The SoS recommends that the baseline environment should be clearly explained in the ES, including any dates of surveys, and care should be taken to ensure that all the baseline data remains relevant and up to date.

For each of the environmental topics, the data source(s) for the baseline should be set out together with any survey work undertaken with the dates. The timing and scope of all surveys should be agreed with the relevant statutory bodies and appropriate consultees, wherever possible.

The baseline situation and the proposed development should be described within the context of the site and any other proposals in the vicinity.

Identification of Impacts and Method Statement

Legislation and Guidelines

In terms of the EIA methodology, the SoS recommends that reference should be made to best practice and any standards, guidelines and legislation that have been used to inform the assessment. This should include guidelines prepared by relevant professional bodies.

In terms of other regulatory regimes, the SoS recommends that relevant legislation and all permit and licences required should be listed in the ES where relevant to each topic. This information should also be submitted with the application in accordance with the APFP Regulations.

In terms of assessing the impacts, the ES should approach all relevant planning and environmental policy – local, regional and national (and where appropriate international) – in a consistent manner.

Assessment of Effects and Impact Significance

The EIA Regulations require the identification of the ‘likely significant effects of the development on the environment’ (Schedule 4 Part 1 paragraph 20).

As a matter of principle, the SoS applies the precautionary approach to follow the Court’s reasoning in judging ‘significant effects’. In other words

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2 See Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw (Waddenzee Case No C 127/02/2004)
'likely to affect' will be taken as meaning that there is a probability or risk that the development will have an effect, and not that a development will definitely have an effect.

The SoS considers it is imperative for the ES to define the meaning of ‘significant’ in the context of each of the specialist topics and for significant impacts to be clearly identified. The SoS recommends that the criteria should be set out fully and that the ES should set out clearly the interpretation of ‘significant’ in terms of each of the EIA topics. Quantitative criteria should be used where available. The SoS considers that this should also apply to the consideration of cumulative impacts and impact inter-relationships.

The SoS recognises that the way in which each element of the environment may be affected by the proposed development can be approached in a number of ways. However it considers that it would be helpful, in terms of ease of understanding and in terms of clarity of presentation, to consider the impact assessment in a similar manner for each of the specialist topic areas. The SoS recommends that a common format should be applied where possible.

Inter-relationships between environmental factors

The inter-relationship between aspects of the environments likely to be significantly affected is a requirement of the EIA Regulations (see Schedule 4 Part 1 of the EIA Regulations). These occur where a number of separate impacts, e.g. noise and air quality, affect a single receptor such as fauna.

The SoS considers that the inter-relationships between factors must be assessed in order to address the environmental impacts of the proposal as a whole. This will help to ensure that the ES is not a series of separate reports collated into one document, but rather a comprehensive assessment drawing together the environmental impacts of the proposed development. This is particularly important when considering impacts in terms of any permutations or parameters to the proposed development.

Cumulative Impacts

The potential cumulative impacts with other major developments will need to be identified, as required by the Directive. The significance of such impacts should be shown to have been assessed against the baseline position (which would include built and operational development). In assessing cumulative impacts, other major development should be identified through consultation with the local planning authorities and other relevant authorities on the basis of those that are:

- under construction
- permitted application(s), but not yet implemented
- submitted application(s) not yet determined
- projects on the National Infrastructure’s programme of projects
• identified in the relevant development plan (and emerging development plans - with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals will be limited, and
• identified in other plans and programmes (as appropriate) which set the framework for future development consents/approvals, where such development is reasonably likely to come forward.

Details should be provided in the ES, including the types of development, location and key aspects that may affect the EIA and how these have been taken into account as part of the assessment.

The SoS recommends that offshore wind farms should also take account of any offshore licensed and consented activities in the area, for the purposes of assessing cumulative effects, through consultation with the relevant licensing/consenting bodies.

For the purposes of identifying any cumulative effects with other developments in the area, applicants should also consult consenting bodies in other EU states to assist in identifying those developments (see commentary on Transboundary Effects below).

Related Development

The ES should give equal prominence to any development which is related with the proposed development to ensure that all the impacts of the proposal are assessed.

The SoS recommends that the applicant should distinguish between development for which development consent will be sought and any other development. This distinction should be clear in the ES.

Alternatives

The ES must set out an outline of the main alternatives studied by the applicant and provide an indication of the main reasons for the applicant’s choice, taking account of the environmental effect (Schedule 4 Part 1 paragraph 18).

Matters should be included, such as *inter alia* alternative design options and alternative mitigation measures. The justification for the final choice and evolution of the scheme development should be made clear. Where other sites have been considered, the reasons for the final choice should be addressed.

The SoS advises that the ES should give sufficient attention to the alternative forms and locations for the off-site proposals, where appropriate, and justify the needs and choices made in terms of the form of the development proposed and the sites chosen.
Mitigation Measures

Mitigation measures may fall into certain categories namely: avoid; reduce; compensate or enhance (see Schedule 4 Part 1 paragraph 21); and should be identified as such in the specialist topics. Mitigation measures should not be developed in isolation as they may relate to more than one topic area. For each topic, the ES should set out any mitigation measures required to prevent, reduce and where possible offset any significant adverse effects, and to identify any residual effects with mitigation in place. Any proposed mitigation should be discussed and agreed with the relevant consultees.

The effectiveness of mitigation should be apparent. Only mitigation measures which are a firm commitment and can be shown to be deliverable should be taken into account as part of the assessment.

It would be helpful if the mitigation measures proposed could be cross referred to specific provisions and/or requirements proposed within the draft development consent order. This could be achieved by means of describing the mitigation measures proposed either in each of the specialist reports or collating these within a summary section on mitigation.

The SoS advises that it is considered best practice to outline in the ES, the structure of the environmental management and monitoring plan and safety procedures which will be adopted during construction and operation and may be adopted during decommissioning.

Cross References and Interactions

The SoS recommends that all the specialist topics in the ES should cross reference their text to other relevant disciplines. Interactions between the specialist topics is essential to the production of a robust assessment, as the ES should not be a collection of separate specialist topics, but a comprehensive assessment of the environmental impacts of the proposal and how these impacts can be mitigated.

As set out in EIA Regulations Schedule 4 Part 1 paragraph 23, the ES should include an indication of any technical difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.

Consultation

The SoS recommends that any changes to the scheme design in response to consultation should be addressed in the ES.

It is recommended that the applicant provides preliminary environmental information (PEI) (this term is defined in the EIA Regulations under regulation 2 'Interpretation') to the local authorities.

Consultation with the local community should be carried out in accordance with the SoCC which will state how the applicant intends to consult on the
preliminary environmental information (PEI). This PEI could include results of detailed surveys and recommended mitigation actions. Where effective consultation is carried out in accordance with Section 47 of the Planning Act, this could usefully assist the applicant in the EIA process – for example the local community may be able to identify possible mitigation measures to address the impacts identified in the PEI. Attention is drawn to the duty upon applicants under Section 50 of the Planning Act to have regard to the guidance on pre-application consultation.

Transboundary Effects

The SoS recommends that consideration should be given in the ES to any likely significant effects on the environment of another Member State of the European Economic Area. In particular, the SoS recommends consideration should be given to discharges to the air and water and to potential impacts on migratory species and to impacts on shipping and fishing areas.

The Applicant’s attention is also drawn to the Planning Inspectorate’s Advice Note 12 ‘Development with significant transboundary impacts consultation’ which is available on the Advice Notes Page of the National Infrastructure Planning website

Summary Tables

The SoS recommends that in order to assist the decision making process, the applicant may wish to consider the use of tables:

Table X to identify and collate the residual impacts after mitigation on the basis of specialist topics, inter-relationships and cumulative impacts.

Table XX to demonstrate how the assessment has taken account of this Opinion and other responses to consultation.

Table XXX to set out the mitigation measures proposed, as well as assisting the reader, the SoS considers that this would also enable the applicant to cross refer mitigation to specific provisions proposed to be included within the draft Development Consent Order.

Table XXXX to cross reference where details in the HRA (where one is provided) such as descriptions of sites and their locations, together with any mitigation or compensation measures, are to be found in the ES.

Terminology and Glossary of Technical Terms

The SoS recommends that a common terminology should be adopted. This will help to ensure consistency and ease of understanding for the decision making process. For example, ‘the site’ should be defined and used only in

Appendix 3
terms of this definition so as to avoid confusion with, for example, the wider site area or the surrounding site.

A glossary of technical terms should be included in the ES.

**Presentation**

The ES should have all of its paragraphs numbered, as this makes referencing easier as well as accurate.

Appendices must be clearly referenced, again with all paragraphs numbered.

All figures and drawings, photographs and photomontages should be clearly referenced. Figures should clearly show the proposed site application boundary.

**Bibliography**

A bibliography should be included in the ES. The author, date and publication title should be included for all references. All publications referred to within the technical reports should be included.

**Non Technical Summary**

The EIA Regulations require a Non Technical Summary (EIA Regulations Schedule 4 Part 1 paragraph 22). This should be a summary of the assessment in simple language. It should be supported by appropriate figures, photographs and photomontages.
LATE SCOPING CONSULTATION RESPONSES

Consultation bodies have 28 days to respond with any comments, stating either the information that they consider should be included in the ES or that they do not have any comments.

Any responses received after the deadline will not be considered within the scoping opinion but are forwarded to the applicant for consideration in accordance with the policy set out in Advice Note 7: Environmental Impact Assessment, Screening and Scoping.

The following EIA scoping consultation responses were received after the consultation deadline specified under legislation and therefore did not form part of the Secretary of State's scoping opinion.
Dear Sirs,

Following your letter dated 15th November, regarding the consultation of Otley Parish Council on the above proposal by East Anglia Offshore Wind Limited, we confirm that we do not have any comments.

Yours faithfully

Vanessa Osborne
Parish Clerk

Otley Parish Council

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Correspondents should note that all communications to Department for Communities and Local Government may be automatically logged, monitored and/or recorded for lawful purposes.
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13th November 2012

Dear Ms Nelson

INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2009 SI 2263 (as amended) (the EIA Regulations)
PROPOSED EAST ANGLIA FOUR OFFSHORE WINDFARM (the project)
PROPOSAL BY EAST ANGLIA OFFSHORE WIND LIMITED (the applicant)

Thank you for the invitation to give comments regarding your planned scoping study work. Please accept the following in this regard.

1. It is important for the community of Sproughton to be made aware of and to fully understand the impacts of your proposals, and specifically those that impact on Sproughton, its residents, its natural and built environment and infrastructure.

2. It is envisaged that the works and infrastructure associated with the transmission of power and its handling on land will be the cause of the main impacts on Sproughton.

3. Impacts during planning / construction phase and operational phase should be identified.

4. Options for mitigating impacts should be identified and assessment of their effectiveness made.

5. Assessments and reporting should be in a form that is easily accessible and understood by lay people whether they have access to the internet or not.
6. It is important for the community of Sproughton to remain engaged with development and implementation phases of the proposals and it relies on the proposer of the development and their advisors to ensure that this happens.

I would be grateful if you acknowledge receipt of this letter.

Yours sincerely

S Frankis

Mrs S Frankis
Clerk to the Parish of Sproughton
Document 6.6 Ends Here.