The Planning Inspectorate
Yr Arolygiaeth Gynllunio

SCOPING OPINION:

Proposed East Anglia TWO Offshore Windfarm

Case Reference: EN010078

Adopted by the Planning Inspectorate (on behalf of the Secretary of State for Communities and Local Government) pursuant to Regulation 10 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

December 2017

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1. INTRODUCTION

1.1 Background

1.1.1 On 09 November 2017, the Planning Inspectorate (the Inspectorate) on behalf of the Secretary of State (SoS) received a scoping request from ScottishPower Renewables (UK) Limited (the Applicant) under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) for the proposed East Anglia TWO Offshore Windfarm (the Proposed Development).

1.1.2 In accordance with Regulation 10 of the EIA Regulations, an Applicant may ask the SoS to state in writing its opinion *'as to the scope, and level of detail, of the information to be provided in the environmental statement'.*

1.1.3 This document is the Scoping Opinion (the Opinion) provided by the Inspectorate on behalf of the SoS in respect of the Proposed Development. It is made on the basis of the information provided in the Applicant's report entitled 'East Anglia TWO Offshore Windfarm Scoping Report' (the Scoping Report). This Opinion can only reflect the proposals as currently described by the Applicant. The Scoping Opinion should be read in conjunction with the Applicant's Scoping Report.

1.1.4 The Applicant has notified the SoS under Regulation 8(1)(b) of the EIA Regulations that they propose to provide an Environmental Statement (ES) in respect of the Proposed Development. Therefore, in accordance with Regulation 6(2)(a) of the EIA Regulations, the Proposed Development is EIA development.

1.1.5 Regulation 10(9) of the EIA Regulations requires that before adopting a scoping opinion the Inspectorate must take into account:

(a) any information provided about the proposed development;

(b) the specific characteristics of the development;

(c) the likely significant effects of the development on the environment; and

(d) in the case of a subsequent application, the environmental statement submitted with the original application.

1.1.6 This Opinion has taken into account the requirements of the EIA Regulations as well as current best practice towards preparation of an ES.

1.1.7 The Inspectorate has consulted on the Applicant's Scoping Report and the responses received from the consultation bodies have been taken into account in adopting this Opinion (see Appendix 2).

1.1.8 The points addressed by the Applicant in the Scoping Report 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 Inspectorate will take account of relevant legislation and guidelines. The Inspectorate will not be precluded from requiring additional information if it is considered necessary in connection with the ES submitted with the application for a Development Consent Order (DCO).

1.1.9 This Opinion should not be construed as implying that the Inspectorate agrees with the information or comments provided by the Applicant in their request for an opinion from the Inspectorate. In particular, comments from the Inspectorate in this Opinion are without prejudice to any later decisions taken (eg 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.

1.1.10 Regulation 10(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 description of the proposed development, including its location and technical capacity;

(c) an explanation of the likely significant effects of the development on the environment; and

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

1.1.11 The Inspectorate considers that this has been provided in the Applicant's Scoping Report. The Inspectorate is satisfied that the aspect areas identified in the Scoping Report encompass the matters identified in the EIA Regulations.

1.1.12 In accordance with Regulation 14(3)(a), where a scoping opinion has been issued in accordance with Regulation 10 an ES accompanying an application for an order granting development consent should be based on *'the most recent scoping opinion adopted (so far as the proposed development remains materially the same as the proposed development which was subject to that opinion)*'.

1.1.13 The Inspectorate notes the potential need to carry out an assessment under The Conservation of Habitats and Species Regulations 2017. This document must be co-ordinated with the EIA, to avoid duplication of information between assessments. It appears from the information provided in the Scoping Report that the Conservation of Offshore Marine Habitats and Species Regulations 2017 will be triggered.

1.2 The Planning Inspectorate's Consultation

1.2.1 In accordance with Regulation 10(6) of the EIA Regulations the Inspectorate has consulted the consultation bodies before adopting a scoping opinion. A list of the consultation bodies formally consulted by the Inspectorate is provided at Appendix 1. The consultation bodies have

been notified under Regulation 11(1)(a) of the duty imposed on them by Regulation 11(3) of the EIA Regulations to make information available to the Applicant relevant to the preparation of the ES. The Applicant should note that whilst the list can inform their consultation, it should not be relied upon for that purpose.

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

1.2.3 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.

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

1.3 Article 50 of the Treaty on European Union

1.3.1 On 23 June 2016, the United Kingdom (UK) held a referendum and voted to leave the European Union (EU). On 29 March 2017 the Prime Minister triggered Article 50 of the Treaty on European Union, which commenced a two year period of negotiations regarding the UK's exit from the EU. There is no immediate change to legislation or policy affecting national infrastructure. Relevant EU Directives have been transposed into UK law and those are unchanged until amended by Parliament.

2. THE PROPOSED DEVELOPMENT

2.1 Introduction

2.1.1 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.

2.2 Description of the Proposed Development

2.2.1 The Applicant's description of the Proposed Development, its location and its technical capacity (where relevant) is provided in the Scoping Report Part 1, Sections 1.4 and 1.5.

2.2.2 The Proposed Development is up to 75 offshore wind turbines, each with a rated capacity of up to 19MW, and a total installed capacity of up to 900MW. Subsea inter-array cables would run between and from the turbines to connect to up to four offshore electrical platforms. Two offshore export cables (with a maximum cable corridor length of 57km) would run from the offshore electrical platform to transition bays at the landfall location. From the transition bays up to six underground onshore export cables would connect to a new onshore substation, the location of which is to be confirmed. Underground cables from the substation would connect to a new National Grid transmission substation which in turn would connect to the electricity transmission network using existing overhead lines. The electrical transmission would utilise a High Voltage Alternating Current (HVAC) technology. The main components of the Proposed Development are shown in Diagram 1.1 (page 7) of the Scoping Report.

2.2.3 The Proposed Development would include other offshore infrastructure such as an accommodation platform; turbine and platform foundations; subsea cables between platforms both within the Proposed Development site (platform-link cables) and potentially platforms of other offshore windfarms (interconnector cables); fibre optic communications cables; cable protection including cable and foundations scour protection; a meteorological mast and associated foundations; and monitoring/navigational buoys and anchors. It is anticipated that offshore construction works would take approximately 36 to 48 months and that the offshore infrastructure would have a design life of about 25 years.

2.2.4 The offshore windfarm site covers an area of approximately 255km^2. At its nearest point it is 31km from Lowestoft and 32km from Southwold, and 35km from Sizewell and 40km from Orford. Two routes are proposed for the export cables from the windfarm site to the landfall location: a northern and a southern route, both of which are represented at this stage within an offshore export cable corridor Area of Search (AoS) which will be refined at a later stage. The proposed northern route (and the

approach to the landfall for both routes) is shared with the proposed export cable corridor AoS for the East Anglia ONE North windfarm site. The AoS for the Proposed Development heads east from the landfall location and then north, crossing cables and avoiding Sizewell Bank sandbank. Approximately half-way along the route it divides to allow for connection either into the south or the north of the offshore windfarm site. The southern route passes to the south and the northern route to the north of the Southwold Oil Transhipment Area and the Southwold East aggregates dredging area. The offshore windfarm site and AoS are shown on Figure 1.1 of the Scoping Report.

2.2.5 The onshore infrastructure required would include cable jointing bays and cable ducts; sealing end compounds/gantries, potential upgrading or relocation of up to two existing pylons; and temporary construction areas. During construction ducting would also be installed, where possible, for the onshore electrical cables required for the proposed East Anglia ONE North windfarm (a separate project). Onshore construction works are anticipated to take approximately 18 to 24 months.

2.2.6 The location of the landfall and onshore infrastructure including the cable corridor route is yet to be determined so the onshore site is represented at this stage according to an onshore study area. This includes land between Sizewell and Thorpeness for the landfall location, and inland approximately 7km to the north of the Friston settlement, with a grid connection point in the vicinity of Sizewell and Leiston. The proposed landfall location (according to the onshore study area) would also be used for the export cables landfall for the proposed East Anglia ONE North windfarm site. The onshore study area is shown in Figure 1.2 of the Scoping Report.

2.2.7 The onshore study area is predominantly agricultural land which includes arable and grazing pasture, and it also comprises woodland areas and water bodies, such as rivers and ponds. It is partly located within an Area of Outstanding Natural Beauty (AONB).

2.3 The Planning Inspectorate's Comments

Description of the Proposed Development

2.3.1 The Inspectorate understands that at this stage the extent of the Proposed Development site, both offshore and onshore, is not yet determined, however reminds the Applicant that the ES should include a discrete section that fully describes both parts of the site.

2.3.2 Although the Scoping Report identifies that the area of the windfarm site is approximately 255km^2, the Method Statements (MSs) contained in the Appendices state that it is 257km^2. The northern export cable corridor route shown in the figures contained in the MSs that identify the windfarm site and the AOS (Physical Processes Figure 1, for example) differs to the northern route shown in Figure 1.1 in the Scoping Report. Part of the route to the north east of where the northern and southern route join appears similar to the East Anglia ONE North AoS. The

Applicant should ensure that the descriptions and figures in the ES of both the site and the Proposed Development are accurate and consistent throughout the ES and in the DCO application documents.

2.3.3 Section 1.5.1 of the Scoping Report indicates that both a meteorological mast and LIDAR buoys are expected to comprise key offshore components of the Proposed Development; however, Section 1.5.2 paragraph 79 indicates that one or the other would be utilised. It is stated in Table 1.3 that there would be two offshore export cables while Section 1.5.3 notes that one transition bay would be needed for each offshore cable and there would be 'up to' two transition bays. The description of the Proposed Development must be consistent throughout the ES, notwithstanding that alternative options may be presented.

2.3.4 The description of the Proposed Development in Section 1.5 of the Scoping Report includes a fleeting reference to offshore fibre optic communications cables and the need for link boxes housing joints. However, other than a brief reference to potential impacts of the link boxes in the traffic and transport chapter (paragraph 614) these components are not discussed elsewhere in the Scoping Report. The description of the Proposed Development in the ES must be comprehensive, and an assessment of the potential impacts of the construction, operation and decommissioning of all of its component parts must be carried out.

Alternatives

2.3.5 The EIA Regulations require that the Applicant provide 'A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects'.

2.3.6 The Inspectorate would expect to see a discrete section in the ES that provides details of the alternatives considered and the reasoning for the selection of the chosen option(s), including a comparison of the environmental effects. It is noted that the Applicant intends to include a chapter in the ES covering site selection and assessment of alternatives.

Flexibility

2.3.7 The Inspectorate notes that the Applicant intends to apply the Rochdale Envelope approach to the application for the Proposed Development. A number of options for various components are presented in the Scoping Report, although it is acknowledged that the design envelope will be developed and refined during the EIA process. The Applicant's attention is drawn to the Inspectorate's Advice Note 9 'Using the 'Rochdale

Envelope'[1], which provides additional details on the recommended approach.

2.3.8 The Applicant should make every attempt to narrow the range of options and explain clearly in the ES which elements of the Proposed Development have yet to be finalised and provide the reasons. At the time of application, any Proposed Development parameters should not be so wide-ranging as to represent effectively different developments. The development parameters will need to be consistently and clearly defined in both the draft DCO (dDCO) and in the accompanying ES. It is a matter for the Applicant, in preparing an ES, to consider whether it is possible to robustly assess 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 the requirements of Regulation 14 of the EIA Regulations.

2.3.9 Where parameters are applied the Applicant should ensure that each aspect chapter of the ES sets out the worst case scenario in relation to the specific assessment being undertaken and that this is explained. The worst case scenario will not necessarily be the same for each assessment.

2.3.10 It should be noted that if the Proposed Development changes substantially during the EIA process and prior to submission of the DCO application the Applicant may wish to consider requesting a new scoping opinion.

[1] Advice Note nine: Using the Rochdale Envelope. 2012. Available at: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

3. EIA APPROACH

3.1 Introduction

3.1.1 This section contains the Inspectorate's specific comments on the scope and level of detail of information to be provided in the Applicant's ES. General advice on the presentation of an ES is provided in the Inspectorate's Advice Note 7 'Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping'[2] and associated appendices.

3.1.2 Aspects/matters are not scoped out unless specifically addressed and justified by the Applicant, and confirmed as being scoped out by the Inspectorate. The ES should be based on the Scoping Opinion in so far as the Proposed Development remains materially the same as the Proposed Development described in the Applicant's Scoping Report. The Inspectorate has set out in this Opinion where it has/has not agreed to scope out certain aspects or matters on the basis of the information available at this time. The Inspectorate is content that this should not prevent the Applicant from subsequently agreeing with the relevant consultees to scope such aspects/matters out of the ES, where further evidence has been provided to justify this approach. However, in order to demonstrate that the aspects/matters have been appropriately addressed, the ES should explain the reasoning for scoping them out and justify the approach taken.

3.1.3 The Inspectorate welcomes the Applicant's intent to include a summary of the matters proposed to be scoped in and out for each relevant aspect assessed in the ES.

3.1.4 Where relevant, the ES should provide reference to how the delivery of measures proposed to prevent/minimise adverse effects is secured through DCO requirements (or other suitably robust methods) and whether relevant consultees agree on the adequacy of the measures proposed.

3.2 Relevant National Policy Statements (NPSs)

3.2.1 Sector-specific NPSs are produced by the relevant Government Departments and set out national policy for NSIPs. They provide the framework within which the Examining Authority (ExA) will make their recommendation to the SoS and include the Government's objectives for the development of NSIPs. The NPSs may include environmental requirements for NSIPs, which Applicants should address within their ES.

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[2] Advice Note seven: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping. Available from: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

3.2.2 The designated NPSs relevant to the energy sector are EN-1 Overarching NPS for Energy; EN-3 Renewable Energy Infrastructure; and EN-5 Electricity Networks Infrastructure.

3.3 Scope of Assessment

General

3.3.1 The Inspectorate recommends that in order to assist the decision-making process, the Applicant uses tables:

- to demonstrate how the assessment has taken account of this Opinion;
- to identify and collate the residual effects after mitigation for each of the aspect chapters, including the relevant interrelationships and cumulative effects;
- to set out the proposed mitigation and/or monitoring measures including cross-reference to the means of securing such measures (eg a dDCO requirement);
- to describe any remedial measures that are identified as being necessary following monitoring; and
- to identify where details in the HRA report (where relevant), such as descriptions of European sites and their locations, together with any mitigation or compensation measures, are to be found in the ES.

3.3.2 The ES should include details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.

3.3.3 It is indicated that much of the data used to inform the assessments for the Proposed Development was produced in order to provide information on the environment of the former East Anglia Zone (fEAZ) and the East Anglia ONE and THREE windfarms. While it is noted and welcomed that Figure 2.13 shows the location of other windfarm developments in the vicinity of the Proposed Development it does not include the fEAZ. It would assist understanding if the ES included a plan that shows the area covered by the fEAZ.

3.3.4 The level of information provided in the aspects chapters on the assessment study area(s) varies, and is very limited in some chapters. The ES must clearly identify and justify the extent of the study area for each assessment.

3.3.5 The Inspectorate notes that for particular aspects detailed information on the proposed methodology and potential impacts is contained within the MSs at Appendices 2.1 – 2.6 and in Appendix 4.1. The Inspectorate expects that such information will be updated as necessary and included within the respective aspect chapters of the ES.

3.3.6 Paragraph 83 of the Physical Processes MS explains that the cumulative impact assessment of East Anglia ONE will be undertaken on the basis of

102WTGs being present. The Inspectorate is aware that the authorised DCO for East Anglia ONE includes permission for up to 240 WTGs. The cumulative impact assessment within the ES should address this position and explain how this has been taken into consideration ensuring a robust assessment is undertaken.

3.3.7 The Inspectorate notes that potential decommissioning effects are generally anticipated to be similar to but smaller than construction effects. The Applicant must ensure that, where alternative options are presented in the ES, the worst case scenario is addressed. For example, it is likely, as indicated in the Scoping Report, that removing the undersea cables rather than leaving them in situ, would cause the greater disturbance to the seabed.

Baseline Scenario

3.3.8 The ES should include a description of the baseline scenario with and without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.

Forecasting methods or evidence

3.3.9 The ES should contain the timescales upon which the surveys which underpin the technical assessments have been based. For clarity, this information should be provided either in the introductory chapters of the ES (with confirmation that these timescales apply to all chapters), or in each aspect chapter.

3.3.10 The Inspectorate expects the ES to include a chapter setting out the overarching methodology for the EIA, which clearly states which effects are 'significant' and 'non-significant' for the purposes of the EIA. The Inspectorate notes that, in addition to definitions of receptor sensitivity and effect magnitude, a number of the MSs, for example Fish Ecology and Ornithology, state that the 'value' of a receptor may also be considered in the assessment, and provide definitions of a range of values. However, it is not clear how these will influence the assessment of significance. The ES should explain for each aspect chapter how receptor value is determined and how it is used in the assessment of significance. Any departure from the methodology should be described in individual aspect assessment chapters.

Residues and emissions

3.3.11 The EIA Regulations require an estimate, by type and quantity, of expected residues and emissions. Specific reference should be made to water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases, where relevant. This information should be provided in a clear and consistent fashion and may be integrated into the relevant aspect assessments.

Mitigation

3.3.12 Any mitigation relied upon for the purposes of the assessment should be explained in detail within the ES. The likely efficacy of the mitigation proposed should be explained with reference to residual effects. The ES should also address how any mitigation proposed is secured, ideally with reference to specific DCO requirements or other legally binding agreements.

3.3.13 Paragraph 183 of the Scoping Report states that a number of documents that form part of the DCO application will also support the ES, and will include information on proposed mitigation. The Inspectorate requires that any measures proposed to mitigate the assessed effects identified in the ES should be described in the relevant aspect chapters of the ES.

Vulnerability of the development to risks of major accidents and/or disasters

3.3.14 The ES should include a description of the potential vulnerability of the Proposed Development to risks of major accidents and/or disasters, including vulnerability to climate change, which are relevant to the Proposed Development. Relevant information available and obtained through risk assessments pursuant to European Union legislation, such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or relevant assessments carried out pursuant to national legislation, may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.

3.3.15 Paragraph 180 of the Scoping Report states that major accidents and disasters will be considered in the EIA in the context of how the Proposed Development is designed and the measures in place in case of emergency, for example, in relation to pollution prevention and response. The EIA should also identify if the Proposed Development itself has the potential to cause major accidents or disasters during construction, operation or decommissioning.

Transboundary effects

3.3.16 Schedule 4 Part 5 of the EIA Regulations requires a description to be provided in an ES of the likely significant transboundary effects. The Inspectorate notes that the Applicant has indicated in the Scoping Report whether the Proposed Development is likely to have significant impacts on another European Economic Area (EEA) State. It is stated in paragraph 178 of the Scoping Report that transboundary effects are not relevant to onshore aspects. It should be clarified in the ES that this is the Applicant's conclusion in relation to the Proposed Development rather than a general principle in respect of potential transboundary effects.

3.3.17 Regulation 32 of the EIA Regulations inter alia requires the Inspectorate to publicise a DCO application on behalf of the SoS if it 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.

3.3.18 The Inspectorate considers that where Regulation 32 applies, this is likely to have implications for the examination of a DCO application. The Inspectorate notes that paragraph 178 of the Scoping Report states that transboundary impacts are to be considered on a 'topic by topic' basis. The ES should clearly assess whether the Proposed Development has the potential for significant transboundary effects and if so, what these are and which EEA States would be affected.

A reference list

3.3.19 A reference list detailing the sources used for the descriptions and assessments must be included in the ES.

3.4 Confidential Information

3.4.1 In some circumstances it will be appropriate for information to be kept confidential. In particular, this may relate to information about the presence and locations of rare or sensitive species such as badgers, rare birds and plants, where disturbance, damage, persecution or commercial exploitation may result from publication of the information. Where documents are intended to remain confidential the Applicant should provide these as separate paper and electronic documents with their confidential nature clearly indicated in the title, and watermarked as such on each page. The information should not be incorporated within other documents that are intended for publication or which the Inspectorate would be required to disclose under the Environmental Information Regulations 2014.

4. ASPECT BASED SCOPING TABLES

4.1 Marine Geology, Oceanography and Physical Processes

(Scoping Report Section 2.2)

The study area for this aspect is not defined. However, it is stated in the introduction to Part 2 (Offshore) of the Scoping Report that this part provides information on the main characteristics of the offshore windfarm site and the AoS (as shown on Figure 1.1 of the Scoping Report). The AoS is adjacent to sandbanks which are supporting features of the Outer Thames Estuary Special Protection Area (SPA).

The detailed information on the proposed methodology, surveys undertaken to date, and potential impacts is contained within the Physical Processes MS (Rev 4) provided at Appendix 2.1 of the Scoping Report, which sets out the agreements to date made with the Marine Management Organisation (MMO), Natural England (NE) and the Centre for Environment Fisheries and Aquaculture Science (CEFAS). The assessment will be based on a combination of the existing zone-wide modelling (from the Zone Environmental Appraisal (ZEA)), modelling undertaken for East Anglia ONE and expert-based judgement. No new modelling is proposed. Site-specific bathymetric data for the windfarm site was collected in summer 2017 and further data will be collected for the cable corridor AoS in March 2018.

The Scoping Report identifies potential effects during construction from disturbance of the seabed due to plant, cable and foundation installation activities, which could displace sediments and result in localised increased suspended sediments and changes to seabed levels. Potential effects during operation are predicted as predominantly resulting from the physical presence of the infrastructure, which could lead to scour of surface sediments and changes to waves, tides and sediment transport.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
1	Table 2.1	Changes to the tidal regime due to the presence of the foundation structures during construction and decommissioning	The Inspectorate agrees that this matter can be scoped out as the foundation structures will only be present during the operational phase.

2	Table 2.1	Changes to the wave regime due to the presence of the foundation structures during construction and decommissioning	The Inspectorate agrees that this matter can be scoped out as the foundation structures will only be present during the operational phase.
3	Table 2.1	Changes to the sediment transport regime due to the presence of the foundation structures during construction and decommissioning	The Inspectorate agrees that this matter can be scoped out as the foundation structures will only be present during the operational phase.
4	Table 2.1	Scour effects due to the presence of the foundation structures and cables during construction and decommissioning	The Inspectorate agrees that this matter can be scoped out as the foundation structures will only be present during the operational phase.
5	Table 2.1	Increases in suspended sediment as a result of vertical turbulence during construction and decommissioning	The Inspectorate agrees that this matter can be scoped out on the basis that the turbulence would be generated by the operation of the wind turbines.
6	Table 2.1 and para 201	Transboundary effects during all phases	It is noted that the Applicant considers that there will be no transboundary receptors within the zone of influence as the extent of impacts is expected to be localised and not to extend far beyond the boundary of the windfarm or offshore export cable corridor. The Inspectorate agrees that this matter can be scoped out for the construction and decommissioning phases. However, it is not agreed that transboundary effects may be scoped out for the operational phase, since the presence of the foundation structures could cause changes to the wave regime, the impacts of which could extend beyond the site of the Proposed Development and this has not been addressed in the Scoping Report. This is recognised by the MMO, in

			their scoping consultation response (see Appendix 2 of this Opinion). The Inspectorate notes that changes to the wave regime during operation is a matter that is specifically scoped in by the Applicant.
	Para	**Other points**	**Inspectorate's comments**
7	193	Designated sites	The Inspectorate advises that consideration should be given to the potential for impacts on the Orford Inshore recommended Marine Conservation Zone. If it is concluded that there could be significant impacts this receptor should be included in the assessment and the scope agreed with NE. The Applicant's attention is drawn to NE's scoping response in this regard (see Appendix 2 of this Opinion).
8	198	Decommissioning impacts	The Inspectorate notes that decommissioning impacts are not identified at this stage and that it is indicated that they will be assessed according to the overarching methodology set out in Section 1.6.3.9 and the Physical Processes MS. Paragraph 175 of Section 1.6 indicates they are anticipated to be similar to construction impacts but of lower magnitude. The Inspectorate requires the ES to clearly assess the predicted decommissioning impacts (as far as they can be predicted), and present the significant effects and residual effects that occur.

4.2 Water and Sediment Quality

(Scoping Report Section 2.3)

The study area for this aspect is not defined. However, it is assumed that it reflects that shown on Figure 1.1 of the Scoping Report. The export cable corridor AoS is approximately 8km from the nearest designated bathing beach (at Southwold) and 13km from the proposed landfall location, and passes through the Suffolk Coast Water Framework Directive (WFD) water body.

The assessment will be informed by benthic survey data collected between 2011 and 2013 for the fEAZ, East Anglia ONE and East Anglia THREE sites; contaminant samples from the East Anglia TWO windfarm site and AoS; and the results of the Marine Geology, Oceanography and Physical Processes assessment.

The Applicant has identified potential impacts during construction from disturbance of the seabed. This occurs due to the presence and movement of plant on the seabed, installation activities for cables and foundations, other installation activities causing localised increases in suspended sediments including the potential to remobilise contaminated sediments; and from spills and leaks from vessels. During operation, there is the potential for impacts from the use of plant and vessels during routine maintenance activities.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
9	216 and Table 2.4	Cumulative effects during all phases	The Inspectorate does not agree that this matter can be scoped out as insufficient justification has been provided at this time to support this approach. It is noted in the Scoping Report that there is potential for increases in suspended sediments and for contaminated sediments to be remobilised, and these could result in a significant cumulative effect.
10	217 and Table 2.4	Transboundary impacts during all phases	The Inspectorate does not agree that this matter can be scoped out as insufficient justification has been provided at this time to support this approach. Increases in suspended sediments and changes to water quality could potentially affect mobile species, including EU protected species which may be in the area and could be features of other EEA States' designated

			sites. The Inspectorate highlights the consultation comments of the MMO in relation to the relevance of the results of the cumulative wave assessment (see Appendix 2 of this Opinion) to this matter.
	Para	**Other points**	**Inspectorate's comments**
11	209	Baseline information	It is understood that baseline data obtained for the East Anglia ONE and THREE windfarm sites will inform the assessments for the Proposed Development. The ES should clearly explain how this information relates to the location of the Proposed Development and is sufficiently robust to inform the assessment.

4.3 Offshore Air Quality

(Scoping Report Section 2.4)

The study area is not defined and no reference is made to methodology. Very little information is provided in this Section as it is proposed that offshore air quality is wholly scoped out. The Inspectorate has provided comments on this below.

It is anticipated that exhaust emissions from vessels operating offshore would be the main source of potential impacts on air quality, and that the pollutants emitted are likely to be sulphur dioxide (SO_2), nitrogen oxides (NO_x) and particulate matter.

The Inspectorate agrees that this aspect may be wholly scoped out on the basis that the main source of atmospheric emissions would be exhaust emissions from vessels, and that due to the nature of the Proposed Development associated vessel movements would only generate a negligible increase in emissions in all phases which is unlikely to result in significant effects.

4.4 Offshore Airborne Noise

(Scoping Report Section 2.5)

The study area is not explicitly defined. Reference is made to the windfarm and offshore export cable corridor.

No reference is made to methodology.

The Applicant identifies potential for airborne noise from increased vessel activity and from pile driving during construction; from turbine movements during operation; and from some decommissioning activities.

Very little information is provided in this Section as it is proposed that offshore airborne noise is wholly scoped out. The Inspectorate has provided comments on this below.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
12	230 - 234	Offshore airborne noise during all phases	The Inspectorate does not agree that this aspect can be scoped out as insufficient justification has been provided at this time to support this approach. Further explanation would need to be provided to enable the Inspectorate to agree this, particularly in relation to the following matters: reference is made to 'limited offshore receptors' that could be impacted by construction noise (such as generated by increased vessel activity and pile driving) which are not identified; and while justification is provided for why onshore receptors will not be impacted by noise generated by operational turbine movement no reference is made to and no justification provided for why there is no potential for impacts to offshore receptors.

4.5 Benthic Ecology

(Scoping Report Section 2.6)

The study area is not explicitly defined. Reference is made to the windfarm site and offshore export cable corridor AoS.

The detailed information on the proposed methodology, surveys undertaken to date, and potential impacts is contained the Benthic Ecology MS (Rev 4) provided at Appendix 2.2 of the Scoping Report. It is indicated that the assessments will be informed by reference to information available from the Marine Life Information Network (MarLIN). The Applicant intends to rely on benthic data obtained for the fEAZ, East Anglia ONE and East Anglia THREE, together with new data collected for the sections of the AoS not covered by the existing data.

The Applicant has identified potential impacts during construction from disturbance to seabed communities due to the presence of plant on the seabed and cable and foundation installation activities resulting in temporary habitat loss, increased suspended sediment and disturbance from noise and vibration.

Potential impacts during operation are identified as predominantly from the physical presence of infrastructure which will result in permanent habitat loss or a change of seabed substratum, and from maintenance activities.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
13	Table 2.6	Permanent habitat loss during construction and decommissioning	The Inspectorate does not agree that this matter can be scoped out as no supporting information has been provided in either the Scoping Report or the MS. The Applicant is referred to the MMO's scoping consultation comments in this regard in respect of decommissioning (see Appendix 2 of this Opinion). However, the Inspectorate recognises that it will be difficult to accurately predict the degree to which colonisation would occur during decommissioning and therefore any assessment should be proportionate and reflect this uncertainty.
14	Table 2.6	Underwater noise and vibration during	The Inspectorate does not agree that this matter can be scoped out as no supporting

		operation	information has been provided in either the Scoping Report or the MS.
15	Table 2.6	Colonisation of foundations and cable protection during construction and decommissioning	The Inspectorate does not agree that this matter can be scoped out as no supporting information has been provided in either the Scoping Report or the MS. However, it is recognised that it will be difficult to accurately predict the degree to which colonisation would occur during decommissioning and therefore any assessment should be proportionate and reflect this uncertainty.
16	247	Impact of electromagnetic fields during all phases	The Inspectorate agrees that it is not necessary to cover this matter in the ES benthic ecology chapter on the basis that it will be assessed in the fish and shellfish ecology aspect chapter, as indicated in Section 6.2.7 of the Benthic Ecology MS.
17	250	Transboundary impacts	The Inspectorate agrees that the assessment of transboundary impacts from impacts to benthic ecology can be scoped out. The Inspectorate agrees with the Applicant's conclusion that potential impacts on benthic ecology from the Proposed Development would be localised and small scale in nature, and sufficiently distant from other EEA States.
	Para	**Other points**	**Inspectorate's comments**
18	237	Benthic infaunal communities	The information provided about the location of the infaunal communities does not reflect the locations shown on Figure 2.3 of the Scoping Report, for example, in respect of Groups N and Q. In addition, Figure 2.3 also includes locations in the AoS to which no reference is made in the text. The title of Figure 2.4 suggests that it identifies both benthic infauna biomass (described as infaunal abundance in paragraph 238) and Sabellaria reef communities, although only infaunal

			biomass appears to be shown. Sabellaria reef is however shown on Figure 2.5. The Applicant should ensure that information provided in the ES is consistently and accurately presented, and that the terminology used is consistent throughout.
19	N/A	Dredged/drilled material disposal	The Inspectorate advises that consideration should be given to the potential for impacts of material disposal on benthos. If it is concluded that there could be significant impacts this receptor should be included in the assessment and the scope agreed with the MMO. The Applicant is referred to the comments of the MMO in their scoping response in this regard (see Appendix 2 of this Opinion).

4.6 Fish and Shellfish Ecology

(Scoping Report Section 2.7)

The study area is not explicitly defined. Reference is made to the assessment of potential impacts within the windfarm site and the AoS.

The detailed information on the proposed methodology, surveys undertaken to date, and potential impacts is contained the Fish Ecology MS (Rev 4) provided at Appendix 2.3 of the Scoping Report.

It is indicated that the assessment will be undertaken with regard to IEEM's 2010 Guidelines for Ecological Impact Assessment in Britain and Ireland: Marine and Coastal. The Applicant intends to rely on relevant existing data from a number of sources, including MMO fisheries landing data, the MarLIN database, and data obtained for the fEAZ, East Anglia ONE and East Anglia THREE offshore windfarms, and not to undertake any further site-specific fish sampling surveys. It is stated that this approach has been agreed with stakeholders through the Evidence Plan Process.

The Applicant has identified potential impacts during construction from physical disturbance of seabed habitats; sediment suspension during cable and foundation installation work; and underwater noise generated by pile driving and other activities potentially resulting in fish species disturbance and displacement and affecting spawning and nursery areas.

Potential operational impacts are identified as predominantly resulting from habitat loss and changes to seabed substrata from the physical presence of infrastructure; and from electromagnetic fields (EMFs) generated by operational cables.

Potential for cumulative impacts is identified in relation to noise, habitat loss and changes to seabed habitat.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
20	Table 2.10	Physical disturbance and temporary loss of sea bed habitat, spawning or nursery grounds during intrusive works during operation	The Inspectorate agrees that this matter can be scoped out on the basis that intrusive works that would be undertaken in the operational phase would be related to maintenance activities, and the Inspectorate considers that this would be unlikely to be of a scale that would result in

			significant effects to these receptors. The Inspectorate notes that an Outline Offshore Operations and Maintenance Plan is likely to be submitted with the DCO application (paragraph 183 of the Scoping Report). We assume that this plan will include measures designed to reduce potential impacts and recommend that the Applicant seeks agreement on the plan from the MMO.
21	Table 2.10	Permanent habitat loss during construction and decommissioning	The Inspectorate agrees that this matter can be scoped out on the assumption that habitat lost during construction will be considered as a temporary impact, and that any habitat that is permanently lost following construction will be assessed as part of the operational impact assessment.
22	Table 2.10	Underwater noise impacts to hearing sensitive species during foundation piling during operation and decommissioning	The Inspectorate agrees that this matter can be scoped out in respect of operation and decommissioning on the basis that piling would only take place during the construction phase and this will be assessed.
23	Table 2.10	Introduction of wind turbine foundations, scour protection and hard substrate during construction and decommissioning	The Inspectorate agrees that this matter can be scoped out on the basis that this matter would be assessed as part of the operational impact assessment.
24	Table 2.10	Electromagnetic fields during construction and decommissioning	Due to the nature of the construction and likely decommissioning works required for the Proposed Development the Inspectorate agrees that significant effects are unlikely to be attributed to EMFs during these phases and can be scoped out.
25	Table 2.10	Changes in fishing activity during construction and decommissioning	No justification has been provided to support scoping this matter out from assessment. In the absence of information such as evidence demonstrating clear agreement with relevant statutory bodies, the Inspectorate is not in a position to agree to scope this out. Accordingly, the ES should include an assessment of this

			matter.
26	Table 2.10	Cumulative permanent habitat loss during construction	The Inspectorate agrees that this matter can be scoped out on the assumption that habitat lost during construction will be considered in the EIA as a temporary impact, and that any habitat that is permanently lost following construction will be considered under cumulative operational impacts.
27	Table 2.10	Transboundary impacts during all phases	The Inspectorate agrees that this matter can be scoped out in the knowledge that the distribution of fish and shellfish species is independent of national geographical boundaries and on the understanding that the assessment will take into account fish stocks and populations distribution irrespective of national jurisdictions.
	Para	**Other points**	**Inspectorate's comments**
28	264	Designated sites	It is not clear why only designated sites with the listed interest features will be considered in the ES (and HRA), particularly when it is subsequently stated that there are no Special Areas of Conservation (SACs) designated for those features within 50km of the windfarm site. The study area for this assessment should be defined according to the relevant receptors that may experience impacts by the Proposed Development and the rationale should be explained in the ES. No reference is made to the cable corridor AoS. The ES should include an assessment of any impacts from the Proposed Development which could result in significant effects to designated sites.
29	N/A	Methodology	The Inspectorate has been made aware of guidance referenced by the MMO in Section 9 of their scoping response (see Appendix 2 of this Opinion). The Applicant should take this into account in undertaking their assessment of the potential impacts of noise on fish.

4.7 Marine Mammals

(Scoping Report Section 2.8)

The study area is not explicitly defined. The windfarm site lies wholly within the Southern North Sea Candidate SAC (SNS cSAC). The SNS cSAC has been proposed for the protection of harbour porpoise and was identified in 2015 as being within the top 10% of persistently high density areas for harbour porpoise in UK waters. The Wash and North Norfolk Coast SAC, designated for harbour seal, is 103km away from the windfarm site and is the closest SAC.

The detailed information on the proposed methodology, surveys, and potential impacts is contained in the Marine Mammal MS (Rev 3) provided at Appendix 2.5 of the Scoping Report. Reference is made to use of the Joint Nature Conservation Council (JNCC), NE and Countryside Council for Wales (CCW) Draft Guidance - The protection of marine European Protected Species from injury and disturbance (2010). Data from windfarm site-specific surveys that were undertaken between November 2015 and April 2016 and September 2016 and October 2017, and from further surveys to be done between May 2018 and August 2018 will be used for the assessment, as will the existing fEAZ survey data.

Harbour porpoise, grey seal and harbour seal are anticipated to be the key marine mammal species that could be affected by the Proposed Development. The Applicant has identified potential impacts during construction from underwater noise from pile driving, vessels and other activities such as cable installation, and a barrier effect for cetaceans; unexploded ordinance (UXO) clearance; collisions with vessels; altered water quality as a result of sediment disturbance; disturbance at seal haul-out sites; and changes to prey resources.

Potential operational impacts are identified as predominantly from routine vessels present within the windfarm site; underwater noise, including from turbine operation; and impacts on prey species during maintenance activities.

Potential cumulative effects are identified as displacement due to cumulative underwater noise and impacts on prey species, the presence of offshore vessels and maintenance activities during the operational phase, and barrier effects due to the presence of offshore structures.

Potential transboundary effects are identified, particularly in relation to noise.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
30	Table	Underwater noise	The Inspectorate agrees that this matter

	2.12	during UXO clearance during operation and decommissioning	can be scoped out according to the information in the Scoping Report that UXO clearance, if required, would be undertaken during the construction phase.
31	Table 2.12	Underwater noise during piling during operation and decommissioning	The Inspectorate agrees that this matter can be scoped out on the basis that piling would only take place during the construction phase.
32	Table 2.12	Underwater noise from operational wind turbines during construction and decommissioning	The Inspectorate agrees that this matter can be scoped out on the basis that the noise would only be generated by the operation of the wind turbines.
33	300 and Table 2.12	Electromagnetic fields during all phases	The Inspectorate does not agree that this matter can be scoped out at this time as insufficient information has been provided to support this proposal. The approach to the assessment of potential effects of EMFs on marine mammals should be agreed with NE.
34	Table 2.12	Disturbance at seal haul-out sites during all phases	The Inspectorate does not agree that this matter can be scoped out at this time as insufficient information has been provided to support this approach, as recognised by NE in their consultation response (see Appendix 2 of this Opinion).
	Para	**Other points**	**Inspectorate's comments**
35	305	Mitigation	It is noted that a Marine Mammal Mitigation Plan (MMMP) would be prepared prior to construction. The Applicant must ensure that the mitigation measures that would be contained within it are appropriately described in the ES and secured in the DCO.
36	MS 117	Cumulative impacts assessment (CIA)	The Inspectorate notes the intention to apply the approach to the CIA as set out in the Joint Nature Conservation Committee (JNCC)/ NE document submitted for the East Anglia THREE windfarm DCO examination. The Applicant is also referred to the advice about a tiered approach provided in Planning Inspectorate Advice Note Seventeen (AN17), published in

			December 2015.
37	MS 123	CIA cut-off point	The date of the cut-off point after which no further projects will be included in the CIA should be clearly stated in the ES. The Applicant should be aware that the ExA may request additional information during the examination in relation to new development that comes forward after the cut-off date, as explained in AN17.
38	MS Section 6	EIA and HRA	It is noted that the Applicant intends to apply the same approach to the HRA as to the EIA, including in respect of the CIA. The Applicant should ensure that the approach fully adheres to the 2017 Habitats Regulations and that the correct legislative terminology is used in relation to each regime. The information in the ES should not duplicate that in the HRA report but should be cross-referenced.

4.8 Ornithology

(Scoping Report Section 2.9)

The study area is not explicitly defined. Reference is made to the windfarm site and a 4km buffer, and the AoS. The potential Greater Wash SPA (pSPA), designated for red-throated diver and little gull, is identified as potentially having connectivity with the windfarm site, although the distance between the two sites is not stated. The AoS crosses the Outer Thames Estuary SPA, designated for non-breeding red-throated divers. A proposed extension to cover inshore areas used for foraging by breeding little terns and common tern is currently under consideration.

The detailed information on the proposed methodology, surveys, and potential impacts is contained in the Ornithology MS (Rev 5) provided at Appendix 2.4 of the Scoping Report. It is stated that the assessment will be undertaken according to the guidance contained in the Institute of Ecology and Environmental Management (IEEM) Guidelines for Ecological Impact Assessment in Britain and Ireland: Marine and Coastal (2010). It will be informed by 24 months of site-specific data (currently ongoing) for the windfarm site and by studies undertaken for the fEAZ, and the East Anglia ONE, proposed East Anglia ONE North and East Anglia THREE windfarms.

The Applicant considers that the main bird species that could be affected are gannet, kittiwake, lesser black-backed gull, great black-backed gull, herring gull, guillemot, razorbill, and red-throated diver. Potential key impacts during construction are identified as resulting from displacement and disturbance to birds due to construction activities and vessel movement during the installation of offshore infrastructure. Collision risk, displacement, and barrier effects resulting from the presence of turbines and offshore infrastructure are identified during operation. Potential cumulative effects are identified as displacement, collision risk, and barrier effects. The potential for transboundary impacts is identified, particularly in relation to barrier effects and collision risk.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
39	Table 2.17	Collision risk due to the presence of turbines during construction and decommissioning	The Inspectorate agrees that this matter can be scoped out as the turbines will only be present during the operational phase.
40	Table 2.17	Barrier effects due to the presence of turbines during	The Inspectorate agrees that this matter can be scoped out as the turbines will only be present during the operational phase.

		construction and decommissioning	
41	Table 2.17	Disturbance due to lighting during operation and decommissioning	The Inspectorate does not agree that this matter can be scoped out as no information to support this approach and no evidence demonstrating clear agreement with relevant statutory bodies has been provided. MS Table 1.1 suggests that it was agreed with NE and the RSPB on 19 April 2017 that lighting impacts during operation would be scoped in. Accordingly, the ES should include an assessment of this matter.
42	Table 2.17	Cumulative collision risk due to the presence of turbines during construction and decommissioning	The Inspectorate agrees that this matter can be scoped out as the turbines will only be present during the operational phase.
43	Table 2.17	Cumulative barrier effects due to the presence of turbines during construction and decommissioning	The Inspectorate agrees that this matter can be scoped out as the turbines will only be present during the operational phase.
44	Table 2.17	Transboundary impacts during construction and decommissioning	The Inspectorate does not agree that this matter can be scoped out as no information to support this approach and no evidence demonstrating clear agreement with relevant statutory bodies has been provided. Paragraph 2.9.2.5 notes that birds are highly mobile and migratory and suggests that there is potential for transboundary effects, and it is similarly reflected in the MS that a transboundary effects assessment will be undertaken. It is not stated that transboundary effects will only be considered during the operational stage.
	Para	**Other points**	**Inspectorate's comments**
45	MS 28 - 29	Cable corridor AoS site surveys	It is noted that no ornithology surveys are proposed to be undertaken along the AoS, based on conclusions drawn from existing survey information which was used to assess the potential impacts of East Anglia ONE and East Anglia THREE on red-throated diver, and that impacts are expected to be temporary and localised. No

			other bird species are referenced. The source of the data relied upon to support the conclusions in relation to East Anglia TWO should be identified in the ES and its relevance to bird species other than red-throated diver should be explained. The evidence demonstrating clear agreement with relevant statutory bodies that no surveys are required must be provided. If findings reported in other chapters of the ES are to be utilised for this matter clear cross-reference to those should be provided in the ornithology chapter.
46	SR Section 2.9.1.2 and MS 46	European sites and features	Only two of the four European sites identified in the MS in relation to HRA are referenced under designated sites in the Scoping Report; Flamborough and Filey Coast pSPA and Alde-Ore Estuary SPA are omitted. In addition, although the little gull is identified in MS paragraph 46 as a feature of the Greater Wash pSPA, it is not included in the list of receptors likely to be affected by the Proposed Development provided in paragraph 44 of the MS. While the information in the ES should not duplicate that in the HRA Report, the Inspectorate expects it to be consistent between the two documents. The potential impacts on the qualifying features of the European sites other than those listed in paragraph 46 of the MS should also be assessed, as reflected by NE in their consultation response (see Appendix 2 of this Opinion).
47	MS Table 4.2	Conservation value	It should be clearly explained in the ES how the value of a feature will be taken into account in judging its sensitivity and the overall assessment of significance.

4.9 Commercial Fisheries

(Scoping Report Section 2.10)

The study area is defined by the ICES rectangles that the project is located within. These are shown in Figure 2.8 of the Scoping Report as 33F2 and 33F1. The baseline will be informed by data gained from relevant regulatory authorities in the UK and Europe. Data sources are listed in Table 2.18. The study area is trafficked by predominantly Dutch vessels along with UK and Belgian fishing. UK registered vessels make up more than 95% of the recorded fishing fleet. Potential impacts during construction relate to the disturbance of fish or restricting access to fishing areas and increased collision risk or risk of gear loss. During operation, potential impacts include permanent presence of structures, works required as a result of operation and maintenance, impacts to commercial species stocks, displacement and permanent loss of fishing ground and activity and increased collision risk and gear loss. Potential cumulative and transboundary effects are predicted. No matters have been proposed to be scoped out of the assessment.			
ID	**Para**	**Applicant's proposed matters to scope out**	**Inspectorate's comments**
	N/A	None identified	N/A
	Para	**Other points**	**Inspectorate's comments**
48	348	Restricted access to fishing grounds	The Scoping Report notes the loss or restricted access to traditional fishing grounds during construction and operation. This may have subsequent effects on alternative fishing grounds such as those which are fished by smaller vessels. The Inspectorate considers that an assessment on the impacts on commercial fisheries interests should be included within the ES.
49	349	Potential need for safety zones	The Scoping Report identified the potential need for safety zones around the offshore infrastructure. The Inspectorate considers that the EIA should ensure that a worst case of the extent of such zones should be assessed.
50	N/A	Effects associated with disturbance or displacement of commercial fishing stocks.	The EIA should acknowledge that the exclusion of certain types of fishing may make an area more productive for other types of fishing. Accordingly, the assessment of impacts associated with

			changes in fishing practice during the operational phase of the Proposed Development should include an assessment of potential impacts on fish stocks of commercial interest and the potential reduction or increase in such stocks that will result from the presence of the wind farm development and of any safety or buffer zones.
51	351	Cumulative impacts assessment	The cumulative impacts assessment in the ES should be undertaken in line with Advice Note 17 particularly in terms of determining those other developments to be included.

4.10 Shipping and Navigation

(Scoping Report Section 2.11)

The study area is not explicitly defined but reference is made to using a 10 nautical miles (nms) study area around the windfarm site and a 5nms study area around the AoS. It is stated that certain stages of the analysis may extend beyond these thresholds.

The assessment will utilise guidance from the Formal Safety Assessment (FSA) process detailed in the International Maritime Organisation (IMO) (2002) as required by the Maritime Coastguard Agency (MCA) (2015) and Cefas 2004. The FSA guidance will be used to assign a 'frequency' and 'severity' ranking to the impacts.

The Applicant has identified potential impacts during construction as resulting from increased vessel activity and the presence of static vessels. Potential operational impacts are identified as disruption and disturbance of vessels and an increase in collision and allision risk of due to the presence of turbines and operational vessels. Potential impacts relating to decommissioning are anticipated to be similar to construction. The Applicant has identified potential for cumulative and transboundary impacts to occur during the construction and operational phases.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
52	375	Effects on communications, navigation and radar	The Scoping Report states that following consultation with the MCA, said to be provided at Appendix 2.6, the effects on communications, navigation and radar have been scoped out. However, Appendix 2.6 of the Scoping Report comprises an Offshore Archaeology MS, and no evidence is provided of the consultation with the MCA. Therefore, in the absence of justification for the proposed approach the Inspectorate does not agree that this matter can be scoped out.
	Para	**Other points**	**Inspectorate's comments**
53	367 and 371	Marine traffic	The marine traffic baseline was established by utilising 14 days of data between May and June 2017 during a yacht race. The Applicant should discuss and agree with relevant consultees whether this is an appropriate level of data to inform the baseline. If necessary, a larger data set

			which takes into account seasonal effects in order to achieve a more accurate baseline for marine traffic should be used.
54	383	Data sources	The paragraphs states that the marine traffic data was recorded during May and July 2017 but this contradicts with paragraph 367 which states the data was collected from May and June 2017. The Applicant should ensure that the ES is consistent throughout.
55	386	Study area	The Applicant should include a clear and concise justification for the chosen study area.
56	N/A	Navigational Risk Assessment (NRA)	The Inspectorate highlights to the Applicant the risk of invalidating the NRA if the hydrographic surveys do not fulfil the requirements according to Marine Guidance Note 543 and advises that this guidance should be taken into account. The Applicant is referred to the comments of the MCA in this regard (see Appendix 2 of this Scoping Opinion).
57	379	Cumulative impacts assessment	The Inspectorate has had regard to the MCA's scoping response (see Appendix 2 of this Scoping Opinion) and recommends that the Applicant seeks to agree with the MCA the approach to this assessment, particularly in respect of commercial traffic.

4.11 Civil and Military Aviation and Radar

(Scoping Report Section 2.12)

The study area for this aspect is not defined. Reference is made to the London Flight Information Region (FIR).

No reference is made to a methodology. Reference is made to further desk based studies that will be undertaken in parallel with consultation and meetings with specific stakeholders.

The Applicant has identified potential impacts during construction as increased risk of aviation collisions and the potential for radar to be impacted due to high crane vessels and partially completed structures. Potential impacts on aviation and radar are identified during the operational phase due to the permanent presence of offshore structures. Potential cumulative impacts are identified as increased collision risk and impacts on radar.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
58	403	Transboundary impacts	The Scoping Report lacks justification as to why transboundary impacts will be scoped out of the ES. Without this justification, the Inspectorate does not agree that this matter can be scoped out of the ES.
59	Table 2.21	Impacts on military and civil radar system due to high construction vessels/cranes during operation	The Inspectorate agrees that this matter can be scoped out as high construction vessels/cranes and structures would only be present during the construction phase.
60	Table 2.21	Impacts on military and civil radar system due to permanent structures during construction and decommissioning.	The Inspectorate agrees that this matter can be scoped out as permanent structures would only be present during the operational phase.
	Para	**Other points**	**Inspectorate's comments**
61	398	Potential impacts	The Scoping Report states 'Impacts considered within the EIA are as previously agreed for the East Anglia THREE EIA'. The Applicant should restate and include these impacts within the ES.

62	N/A	Mitigation	The Applicant is referred to the consultation responses from the Ministry of Defence (MoD), particularly in respect of potential impacts on air defence radar, and National Air Traffic Services (NATS) En Route (see Appendix 2 of this Opinion). The Inspectorate notes that the Applicant is in ongoing consultation with the MoD, NATS, and the Civil Aviation Authority (CAA). The ES should include suitable mitigation measures to avoid or reduce significant effects on radar systems and seek to agree these with relevant stakeholders.

4.12 Marine Archaeology and Cultural Heritage

(Scoping Report Section 2.13)

The study area is not explicitly defined. Reference is made to the windfarm site and the AoS. Both the windfarm site and the AoS fall within the Historic Seascape Characterisation for Newport to Clacton.

It is stated in the Scoping Report that standard methodologies will be applied and will be in accordance with available standards and guidance. More detailed information on the proposed methodology, surveys, and potential impacts is contained in the Offshore Archaeology MS (Rev 5) provided at Appendix 2.6 of the Scoping Report. The MS highlights 'The Setting of Heritage Assets. Historic Environment Good Practice Advice in Planning: Note 3' (Historic England, 2015) and 'Conservation Principles: Policy and Guidance for Sustainable Management of the Historic Environment' (Historic England, 2008). In addition to a review of all existing geophysical data collected for the fEAZ and relevant geotechnical data from East Anglia ONE and East Anglia THREE, geophysical survey of the windfarm site has been undertaken in 2017 and a further geophysical survey is planned for 2018 to collect new data for the AoS.

The Applicant anticipates that construction works, such as cable and turbine foundations installation, have the potential to cause physical damage or degradation of known and unknown archaeological and cultural heritage assets, and that the presence of construction vessels could cause temporary disturbance of historic landscapes and seascapes. During operational maintenance activities potential is identified for damage or degradation to known and unknown buried archaeology and cultural heritage assets.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
63	Table 2.23	Permanent changes within the setting of designated or non-designated heritage assets from the presence of the built infrastructure during construction and decommissioning	The Inspectorate agrees that this matter can be scoped out as the infrastructure will only be present during the operational phase.
64	Table 2.23	Permanent changes to the character of the historic seascape	The Inspectorate agrees that this matter can be scoped out as the infrastructure will only be present during the operational

		associated with the presence of the built infrastructure during construction and decommissioning	phase.
65	Table 2.23	Transboundary impacts during all phases	The Inspectorate agrees that due to the localised nature of disturbance there is a limited pathway for potential effects on transboundary assets and that this matter can be scoped out, although it is noted that paragraph 61 of the MS suggests that it will be scoped in.
	Para	**Other points**	**Inspectorate's comments**
66	418	Guidance	It is indicated that the source of the description of the setting of a heritage asset is Historic England (2015), although the title of the document is not provided. Full referencing should be included in the ES.
67	427	Mitigation	The Inspectorate expects early communication and collaboration in respect of the need for and scope of geotechnical and geoarchaeological assessments. The Inspectorate notes the statement that a draft Written Scheme of Investigation (WSI) will be prepared in consultation with Historic England and refers the Applicant to their scoping consultation response (see Appendix 2 of this Opinion).
68	439 and MS 64	Methodology	The Scoping Report and MS each identify entirely different sources of guidance that it is stated will be used to inform the methodological approach to the assessment so it unclear which or if all of these will be relied upon. The ES should clearly identify the guidance used in the assessment.

4.13 Infrastructure and Other Users

(Scoping Report Section 2.14)

The study area for this aspect is not explicitly defined. Reference is made to the focus of the EIA being on the windfarm site and the export cable AoS.

No reference is made to a specific methodology. The Scoping Report states that the assessment will be based on existing information and information gathered from consultation with all the relevant developers, operators and marine users within the vicinity of the Proposed Development.

The Scoping Report notes that potential impacts during construction include impacts on other marine users due to increased vessel movements, cable crossings, and the presence of permanent offshore infrastructure. Additionally, there is the potential for indirect impacts to affect adjacent infrastructure. During operation, the Scoping Report notes the potential to impact on projects within or adjacent to the Proposed Development search area. Vessel movements have the potential to disrupt other neighbouring activities as well as the potential for the Proposed Development to impact surrounding infrastructure.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
69	457	Potential interference with oil and gas operations during all phases	The Inspectorate agrees this matter can be scoped out on the basis that no oil and gas infrastructure lie within the windfarm site or the AoS and therefore that no significant effects are likely to occur.
70	458	Potential interference with aggregate areas during all phases	The Inspectorate agrees this matter can be scoped out according to the information provided in the Scoping Report that there is no overlap of aggregate licence areas with the windfarm site or the AoS and that significant effects are unlikely as impact pathways are therefore limited.
71	462 and Table 2.26	Potential cumulative impacts during all phases	The Inspectorate does not agree that this matter can be scoped out as insufficient justification has been provided to support this approach, including an absence of detail of proposed mitigation measures referred to in the Scoping Report.

72	463 and Table 2.26	Potential transboundary impacts during all phases	The Inspectorate agrees that this matter can be scoped out on the basis that an assessment of potential transboundary impacts will be provided in the 'cables assessment'. Cross-reference must be made within the telecommunications aspect chapter to the cables assessment report.
	Para	**Other points**	**Inspectorate's comments**
73	Figures 2.14 and 2.15	Figures	The figures in the Scoping Report omit certain information such as labels to clearly identify features described in the text. The Applicant should ensure that any figures used in the ES are clear and complementary to the textual descriptions.
74	456	Other infrastructure	The Scoping Report anticipates indirect impacts to the infrastructure assets of third parties, eg EDF. The ES should assess impacts including indirect ones to other existing infrastructure assets. A clear methodology should be presented in the ES to explain how the assessment has been carried out.
75	466	Methodology	The Scoping Report states that the assessment will be based on existing data and information gathered through consultation. The precise nature of this data has not been described. The ES should include a detailed description of the information used to inform the assessment as each stage of the assessment process.
76	468	Methodology	Reference is made to consulting developers, operators and marine users in the 'vicinity' of the Proposed Development. The ES should clearly set out the study area, which should be based on a zone of influence model to ensure that all potential impacts are assessed.

4.14 Telecommunication and Interference

(Scoping Report Section 2.15)

The Applicant has proposed that this aspect is scoped out of the EIA. Therefore the Scoping Report does not set out the study area, methodology or potential impacts of the Proposed Development. The Inspectorate has provided comments on the scope of the EIA below.			
ID	**Para**	**Applicant's proposed matters to scope out**	**Inspectorate's comments**
77	468	Telecommunication and interference during all phases	The Inspectorate acknowledges the information collected for other projects within the fEAZ and the list of justifications set out in paragraph 468. The Scoping Report notes that the full correspondence is available in Appendix 2.6 of the Scoping Report. However, Appendix 2.6 is the Offshore Archaeology MS. The Applicant should ensure that any correspondence relied upon in the ES is included. The Inspectorate also notes the reference to agreement with the Maritime Coastguard Agency. Whilst the Inspectorate notes the current omissions in information (above), it agrees that based on the information provided in paragraph 471 of the Scoping Report the potential for significant effects is unlikely and therefore the Inspectorate is content that this aspect can be scoped out of the ES.

4.15 Ground Condition and Contamination (Onshore)

(Scoping Report Section 3.2)

An onshore study area stated to be for the purposes of the Scoping Report is described in Chapter 1, Section 1.4.2.2, and shown on Figure 1.2. Although this aspect chapter does not specifically define the onshore study area it is assumed that the study area shown on Figure 1.2 is the onshore study area being applied to the assessment.

The methodology will be informed by CLR 11:' Model Procedures for the Management of Land Contamination'. The methodology is to be discussed and agreed with key stakeholders. Section 3.2.2.7 of the Scoping Report describes a 500m buffer for data collection along the onshore route and a 1km buffer for the substation and National Grid infrastructure sites. It is stated that a Phase 1 desk-based study and walkover will be undertaken followed by the production of a conceptual site model.

The Scoping Report sets out a number of activities that have the potential to disturb local geology and open up pollutant pathways during construction. Potential impacts during decommissioning are considered to be similar to that experienced during construction although the magnitude is anticipated to be lower.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
78	479 and Table 3.2	Mobilisation of contaminants through excavation works during operation	The Inspectorate agrees that as a result of the limited land disturbance during the operational stage this matter can be scoped out.
79	479 and Table 3.2	Indirect and direct impacts on WFD designated groundwater bodies during operation	The Inspectorate agrees that as a result of the limited land disturbance during the operational stage this matter can be scoped out.
80	479 and Table 3.2	Indirect and direct impacts on designated geological sites during operation	The Inspectorate agrees that as a result of the limited land disturbance during the operational stage this matter can be scoped out.
81	479 and Table	Cumulative impacts during operation	The Inspectorate agrees that as a result of the limited land disturbance caused by the Proposed Development alone during the

	3.2		operational stage, cumulative effects during operation are unlikely and can be scoped out.
	Para	**Other points**	**Inspectorate's comments**
82	N/A	Study area	The Scoping Report does not clearly define the study area for this aspect chapter. The ES should clearly define the chosen study area and provide a justification in support of its suitability.
83	N/A	Methodology	The Scoping Report states that the chosen assessment methodology will be informed by CLR11 but no other information is provided. The ES should clearly explain the methodology used to inform the assessment and the Applicant should seek agreement on the approach with relevant statutory consultees.
84	487	Methodology	Buffer zones with specific distances are set out in the Scoping Report for the data collection and assessment. There is no justification provided for the distances chosen. The ES should clearly set out the study area used for the assessment in each of the aspect chapters and include a justification for the approach to ensure that the study area encompasses all receptors that could be significantly affected.
85	478	Potential impacts	The Inspectorate notes the reference to potential impacts on construction workers but does not reference any potential impacts on the local population, nor is this matter proposed to be scoped out. The ES should include an assessment of impacts on the local population.
86	478	Potential impacts	The Scoping Report identifies potential impacts relating to controlled waters including ground water. The Inspectorate advises that the ES should include an assessment on abstraction and private water supplies. The Environment Agency (EA) in their scoping response (see Appendix 2) also note this.
87	482	Mitigation	The Inspectorate considers that a mitigation plan should be developed in consultation

			with relevant consultees to ensure that should any of the impacts identified during construction occur despite mitigation they will be minimised. The EA, in their scoping response (see Appendix 2), draw particular attention to unexpected contamination including waste soils.

4.16 Air Quality (Onshore)

(Scoping Report Section 3.3)

The onshore study area is located within Suffolk Coastal District Council's jurisdiction. The closest Air Quality Management Area (AQMA) is at Stratford St Andrew, 5km west of the onshore study area. Paragraph 494 of the Scoping Report sets out the areas within which sensitive receptors will be identified; this is based upon Local Air Quality Management Technical Guidance (Defra 2016).

The aspect chapter does not refer back to the overarching methodology set out earlier in the Scoping Report. Local Air Quality Management reports will be reviewed along with air pollution background concentration maps produced by Defra to provide baseline information. The Scoping Report sets out that a risk based approach will be used to assess the impacts of the construction activities. This assessment will be conducted in line with the Institute for Air Quality Management (IAQM) and Environmental Protection UK (EPUK) Planning for Air Quality (2015) guidance. The technical approach will be in accordance with Defra (2016) Local Air Quality Management Technical Guidance.

The Scoping Report identifies that during construction potential impacts are possible as a result of dust from construction activities and exhaust emissions from construction traffic and non–road machinery. Potential impacts from decommissioning are identified as being similar to those experienced during construction however at a lower magnitude.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
88	492 and Table 3.4	Direct and indirect impacts associated with the generation of dust and particulates (human and ecological receptors) during operation	The Inspectorate does not agree that this matter may be scoped out for the operational phase. The Scoping Report makes reference to traffic flows in the operational phase but does not set out whether maintenance activities would generate dust and particles. Furthermore, the archaeology and cultural heritage aspect chapter notes 'grubbing out' as a potential dust-creating activity. This should be fully assessed in the air quality aspect chapter and cross-referenced between chapters.
89	492 and Table	Direct and indirect impacts arising from exhaust emissions	The Inspectorate is content that there is unlikely to be a significant change in vehicle flows during operation and therefore agrees

	3.4	from construction traffic (human and ecological) during operation	that this can be scoped out of the air quality assessment.
90	492 and Table 3.4	Direct and indirect impacts arising from exhaust emissions from non-road mobile machinery (human and ecological receptors) during operation	The Inspectorate is content that there is unlikely to be a significant impact from non-road mobile machinery during operation and therefore agrees that this matter can be scoped out of the air quality assessment.
91	Table 3.4	Cumulative impacts assessment during operation	Where matters have been scoped into the assessment or the Inspectorate has not agreed to the scoping out of matters, operational impacts which could result in significant cumulative effects should be included in the cumulative impacts assessment.
	Para	**Other points**	**Inspectorate's comments**
92	490	Study area	The study area for the assessment should be sufficiently broad to ensure that all receptors which could experience a significant effect are captured within the assessment. The extent of the study area should be agreed with relevant consultees and justified within the ES.
93	497	Baseline	Where data sources are to be interrogated to provide baseline information the periods covered by the data should be provided in the ES to enable understanding of the reliance that can be placed on the data.

4.17 Water Resources and Flood Risk (Onshore)

(Scoping Report Section 3.4)

The aspect chapter does not set out the parameters for the onshore study area and therefore it is assumed that the onshore study area is that set out in Figure 1.2 of the Scoping Report. It is noted that there are two Main Rivers located in and adjacent to the onshore study area.

The Scoping Report sets out that a desk based assessment will be undertaken based on a number of resources, including historical and geological maps, topographical survey data and EA flood mapping and hydrological investigations. A Flood Risk Assessment (FRA) will also be undertaken along with a Water Framework Directive (WFD) Assessment.

The Scoping Report identifies potential impacts during construction particularly from the crossing of watercourses and drainage channels and from spills and leaks and contaminants entering surface water features. Potential impacts are also noted in relation to underground land drainage features which could result in increased local flood risk. During operation, potential is identified for increased surface water run-off from developed areas. Potential impacts during decommissioning are identified as similar to those during construction however of a smaller magnitude.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
94	507	Impacts related to water resources and flood risk during operation of the buried onshore cables	The Inspectorate agrees that this matter may be scoped out on the basis that there will be limited land disturbance during the operational phase other than for infrequent maintenance. As such, it is unlikely that such activities will culminate in significant effects.
95	Table 3.6	Direct impacts to groundwater and surface water resources as a result of the construction works during operation	The Inspectorate agrees that as a result of the limited land disturbance during the operational stage it is unlikely for such activities to culminate in significant effects. This matter can be scoped out of the assessment.
96	Table 3.6	Direct and indirect impacts on surface water associated with	The Inspectorate agrees that during operation it is highly unlikely that dewatering activities will be undertaken and

		dewatering of trenches during operation	as such this can be scoped out of the assessment.
	Para	**Other points**	**Inspectorate's comments**
97	515	FRA and WFD	The assessment in the ES of impacts to water resources and flood risk should also have regard to the advice contained in Planning Inspectorate Advice Note Eighteen: The Water Framework Directive. All relevant waterbodies should be included in the WFD assessment including the Hundred River. The EA, in their scoping response (see Appendix 2 of this Opinion) has also requested the inclusion of the Friston Watercourse; it is not clear whether this is the same waterbody identified in paragraph 501 of the Scoping Report. The Inspectorate therefore suggests that this is discussed and agreed with the EA.
98	N/A	Methodology	The aspect chapter has set out the approach to WFD assessment and that the FRA will be undertaken in accordance with the NPPF, however the chapter does not set out how impacts on water resources outside of the remit of flood risk or WFD will be assessed. The ES should include the methodology where necessary to assess impacts to these watercourses.

4.18 Land Use (Onshore)

(Scoping Report Section 3.5)

The onshore study area comprises predominantly a mix of arable and grazing pasture arable land. The study area also includes an area towards the landfall which is classified as non-agricultural land. This comprises woodland areas and waterbodies. The onshore study area also includes a number of Public Rights of Way (PRoW) and the Suffolk Coast Path (shown in Figure 3.2). Parts of the onshore study area are subject to Environmental Stewardship Schemes. Utilities have also been found to be present in the onshore study area (see Figure 3.5).

Paragraph 540 of the Scoping Report identifies guidance documents that will inform the methodology for this assessment. These include the Design Manual for Roads and Bridges (DMRB) and Defra guidance including the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (2009). A desk-based assessment will take place followed by a walkover survey.

During construction potential impacts are identified in relation to disturbance of agricultural activities and drainage systems and impacts on soil quality due to excavation. Further disruption may also be caused through temporary footpath closures or beach disturbance, and to utilities as the cable route crosses such infrastructure. Potential operational impacts are identified in relation to the permanent change of land use at the location of the substation and the National Grid infrastructure. Decommissioning impacts are likely to be similar to those experienced during construction but of a lower magnitude.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
99	Table 3.8	Potential impacts on existing utilities during operation	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate considers that having regard to the nature and characteristics of the Proposed Development the potential for significant effects is unlikely and this matter can be scoped out.
100	Table 3.8	Direct impacts on human health (from EMFs) during construction and decommissioning	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate considers that having regard to the nature and characteristics of the Proposed Development the potential for significant effects is unlikely and agrees that this

			matter can be scoped out.
	Para	**Other points**	**Inspectorate's comments**
101	543	Methodology	The ES should set out the time of year and the conditions of the site walkover study including any limitations.
102	536	Mitigation	The Scoping Report identifies that a soil and drainage management strategy will be developed if required, depending on the results of pre-construction surveys for the cable corridor restoration. The ES should address how soils and drainage will be managed and assess any impacts. Any mitigation required should be explained in the ES and appropriately secured.

4.19 Terrestrial Ecology (Onshore)

(Scoping Report Section 3.6)

The onshore study area includes coastline and inland areas with a mix of arable and grazing pasture, with hedgerows as field boundaries, and sections of woodland. Part of the Sandlings SPA is located in the onshore study area. The coastline includes coastal shingle/dune habitat of which a majority is a SSSI designated for vegetated shingle.

It is stated that the ecological impact assessment will be undertaken according to the Chartered Institute of Ecology and Environmental Management's (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal (Second Edition 2016). Records have been obtained and reviewed from the Suffolk Biodiversity Information Service. An extended Phase 1 Habitat Survey will inform further targeted surveys. Table 3.11 sets out the further surveys proposed including the timings and states that they will be carried out in line with appropriate guidance.

The Scoping Report sets out that during construction there is the potential for habitats to be lost or broken up as well as a risk of killing, disturbance and displacement of protected species. There is also the potential for the spread of invasive species should they be present. During operation the presence of the onshore substation is identified as having the potential to lead to the permanent loss or fragmentation of habitat. During decommissioning, the effects are anticipated as likely to be similar to those during construction however of smaller magnitude.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
103	Table 3.12	Direct and indirect impacts (disturbance and potential killing) to legally protected species during operation	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate considers that having regard to the nature and characteristics of the Proposed Development the potential for significant effects is unlikely and this matter can be scoped out.
104	Table 3.12	Spread of invasive species as a result of construction activities during operation.	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate considers that having regard to the nature and characteristics of the Proposed Development, the potential for significant

			effects is unlikely and this matter can be scoped out.
	Para	**Other points**	**Inspectorate's comments**
105	Section 3.6.1	Study area	The Scoping Report applies a variety of distances within which species and designated sites are identified, such as, for example, 3km from the onshore study area for designated sites and 2km for protected species. No explanation is provided of how these distances were selected. The study areas used for the assessment must be clearly explained and justified and sufficiently broad to capture all ecological receptors which could be significantly affected by the Proposed Development. The designated sites are described as listed in Table 3.10 and reflected in Figure 3.6. However, Figure 3.6 does not show three of the sites listed in the table: the Minsmere to Walberswick Ramsar, SPA and SAC; the Minsmere to Walberswick Heath and Marshes SSSI; or the Gromford Meadow SSSI. Table 3.10 does not include the Alde-Ore & Butley Estuaries SAC (shown on Figure 3.6) and incorrectly identifies the Alde-Ore Estuary SPA and SSSI as a SAC.
106	Section 3.6.4	Methodology	The Scoping Report does not set out how sensitive receptors will be identified; this should be made clear in the ES and agreed with the relevant statutory bodies.
107	N/A	Methodology	The ES should ensure that, in addition to protected species and designated habitats, potential effects on non-protected species and non-designated habits which may be affected by the Proposed Development are also assessed.

4.20 Archaeology and Cultural Heritage (Onshore)

(Scoping Report Section 3.7)

The onshore study area is based on the area shown in Figure 1.2 of the Scoping Report, which is a mixed agricultural landscape with a number of settlements. There are five Scheduled Monuments and some Grade II* and Grade II listed buildings in the onshore study area.

The assessment will be informed by a number of sources of guidance, which include the Chartered Institute for Archaeology (CIfA) 'Standards and guidance for historic environment desk-based assessment' (2014), and Historic England's 'The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3 (2015). The Scoping Report sets out that a desk based study will be undertaken, which will include a number of data sources (listed in Table 3.14). Following this, a geophysical survey will be conducted along the onshore infrastructure site and pre-application trial trenching will be carried out on the substation site.

The Scoping Report notes a high potential for damaging or removing archaeological remains or paleo-environmental deposits during excavations. Temporary construction works also have the potential to affect the setting of historic features. The Scoping Report does not identify significant potential impacts during operation. During decommissioning the Scoping Report notes the potential for greater impacts than during construction as a result of remediation works.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
108	572 and Table 3.15	Direct impacts to buried archaeology during operation	The Inspectorate agrees that this can be scoped out of the assessment as any land required would have been disturbed during construction, and therefore significant effects are unlikely to occur in the operational phase.
109	574	Assessment of buried cable systems during operation	The Inspectorate agrees that this can be scoped out of the assessment on the basis that once cables are buried and land restored there is unlikely to be a significant effect on the setting of historic assets.

	Para	Other points	Inspectorate's comments
110	562	Methodology	The Scoping Report sets out that there are five Scheduled Monuments up to 2km from the onshore study area. Further differing buffers are noted for Grade II* and Grade II buildings, Registered Battlefields and Registered Parks and Gardens. The onshore study area used to inform the assessment in the ES should be fully justified and should be established based on the extent of the likely impacts.
111	576	Potential Impacts	The Scoping Report notes in this aspect chapter that effects during decommissioning have the potential to be greater than construction. This conclusion is not intrinsically linked to archaeology and cultural heritage and therefore the Applicant is required to ensure that such conclusions are consistent throughout the ES. For example, increased 'grubbing out', which is identified in this chapter, is not referred to in other aspect chapters such as Air Quality.
112	584	Mitigation	The Scoping Report sets out the mitigation that is to be considered however it is not set out as to when this will be considered. The ES should clearly set out any mitigation required and this should be agreed with relevant statutory consultees and secured in the DCO.

4.21 Noise and Vibration (Onshore)

(Scoping Report Section 3.8)

The onshore study area is predominately rural with some settlements and a number of B roads that cross it. The A12 is the nearest major road, approximately 3km to the west. The Scoping Report states that the onshore study area will be refined as noise sensitive receptors are identified. Paragraph 604 of the Scoping Report sets out a refinement of the construction noise assessment onshore study area.

Noise sensitive receptors are to be identified through a desk-based study using data sources identified in Table 3.16 of the Scoping Report. Following this, field surveys will then be undertaken as set out in Table 3.17 of the Scoping Report. The construction noise assessment of effects will be undertaken in line with BS 5228:2009+A1:2014 'Code of Practice for Noise and Vibration Control on Construction and Open Sites'. The operational noise assessment will be carried out in line with BS 4142:2014 'Rating and Assessing Industrial and Commercial Sound'.

During the construction period, potential impacts are identified as resulting from earthworks, general construction activities, directional drilling works, heavy goods vehicles delivering to site, and piling at the onshore substation site (if required). During operation, potential impacts are anticipated to be limited to the onshore substation. During decommissioning, the Scoping Report considers that the impacts are likely to be similar to those experienced during construction.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
113	Section 3.8.2.2 and Table 3.16	Direct and indirect impacts on human and ecological receptors associated with noise and vibration during operation	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate considers that having regard to the nature and characteristics of the Proposed Development, the potential for significant effects is unlikely and this matter can be scoped out.
114	Section 3.8.2.2 and Table 3.16	Direct and indirect impacts on receptors (human and ecological) associated with operational substation noise	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate considers that having regard to the nature and characteristics of the Proposed Development, the potential for significant effects is unlikely and this matter can be

		during construction and decommissioning	scoped out.
	Para	**Other points**	**Inspectorate's comments**
115	N/A	Assessment	The Scoping Report does not make any reference to the Noise Policy Statement for England (NPSE) and LOAEL, SOAEL and NOAEL[3] criteria. The assessment in the ES should be based on up to date and relevant guidance applicable to relevant policy or justify any departure from that.

[3] Lowest observed adverse effect level, Significant observed adverse effect level and No adverse effect level.

4.22 Traffic and Transport (Onshore)

(Scoping Report Section 3.9)

The primary route of the A12 is located to west of the onshore study area. The onshore study area for the assessment is shown in Figure 3.8 of the Scoping Report.

The Scoping Report sets out that the methodology is to be based on Department for Transport Circular 02/2013: 'The Strategic Road Network and the Delivery of Sustainable Development'; Institute of Environment Assessment 'Guidelines for the Environmental Assessment of Road Traffic' (GEART), Department for Communities and Local Government (DCLG) Planning Practice Guidance (PPG) – 'Overarching principles on Travel Plans, Transport Assessments and Statements'. However the Scoping Report does not set out the specific methodology to be applied.

During construction, whilst information is limited at this stage, the Scoping Report notes potential for significant daily traffic demand with a 'large component being HGV deliveries'. Abnormal Indivisible Loads (AILs) are also likely which could lead to delays on the highway network. Furthermore, there are potential likely effects anticipated on the port in terms of servicing the offshore construction. During operation, the Scoping Report notes that vehicle movements would be limited to the onshore works. Employee and HGV movements would be required for the operational and maintenance activities. The Scoping Report notes that decommissioning impacts are likely to be the same as construction.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
116	Table 3.19	Severance during operation	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate considers that having regard to the nature and characteristics of the Proposed Development the potential for significant effects is unlikely and this matter can be scoped out.
117	Table 3.19	Pedestrian and cycle amenity during operation	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate considers that having regard to the nature and characteristics of the Proposed Development the potential for significant

			effects is unlikely and this matter can be scoped out.
	Para	**Other points**	**Inspectorate's comments**
118	609	Study area	Baseline data is listed as being collated for roads within the onshore study area. The Applicant should consider, as part of the assessment, whether potential impacts to the road network outside of the onshore study area are likely. The Inspectorate notes reference within the Scoping Report to the A12 as the main route through the county. Furthermore, paragraph 612 of the Scoping Report notes potential impacts on the wider transport network. The inclusion/exclusion of routes should be justified in the ES.
119	610	Baseline	The Scoping Report commits to developing the baseline to ensure a DfT-compliant Transport Assessment is undertaken. The Scoping Report does not explain what is meant by this and which DfT guidance will be followed specifically, therefore it does not provide clarity on the baseline studies to be undertaken. The assessment in the ES should be undertaken against a robustly defined baseline consistent with relevant guidance.
120	615 and 616	Assessment	The ES should clearly set out the predicted number of people/vehicles and regularity of maintenance visits to ensure that associated impacts are appropriately identified and assessed. Any assumptions used to inform this assessment should be explained within the ES.
121	619	Cumulative impact assessment	The Scoping Report sets out that 'proposed developments with the potential to generate significant traffic' will be included in the cumulative impact assessment. The Inspectorate draws the Applicant's attention to Planning Inspectorate Advice Note 17 and would expect the cumulative impact assessment to include all relevant developments, whether the individual development concludes significant effects

			alone or not. This should be clarified in the ES.
122	623	Consistency	The Scoping Report refers to Transport Assessments and Traffic Impact Assessments. The ES should set out in the methodology the types of assessments being undertaken and the titles attributed to these assessments should be consistently applied throughout the ES.

4.23 Health (Onshore)

(Scoping Report Section 3.10)

The Scoping Report does not set out the onshore study area for the assessment and therefore it is assumed that this is that shown in Figure 1.2 of the Scoping Report.

The Scoping Report sets out that the 'assessment will identify potential impacts on the health of the local population'. The Scoping Report notes that health will be considered within relevant onshore aspects.

The Scoping Report notes that potential construction impacts will be determined by other aspect assessments, for example, noise and vibration. A list is included at paragraph 625 of the Scoping Report. During operation potential impacts are identified as likely from noise disturbance associated with the onshore substation and National Grid infrastructure and the generation of EMFs. Decommissioning impacts are predicted to be similar of those during construction.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
123	Table 3.20	Air quality during operation	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate considers that having regard to the nature and characteristics of the Proposed Development the potential for significant effects is unlikely and this matter can be scoped out.
124	Table 3.10	Exposure to contaminated land during operation	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate considers that having regard to the nature and characteristics of the Proposed Development the potential for significant effects is unlikely and agrees that this matter can be scoped out.
125	Table 3.20	EMF during operation of buried cable system during construction and decommissioning	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate considers that having regard to the nature and characteristics of the Proposed Development the potential for significant

			effects is unlikely and this matter can be scoped out for construction and decommissioning.
	Para	**Other points**	**Inspectorate's comments**
126	627	Assessment	The Scoping Report notes that impacts on health of the local population will be assessed. The Inspectorate requires that impacts relevant to the health of employees during construction, operation and decommissioning should be included in the assessment.
127	Section 3.10.1	Baseline	The Scoping Report does not set out the data sources that will be used to determine the baseline for the health assessment. The methodology for determining the baseline should be set out in the ES and agreed with relevant consultees.
128	N/A	Assessment	The ES should ensure that where reliance is placed on other aspect assessments in the ES those assessments do assess risk to human health if significant effects are likely.

4.24 Offshore Seascape, Landscape and Visual Amenity (Wider Scheme Aspects)

(Scoping Report Section 4.2)

The study area is based on a zone of theoretical visibility (ZTV) (shown in Figures 4.1, 4.2 and 4.3a-b of the Scoping Report). The ZTV was set at 50km.

The Seascape Landscape Visual Impact Assessment (SLVIA) is to be undertaken in line with the Guidelines for Landscape and Visual Impact Assessment (GLVIA). Paragraph 664 of the Scoping Report lists further guidance which will be followed. A detailed methodology is set out in Appendix 4.1 to the Scoping Report.

During construction, the Scoping Report sets out that potential temporary impacts are likely on coastal/seascape and landscape character and on views. Paragraph 658 of the Scoping Report sets out a number of long term impacts during operation on coastal/seascape character, landscape character and views. Decommissioning impacts are considered to be similar to those during construction.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
129	648 and Table 4.1	Seascape, landscape and visual impacts of the windfarm site on seascape, landscape and visual receptors beyond outwith the SLVIA study area (50km radius) during all phases	The Inspectorate agrees that an assessment of impacts beyond the ZTV can be scoped out of the assessment.
130	652 and Table 4.1	Impacts of the windfarm site on the landscape character of the Norfolk and Suffolk Broads National Park during all phases	The Inspectorate agrees that as a result of the geographical location of the National Park from the Proposed Development, impacts to these areas are unlikely to be significant and can be scoped out.

131	23 of Appendix 4.1 and Table 4.1	Impacts of the windfarm site on the landscape character of the Landscape Character Areas within Broadland and South Norfolk Districts during all phases	The Inspectorate agrees that as a result of the geographical location of the Landscape Character Areas from the Proposed Development, impacts to these areas are unlikely to be significant and can be scoped out.
132	Table 2 of Appendix 4.1 and Table 4.1	Cumulative seascape, landscape and visual impacts of the East Anglia ONE north windfarm site with East Anglia ONE, East Anglia THREE, Norfolk Vanguard and Norfolk Boreas offshore windfarms during all phases	The Inspectorate agrees that as a result of the geographical location of the offshore windfarms from the Proposed Development, this matter can be scoped out.

4.25 Onshore Landscape and Visual Amenity (Wider Scheme Aspects)

(Scoping Report Section 4.3)

The onshore study area comprises the study area shown in Figure 1.2 of the Scoping Report with a 3km buffer applied. This is shown on Figure 4.6.

The methodology will be in accordance with GLVIA 3 and therefore require professional judgement to conclude on effects.

Potential impacts during the construction process will likely be as a result of the construction process and plant, materials and temporary structures required for construction. Potential operational impacts will likely be as a result of the presence of above ground infrastructure. During decommissioning, impacts are likely to be similar to those likely at the construction phase.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
133	693 and Table 4.2	Landscape and visual impacts of landfall options (within 3km buffer LVIA study area) during operation	The Inspectorate agrees that following remediation works the underground infrastructure at the landfall is unlikely to result in significant effects and this matter can be scoped out of the assessment.
134	693 and Table 4.2	Landscape and visual impacts of the onshore cable corridor (within 3km buffer LVIA study area) during operation	The Inspectorate agrees that following remediation works the underground infrastructure on the onshore cable route is unlikely to result in significant effects and this matter can be scoped out of the assessment.
135	Table 4.2	Cumulative landscape and visual impacts of landfall options during all phases	The Scoping Report provides little justification in support of scoping this matter out. The Inspectorate therefore does not agree that this can be scoped out. The Inspectorate is aware of potential further developments such as Sizewell New Nuclear Power Station, and furthermore, the landfall location is not yet finalised.
136	Table 4.2	Cumulative landscape and visual impacts of	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate therefore

		onshore cable corridor options during all phases	does not agree that this can be scoped out. The location of onshore infrastructure substation is not yet known and therefore the Inspectorate is unable to agree to the scooping out of this matter.
137	Table 4.2	Cumulative landscape and visual impacts of the onshore substation and National Grid infrastructure (within 3km buffer LVIA study area) during construction and decommissioning	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate therefore does not agree that this can be scoped out. As the location of such infrastructure including the substation is not yet known potential significant effects as a result of cumulative development cannot be predicted.
138	Table 4.2	Landscape and visual and cumulative impacts of the onshore infrastructure (outwith 3km buffer LVIA study area) during all phases	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate therefore does not agree that this can be scoped out. As the location of such infrastructure including the substation is not yet known potential significant effects as a result of cumulative development cannot be predicted.
	Para	**Other points**	**Inspectorate's comments**
139	N/A	Methodology	The ES should ensure that all components of the Proposed Development are addressed by the assessment, for example, construction compounds. All works, temporary and permanent, should be clearly included in the assessment.
140	Section 4.2.1.4.1	Methodology	The ES should explain the ZTV model used and the times of year that any surveys used to inform the assessment have been undertaken and the prevalent weather conditions.
141	655	Methodology	The viewpoints to be used for the assessment should be agreed with the relevant Local Planning Authority and NE in relation to the AONB.
142	666	Methodology	The Scoping Report sets out that the

			methodology will be in line with the GLVIA but no further information is included. The Inspectorate requires the ES to include photomontages at relevant viewpoints to be agreed with the Local Planning Authority

4.26 Socio-Economics (Wider Scheme Aspects)

(Scoping Report Section 4.4)

The Scoping Report does not set out a study area for the socio-economic assessment and therefore it is assumed that the onshore study area in Figure 1.2 of the Scoping Report will be used.

The Scoping Report sets out that a two tier assessment will be undertaken. The first tier is a regional assessment and the second tier is a local assessment.

The Scoping Report does not set out specific potential impacts for construction, operation and decommissioning. Overarching potential impacts are listed in paragraph 717.

No matters have been proposed to be scoped out of the assessment.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
-	N/A	None identified	N/A
	Para	**Other points**	**Inspectorate's comments**
143	N/A	Study Area	The Scoping Report does not set out a study area for the assessment; the ES should describe a study area and provide justification.
144	N/A	Assessment	The Scoping Report does not indicate that the socio–economic assessment will be cross-referenced with other aspect chapters. The Inspectorate considers that cross-referencing enables a thorough assessment and should be followed where necessary. Any social-economic impacts, to the AONB for example, should be assessed (see comments from Suffolk County Council and Suffolk Coastal District Council.
145	N/A	Assessment	The assessment should include consideration of the types of jobs generated by the Proposed Development in the context of the available skills and workforce in the area; this applies equally to both construction and operational stages. The assessment should be carried out in

			consultation with the local authorities and Local Enterprise Partnership (LEP) to ensure that the data used is up-to-date.

4.27 Tourism and Recreation (Wider Scheme Aspects)

(Scoping Report Section 4.5)

The Scoping Report does not set out a study area for the tourism and recreation assessment and therefore it is assumed that the study area in Figure 1.2 of the Scoping Report will be used.

The Scoping Report sets out that the assessment will comprise a desk based study, consultation and an assessment developed with consideration of other aspect chapters such as the SLVIA, LVIA, traffic and transport, and socio-economics.

The Scoping Report notes the potential for temporary disruption through dust, footpath and road closures during the construction period. Workers may also reside in accommodation normally reserved for tourism purposes. The visual impact of the construction works may affect amenity value and the navigational safety zone may affect recreational sea users. During operation there is the potential for the wind turbines and onshore substation and National Grid infrastructure to affect amenity value. There is also the potential for offshore navigational restrictions. Decommissioning impacts are likely to be similar to those during construction.

The Inspectorate has provided comments on matters that the Applicant has set out as being scoped out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
146	Table 4.6	Direct construction disturbance to tourism and recreation features during operation	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate considers that having regard to the nature and characteristics of the Proposed Development the potential for significant effects is unlikely and this matter can be scoped out.
147	Table 4.6	Indirect construction disturbance to tourism and recreation features during operation	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate considers that having regard to the nature and characteristics of the Proposed Development the potential for significant effects is unlikely and this matter can be scoped out.
148	Table 4.6	Direct operational disturbance to tourism and recreation features	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate considers that having regard to the nature and

		during construction and decommissioning	characteristics of the Proposed Development the potential for significant effects is unlikely and this matter can be scoped out.
149	Table 4.6	Indirect operational disturbance to tourism and recreation features during construction and decommissioning.	The Scoping Report provides little justification in support for scoping this matter out. The Inspectorate considers that having regard to the nature and characteristics of the Proposed Development the potential for significant effects is unlikely and this matter can be scoped out.
	Para	**Other points**	**Inspectorate's comments**
150	Table 4.5	Baseline	The ES should set out the sources of data used to inform the baseline and the dates that the data was gathered and last updated.
151	N/A	Assessment	Where information is cross-referenced within the ES, it should be made clear how the conclusions from other aspect assessments have informed the tourism and recreation assessment.
152	748	Methodology	The Scoping Report does not set out the methodology for the assessment and as such, the Inspectorate is unable to comment. The methodology should be discussed and agreed with relevant consultees.

5. INFORMATION SOURCES

5.0.1 The Planning Inspectorate's National Infrastructure Planning website includes links to a range of advice regarding the making of applications and environmental procedures. These include:

- Pre-application prospectus[4]
- Planning Inspectorate Advice Notes[5]:
  - Advice Note Three: EIA Notification and Consultation;
  - Advice Note Four: Section 52: Obtaining information about interests in land (Planning Act 2008);
  - Advice Note Five: Section 53: Rights of Entry (Planning Act 2008);
  - Advice Note Seven: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping;
  - Advice Note Nine: Using the 'Rochdale Envelope';
  - Advice Note Ten: Habitats Regulations Assessment relevant to nationally significant infrastructure projects (includes discussion of Evidence Plan process);
  - Advice Note Twelve: Transboundary Impacts
  - Advice Note Seventeen: Cumulative Effects Assessment; and
  - Advice Note Eighteen: The Water Framework Directive.

5.0.2 Applicants are also advised to review the list of documents required to be submitted with an application for development consent as set out in The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (as amended).

[4] The Planning Inspectorate's pre-application services for applicants. Available from: https://infrastructure.planninginspectorate.gov.uk/application-process/pre-application-service-for-applicants/

[5] The Planning Inspectorate's series of advice notes in relation to the Planning Act 2008 process. Available from: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

APPENDIX 1: CONSULTATION BODIES FORMALLY CONSULTED

TABLE A1: PRESCRIBED CONSULTATION BODIES[6]

SCHEDULE 1 DESCRIPTION	ORGANISATION
The Health and Safety Executive	Health and Safety Executive
The National Health Service Commissioning Board	NHS England
The relevant Clinical Commissioning Group	Ipswich and East Suffolk
Natural England	Natural England
Natural England (Offshore Wind Farms)	Natural England (Offshore Wind Farms)
The Historic Buildings and Monuments Commission for England	Historic England - East of England
The Historic Buildings and Monuments Commission for England (OFFSHORE ONLY)	Historic England
The relevant fire and rescue authority	Suffolk Fire and Rescue
The relevant police and crime commissioner	Suffolk Police Crime Commissioner
The relevant parish council(s) or, where the application relates to land [in] Wales or Scotland, the relevant community council	Friston Parish Council
	Knodishall Parish Council
	Benhall & Sternfield Parish Council
	Aldringham Cum Thorpe Parish Council
	Leiston-Cum-Sizewell Town Council
The Environment Agency	The Environment Agency - East Anglia
The Joint Nature Conservation Committee	Joint Nature Conservation Committee
The Maritime and Coastguard Agency	Maritime & Coastguard Agency
The Maritime and Coastguard Agency - Regional Office	The Maritime and Coastguard Agency
The Marine Management Organisation	Marine Management Organisation (MMO)

[6] Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) (the 'APFP Regulations')

SCHEDULE 1 DESCRIPTION	ORGANISATION
The Civil Aviation Authority	Civil Aviation Authority
The Relevant Highways Authority	Suffolk County Council
The relevant strategic highways company	Highways England - East
Pier	Southwold
Trinity House	Trinity House
Public Health England, an executive agency of the Department of Health	Public Health England
The Crown Estate Commissioners	The Crown Estate
The Forestry Commission	Forestry Commission - East and East Midlands
The Secretary of State for Defence	Ministry of Defence
The Office for Nuclear Regulation (the ONR)	The Office for Nuclear Regulation (the ONR)

TABLE A2: RELEVANT STATUTORY UNDERTAKERS[7]

STATUTORY UNDERTAKER	ORGANISATION
The relevant Clinical Commissioning Group	Ipswich and East Suffolk
The National Health Service Commissioning Board	NHS England
The relevant NHS Trust	East of England Ambulance Service NHS Trust
Railways	Highways England Historical Railways Estate
Dock and Harbour authority	Slaughden Quay
	Southwold
	Walberswick
Pier	Southwold
Lighthouse	Trinity House

[7] 'Statutory Undertaker' is defined in the APFP Regulations as having the same meaning as in Section 127 of the Planning Act 2008 (as amended)

STATUTORY UNDERTAKER	ORGANISATION
Civil Aviation Authority	Civil Aviation Authority
Licence Holder (Chapter 1 Of Part 1 Of Transport Act 2000)	NATS En-Route Safeguarding
Universal Service Provider	Royal Mail Group
Homes and Communities Agency	Homes and Communities Agency
The relevant Environment Agency	Environment Agency - East Anglia
The relevant water and sewage undertaker	Affinity Water
	Affinity Water (East region)
	Anglian Water
	Essex and Suffolk Water
The relevant public gas transporter	Cadent Gas Limited
	Energetics Gas Limited
	Energy Assets Pipelines Limited
	ES Pipelines Ltd
	ESP Connections Ltd
	ESP Networks Ltd
	ESP Pipelines Ltd
	Fulcrum Pipelines Limited
	GTC Pipelines Limited
	Independent Pipelines Limited
	Indigo Pipelines Limited
	Quadrant Pipelines Limited
	National Grid Gas Plc
	National Grid Gas Plc

STATUTORY UNDERTAKER	ORGANISATION
	Scotland Gas Networks Plc
	Southern Gas Networks Plc
	Wales and West Utilities Ltd
The relevant electricity distributor with CPO Powers	Energetics Electricity Limited
	ESP Electricity Limited
	G2 Energy IDNO Limited
	Harlaxton Energy Networks Limited
	Independent Power Networks Limited
	Peel Electricity Networks Limited
	The Electricity Network Company Limited
	UK Power Distribution Limited
	Utility Assets Limited
	Utility Distribution Networks Limited
	UK Power Networks Limited
The relevant electricity transmitter with CPO Powers	National Grid Electricity Transmission Plc
	National Grid Electricity Transmission Plc

TABLE A3: SECTION 43 CONSULTEES (FOR THE PURPOSES OF SECTION 42(1)(B))[8]

LOCAL AUTHORITY[9]
Waveney District Council
Barbergh District Council
Suffolk Coastal District Council
Mid Suffolk District Council
Ipswich District Council
The Broads Authority
Cambridgeshire County Council
Suffolk County Council
Norfolk County Council

TABLE A4: NON-PRESCRIBED CONSULTATION BODIES

ORGANISATION
Royal National Lifeboat Institution
Great Yarmouth Borough Council
Great Yarmouth Borough Council

[8] Sections 43 and 42(B) of the PA2008

[9] As defined in Section 43(3) of the PA2008

APPENDIX 2: RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES

Consultation bodies who replied by the statutory deadline:

Anglian Water
Broads Authority
Environment Agency
ESP Utilities Group Ltd
Forestry Commission
Health and Safety Executive
Historic England
Leiston-cum-Sizewell Town Council
Marine Management Organisation
Maritime and Coastguard Agency
Ministry of Defence
National Grid
NATS En-Route Safeguarding
Natural England
Norfolk County Council
Office for Nuclear Regulation
Public Health England
Royal Mail
Suffolk County Council (Joint Response)
Suffolk Coastal District Council (Joint Response)
Suffolk Fire and Rescue Service
Trinity House Lighthouse Service

Strategic Planning Team
Water Resources
Anglian Water Services Ltd
Thorpewood House,
Thorpewood,
Peterborough
PE3 6WT

Tel (0345) 0265 458
www.anglianwater.co.uk
Our ref 00024788

Your ref EN010077-000029

Gail Boyle
Senior EIA and Land Rights Advisor
The Planning Inspectorate
3D Eagle Wing
Temple Quay House
2 The Square
Bristol, BS1 6PN

8 December 2017

Dear Gail,

East Anglia Two Offshore Windfarm: Environmental Statement Scoping Report

Thank you for the opportunity to comment on the scoping report for the above project. Anglian Water is the sewerage undertaker for the above site. The following response is submitted on behalf of Anglian Water.

General comments

Anglian Water would welcome further discussions with Scottish Power prior to the submission of the Draft DCO for examination.

In particular it would be helpful if we could discuss the following issues:

- Wording of the Draft DCO including protective provisions specifically for the benefit of Anglian Water.
- Requirement for wastewater services.
- Impact of development on Anglian Water's assets and the need for mitigation.
- Pre-construction surveys.

3.4 Water resources and flood risk

Reference is made to principal risks of flooding from the above project being fluvial and surface water flooding as part of the construction phase.

Registered Office
Anglian Water Services Ltd
Lancaster House, Lancaster Way,
Ermine Business Park, Huntingdon,
Cambridgeshire. PE29 6YJ
Registered in England
No. 2366656.

an AWG Company

Anglian Water is responsible for managing the risks of flooding from surface water, foul water or combined water sewer systems. Consideration should be given to all potential sources of flooding including sewer flooding as part of the Environmental Statement and related Flood Risk Assessment.

At this stage it is unclear whether there is a requirement for wastewater services for the above site. It is suggested that the Environmental Statement should include reference to the foul sewerage network and sewage treatment.

3.5 Land uses

Reference is made to the crossing of existing utilities including assets owned by Anglian Water. There are existing Anglian Water sewers located within the boundary of the site which potentially be affected.

We would expect any requests for alteration or removal of foul sewers to be conducted in accordance with the Water Industry Act 1991.The design of the above scheme is to be refined further by the applicant. Therefore the extent to which existing sewers would be affected will need to be defined with the assistance of Anglian Water.

In addition Adleburgh Water Recycling Centre and Thorpness Water Recycling Centre appear to be within the onshore study area as shown on Figure 3.5 of the Scoping Report. We would welcome further discussions in relation to the implication of the above project for these WRCs.

It is therefore suggested that the Environmental Statement should include reference to the sewage treatment as well as the foul sewerage network and water mains.

Maps of Anglian Water's assets are available to view at the following address:

http://www.digdat.co.uk/

Should you have any queries relating to this response please let me know.

Yours sincerely

Stewart Patience

Spatial Planning Manager

Broads Authority

Yare House 62-64 Thorpe Road
Norwich Norfolk NR1 1RY

tel 01603 610734
broads@broads-authority.gov.uk
www.broads-authority.gov.uk

Ms Gail Boyle
The Planning Inspectorate
3D Eagle
Temple Quay House
Temple Quay
Bristol
BS1 6PN

Ms Cally Smith
Head of Planning
01603 756029
cally.smith@broads-authority.gov.uk

Date 8 December 2017 Our ref BA/2017/0179/WNDTUR Your ref

Dear Ms Boyle

Application No : BA/2017/0179/WNDTUR
Proposal : Wind turbines at East Anglia ONE north and East Anglia TWO
Address : East Anglia ONE North And East Anglia TWO, , ,
Applicant : Mr Jon Allen

I write further to the above proposal. I can confirm that the Broads Authority does not have any comments to make regarding this consultation.

Yours sincerely

[redacted]

Cally Smith
Head of Planning

Environment Agency

Ms Gail Boyle
The Planning Inspectorate

Via email only:
EastAngliaTwo@pins.gsi.gov.uk

Our ref: AE/2017/122254/01-L01
Your ref: EN010078-000060

Date: 08 December 2017

Dear Ms Boyle

PROPOSED EAST ANGLIA TWO OFFSHORE WINDFARM EIA SCOPING OPINION.
OFF SUFFOLK COAST WITH LANDFALL BETWEEN THORPENESS & SIZEWELL, GRID CONNECTION IN VICINITY OF SIZEWELL & LEISTON.

Thank you for consulting the Environment Agency on the EIA Scoping Report for the East Anglia Two off-shore windfarm. We note that this consultation was originally sent to our Brampton office. It is our East Anglia (east) Ipswich office that will manage all responses to this proposal. Please can all future correspondence be sent to the address below or planning.ipswich@environment-agency.gov.uk.

Having reviewed the Scoping Report document, we note that much of the project description is currently indicative, and we would expect that further detail will emerge through the pre-application process. We wish to highlight the following for consideration at this time:

The landfall location is described in **section 1.2.2**, and shown on **figure 1.2** as being between Sizewell and Thorpeness. The majority of this area does not include coastal sea defences maintained by the Environment Agency. The exception being an area in the vicinity of Sizewell. Between National Grid References TM 47563 62745 (near to the Coastguard Cottages) and TM 47440 59663 (Shingle Bank), the frontage is managed by the Local Authority (Suffolk Coastal District Council).

If any works are proposed within 16 metres of the base of an Environment Agency sea defence (or passing through, in, under or over the defence) and are likely to endanger the stability of, cause damage to or reduce the effectiveness of that sea defence, or interfere with the our access to or along that sea defence, then the operator will need to apply for a bespoke Flood Risk Activity permit from the Environment Agency. This is under the Environmental Permitting Regulations 2010.

East Anglia area (East) - Iceni House
Cobham Road, Ipswich, Suffolk, IP3 9JD
General Enquiries: 08708 506506 Fax: 01473 724205
Weekday Daytime calls cost 8p plus up to 6p per minute from BT Weekend Unlimited.
Mobile and other providers' charges may vary
Email: enquiries@environment-agency.gov.uk
Website: www.environment-agency.gov.uk

The works proposed to take place offshore will not require a permit under the regulations, as they will not take place within 16 metres of a tidal flood defence or main river.

Section 1.5.3 further discusses landfall, and the potential installation methods. It is noted that there is a SSSI present spanning the proposed landfall area, in addition to areas of intertidal habitats. The longer HDD option from transition bay locations would appear to be the preferred option in order to avoid impacting upon features including the Leiston-Aldeburgh SSSI (particularly those elements within it such as coastal vegetated shingle).

Similarly, with regard to **section 1.5.4** (onshore transmission works), it must be ensured that works are sited, as far as is practically possible, to avoid impacting upon the footprints of protected areas in the onshore area. The implications of jointing bays and the cable corridor must be considered well in advance to avoid ecological damage and disturbance, and to enable any necessary mitigation to be planned.

In Part 2, **section 2.2** should include a section on landfall physical processes. While this area is currently stable there is evidence to suggest that the Sizewell-Dunwich sandbank is mobile and may either become welded to the shore or become elongated with a deeper ‘saddle’, thus exposing the beach to more wave action.

With regards to the baseline reporting, a lot of work has already been completed on this as part of the Sizewell C scheme. It would make sense to use this data if possible to help make the most informed decision.

While EDFs proposed Sizewell C offshore infrastructure has been considered, it may also be worth considering the impact that construction of the site may have on any buried cables, particularly where materials are brought in by sea.

Part 3, **Section 3.2 Ground Conditions and Contamination** refers in the baseline paragraphs to the Crag Formation as a secondary aquifer. This needs to be amended to principal aquifer. Whilst the London Clay Formation is considered unproductive, the underlying Thanet Sand Formation and Lambeth Group is designated as secondary A aquifer. All of the aquifers warrant special attention and support significant abstraction and surface water features. The text in this paragraph needs to be altered to reflect this

The baseline has not considered the presence / importance of superficial deposits in the cable corridor or the aquifer designations they are given. It has also not considered the presence of source protection zones (SPZ), abstractions or private water supplies in the area (neither is this covered in section 3.4). There are 2 public water supply boreholes in the corridor, Leiston (AN307) and Coldfair Green (AN034). As such there are two SPZ 1 within the application corridor.

The potential to alter shallow groundwater and therefore have an adverse impact on local abstractors and surface water features should be considered. The following should be included Section 3.2.2.1:

- Potential impact on abstractions / private water supplies.
- Potential impact on surface water from directional drilling / trenching.

And also:

- Risks to the water environment from mobilising land contamination
- The presence of unexpected contamination and how it will be dealt with, including waste soils.

Following on from the above, section 3.2.2.6 should therefore include avoidance of SPZ 1 within the embedded mitigation paragraph. We agree a contaminated land phase 1 desk study and walk over will be required (Section 3.2.2.7). Depending on the findings, intrusive investigation at identified locations may be required followed by risk assessment and remediation.

A written strategy detailing how unexpected contamination will be dealt with should be reviewed and agreed by the regulators.

A written scheme detailing pollution prevention measures incorporated into the scheme to ensure the protection of the water environment should be reviewed and agreed by the regulators.

For section 3.4 Water Resources and Flood Risk; the data sets need to include abstractions points. There are number of licensed and deregulated groundwater abstractors in the study area. The data set should also include sites on the Environment Agency's groundwater levels monitoring network (there are three in the study area); works should be planned with a knowledge of the sensitivity of these sites and the area around them.

The section on potential impacts during construction needs to include the potential for an impact on shallow groundwater flow. We would also re-emphasize that the interaction of the on-shore cable with small abstractions does not appear to have been considered. There is no definitive statement of how groundwater abstractions in or near the cable route, or surface water abstractions downstream of where there may be river crossings will be considered.

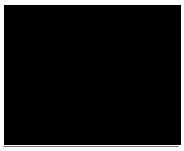
We note that there are two main rivers within the study area, the Thorpeness Hundred River and Friston Watercourse, and we welcome the statement that a full WFD assessment will be completed. Depending on the types of crossing required, impacts on fisheries should be considered as appropriate.

Section 3.4.4 highlights that there may be a need for an environmental permit for flood risk activities (formally called Flood Defence Consent) for work in, under, over or within 8 metres from a fluvial main river and from any flood defence structure or culvert. For reference, application forms and further information can be found at: https://www.gov.uk/guidance/flood-risk-activities-environmental-permits. It is against the law to carry out activities without a permit where one is required.

Within section 3.6 Terrestrial Ecology, **section 3.6.3** outlines that mitigation measure will be developed once baseline ecological conditions are confirmed, which is an appropriate approach. However, there should be – from the outset – an aspiration to go beyond "no-net-loss" in terms of terrestrial biodiversity features, and aim for ecological enhancements as part of the broader development. For example, the Thorpeness Hundred River offers numerous opportunities to develop ecological projects that could enhance local biodiversity and improve river quality.

We trust this advice is useful.

Yours sincerely



MR MARTIN BARRELL
Sustainable Places - Planning Specialist

Direct dial 020 302 58450
Direct e-mail martin.barrell@environment-agency.gov.uk

From: ESP Utilities Group Ltd [mailto:donotreply@espug.com]
Sent: 23 November 2017 11:23
To: East Anglia Two
Subject: Your Reference: EN010078-000060. Our Reference: PE133407. Plant Affected Notice from ES Pipelines

East Anglia Two Offshore Widfarm
The Planning Inspectorate

23 November 2017

Our Ref: PE133407
Your Ref: EN010078-000060

East Anglia Two Offshore Windfarm

Dear Sir/Madam,

Further to your enquiry received on 10/11/2017, I can confirm that ES Pipelines Ltd may be affected by the proposed works in the area of the East Anglia Two Onshore Study Area. ES Pipelines Ltd has gas and electricity mains serving the area in question (Reference EN010078-000060) at grid reference E647619, N260238 and security of supply is vitally important.

Project drawing as laid extracts for these sites are enclosed (not to scale) for your information which show the approximate location of the ES Pipelines Ltd gas and electricity networks close to the area of interest off East Anglia Two Onshore Study Area. **Please note that 'ESPE015537 X11 Mains laid drawing' is a proposal drawing rather than an as-laid.**

As your plans for the proposed work develop you are required to keep ES Pipelines Ltd regularly updated about the extent and nature of your proposed works in order for us to fully establish whether any additional precautionary or diversionary works are necessary to protect our gas and electricity networks.

Arrangements can be set in place so that one of our representatives can meet on site (date to be agreed) and we will be happy to discuss the impact of your proposals on the gas and electricity networks once we have received the details.

A list of precautionary measures is attached for your information. This must be passed on to the appointed contractors carrying out the work and any other associated parties.

ESP are continually constructing new gas and electricity networks and this notification is valid for 90 days from the date of this letter. If your proposed works start after this period of time, please re-submit your enquiry.

If you wish to discuss the matter further please contact myself or the team on 01372 587500, alternatively you can email us at PlantResponses@espug.com.

Yours faithfully,

Alan Slee
Operations Manager

Bluebird House
Mole Business Park
Leatherhead
KT22 7BA
☎ 01372 587500 🖹 01372 377996

PRECAUTIONS TO BE TAKEN WHEN CARRYING OUT WORK IN THE VICINITY OF ELECTRICITY CABLES

ADVICE TO SITE PERSONNEL

MANAGEMENT NOTE

Please ensure that a copy of this note is read by your site management and to your site operatives.

Early consultation with ESP Electricity Ltd prior to excavation is recommended to obtain the location of plant and precautions to be taken when working nearby.

This has been produced after consultation with and at the request of the Health and Safety Executive, the construction industry and the electricity companies.

1.0 Introduction

This procedure should be read in conjunction with the ESP Electricity Distribution Safety Rules and other relevant procedures. The object of this procedure is:

a) To lay down the rules for the location of cable before work is started.

b) To specify the safe working procedure to be adopted by persons who have to work on or in the vicinity of cables.

2.0 Reference

ESP Electricity G81 – Design and Planning
ESP Electricity G81 – Installation and Records
National Joint Utilities Group (NJUG) Guidance Notes
Avoiding danger from underground services HSG47 HSE Advice Booklet.

3.0 Work

3.1 All cables and apparatus to which the cables are connected shall be treated as being live, until they have been proved dead and all points of isolation have been establish and controlled.

3.2 All work carried out under this procedure shall also be carried out in strict accordance with the ESP Electricity Distribution Safety Rules and other relevant procedures.

3.3 For the purpose of this procedure:

a) Work on a cable includes the intentional cutting or removal of its Sheath or Armour, cutting of its core(s) or conductor(s) and the removal of a spiking gun.

b) Work in the vicinity of a cable includes digging or any activity carried out at any work location where cables are or may be present, whether or not for the specific purpose of preparation for work on a cable.

4.0 Cable Locating Devices

4.1 An approved cable locating device is to be used on every occasion before any surface is removed or any digging is started. It must also be used during the course of any digging work.

4.2 Cable location devices provide information on the position of cables. They must not be used as the only means of cable location.

4.3 Cable locating devices must be regularly checked for correct operation.

All persons using cable locating devices must be adequately trained in their use and must be Competent Persons.

5.0 Location of Cables

5.1 The depth of underground cables varies greatly. It is essential that a site specific risk assessment is undertaken for the proposed work you are planning this must include obtaining an up-to-date map of the electricity cables in the area and to make use of it. The electricity cable records must be checked before any work is started. Changes in surface level or reference points, and work carried out by other people may affect the reliability of these records. Anybody excavating must be told of these possibilities.

5.2 Before the start of any excavation work, a cable locating device shall be used to establish the run of live cables. Reasonable steps should be taken to establish the runs of cables both along and across the length of the intended area of digging. The cable avoidance tool shall be used together with mains records and where provided, service records.

5.3 All cable runs either confirmed by use of the cable locating device or indicated on the mains records must be marked out on the surface using a waterproof marker. Marked cable runs must be extended 300mm beyond either end or side of the intended digging area, and must stay visible while the digging is going on. The trial hole dig method can be used to identify the run of cables using hand dig tools only.

6.0 Precautions to be Taken while Working in Vicinity of Cables

6.1 Work in the vicinity of cables must be carried out as if the cables are live and all excavation work must be personally supervised by a Competent Person. All persons shall wear a minimum of safety footwear, Safety Glasses, hard hat, Task Specific Gloves flame retardant overalls.

6.2 Approved hand tools should always be used in preference to power tools in the vicinity of cables, unless site conditions make this impracticable. Spades should always be used in preference to forks. Extreme care must always be taken when using a fork or pick. Forks must be of approved type with shortened chisel ended tines. Spades must have sharp corners of the blade rounded. The selection of a fork or pick will be assessed on a Task Specific Risk Assessment.

6.3 A proprietary air digging tool, which removes oil with a high-velocity jet of air, can be used to expose buried services without damage to the service. However, it will not penetrate asphalt, concrete or frozen ground. Also precautions need to be taken that will prevent injury to the operator and members of the public from ejected soil and other materials.

6.4 When site conditions require the use of hand held power tools they must be fitted with a short bit. The following method of work must be used:

a) Using all the information provided, together with an approved cable locating device, the line of all know cables must be marked out at least 300mm past the hole that will be dug using waterproof marker.

b) Encroachment lines must be drawn 300mm parallel to and away from the outer and innermost cable marker lines. And as in (a) above these must be drawn to extend at least 300mm beyond the edge of the hole that will be dug.

c) Hand held power tools must not be used below ground level in between the encroachment lines. Hand tools must be used for progressive and careful undermining from outside the encroachment lines towards the cable(s). Hand power tools must only be used to break up any hard surface, keeping pace with, but not going past the undermining. Extreme care must, in particular, be exercised when using power tools above cables already exposed by undermining. The use of power tools must stop if at any time the cutting rate quickens, indicating softer ground. At all times, attention must be paid to the cable run marker lines outside the edges of the holes.

d) The safe digging procedure in (c) above must be followed until all cable(s) required for work or for identification have been located.

e) If all recorded or detected cables inside the digging area have been located then hand held power tools may be used below ground level to break up concrete or similar structures, but even then only when site conditions render the use of hand tools impractical.

6.5 During excavation, full use must be made of cable locating devices which must be used to assist in establishing the exact location of live cables.

6.6 Where exposed cables are likely to be damaged in any way they shall be adequately protected and/or supported. Where in the opinion of the person in charge on site it is appropriate, warning notices must be attached to cables e.g. ‘live cable exposed above ground level’ or ‘live coiled cables’.

6.7 Irrespective of the color of the electricity cable it shall be considered as being in a ‘live’ status unless it has been confirmed and proven that the cable has been physically isolated or turned off.

If damage is caused or suspected the following action should be taken at once:

- Remove all personnel from the immediate vicinity
- Contact ESP Electricity 01372 227560 or out of hours Emergency contact Number 0800 731 6945
- Prevent any approach by the public.
- Assist electricity personnel, Police or Fire Service as requested.

REMEMBER - IF IN DOUBT, SEEK ADVICE FROM ESP Electricity Ltd.

ESP Electricity Ltd can be contacted at:

Office Address: Hazeldean, Station Road, Leatherhead, Surrey, KT22 7AA

Office Tel: 01372 227560**; Fax:** 01372 377996**; email:** plantresponses@espipelines .com

E S PIPELINES LIMITED

PRECAUTIONS TO BE TAKEN WHEN CARRYING OUT WORK IN THE VICINITY OF UNDERGROUND GAS PIPES

ADVICE TO SITE PERSONNEL

MANAGEMENT NOTE

Please ensure that a copy of this note is read by your site management and to your site operatives.

Early consultation with ES Pipelines Ltd prior to excavation is recommended to obtain the location of plant and precautions to be taken when working nearby.

This note has been produced after consultation with and at the request of the Health and Safety Executive, the construction industry and the local authorities as an interim measure pending the issue of an HSE Guidance Note.

Introduction

Damage to ES Pipelines Ltd's plant can result in uncontrolled gas escapes which may be dangerous. In addition these occurrences can cause expense, disruption of work and inconvenience to the public.

Various materials are used for gas mains and services. Cast Iron, Ductile Iron, Steel and Plastic pipes are the most widely found. Modern Plastic pipes are either bright yellow or orange in colour.

Cast Iron and Ductile Iron water pipes are very similar in appearance to Cast Iron and Ductile Iron gas pipes and if any Cast Iron or Ductile Iron pipe is uncovered, it should be treated as a gas pipe. ES Pipelines Ltd do not own any metallic gas pipes but their gas network infrastructures may be connected to Cast Iron, Ductile Iron or Steel pipes owned by Transco.

The following general precautions apply to Intermediate Pressure (2-7barg MOP), Medium Pressure (75mbarg-2barg MOP), Low Pressure (up to 75mbarg MOP) and other gas mains and services likely to be encountered in genera! site works and are referred to within this document as '**pipes**'.

Locating Gas Pipes

It should be assumed when working in urban and residential areas that gas mains and services are likely to be present. On request, E S Pipelines Ltd will give approximate locations of pipes derived from their records. The records do not normally show the position of service pipes but their probable line can be deducted from the gas meter position. E S Pipelines Ltd's staff will be pleased to assist in the location of gas plant and provide advice on any precautions that may be required. The records and advice are given in good faith but cannot be guaranteed until hand excavation has taken place. Proprietary pipe and cable locators are available although generally these will not locate plastic pipes.

Safe working Practices

To achieve safe working conditions adjacent to gas plant the following must be observed:

Observe any specific request made by E S Pipelines Ltd's staff.

Gas pipes must be located by hand digging before mechanical excavation. Once a gas pipe has been located, mechanical excavation must proceed **with care**. A mechanical excavator must not in any case be used within 0.5 metre of a gas pipe and greater safety distances may be advised by E S Pipelines Ltd depending on the mains maximum operating pressure (MOP).

Where heavy plant may have to cross the line of a gas pipe during construction work, the number of crossing points should be kept to a minimum. Crossing points should be clearly indicated and crossings at other places along the line of the pipe should be prevented.

Where the pipe is not adequately protected by an existing road, crossing points should be suitably reinforced with sleepers, steel plates or a specially constructed reinforced concrete raft as necessary. E S Pipelines Ltd staff will advise on the type of reinforcement necessary.

No explosives should be used within 30 metres of any gas pipe without prior consultation with E S Pipelines Ltd.

E S Pipelines Ltd must be consulted prior to carrying out excavation work within 10 metres of any above ground gas installation.

Where it is proposed to carry out piling or boring within 15 metres of any gas pipe, E S Pipelines Ltd should be consulted prior to the commencement of the works.

Access to gas plant must be maintained at all times during on site works.

Proximity of Other Plant

A minimum clearance of 300 millimetres (mm) should be allowed between any plant being installed and an existing gas main to facilitate repair, whether the adjacent plant be parallel to or crossing the gas pipe. No apparatus should be laid over and along the line of a gas pipe irrespective of clearance.

No manhole or chambers shall be built over or around a gas pipe and no work should be carried out which results in a reduction of cover or protection over a pipe, without consultation with E S Pipelines Ltd.

Support and Backfill

Where excavation of trenches adjacent to any pipe affects its support, the pipe must be supported to the satisfaction of E S Pipelines Ltd and must not be used as an anchor or support in any way. In some cases, it may be necessary to divert the gas pipe before work commences.

Where a trench is excavated crossing or parallel to the line of the gas pipe, the backfill should be adequately compacted, particularly beneath the pipe, to prevent any settlement which could subsequently cause damage to the pipe.

In special cases it may be necessary to provide permanent support to the gas pipe, before backfilling and reinstatement is carried out. Backfill material adjacent to gas plant must be selected fine material or sand, containing no stones, bricks or lumps of concrete, etc., placed to a minimum depth of 150mm around the pipes and well compacted by hand. No power compaction should take place until 300 mm of selected fine fill has been suitably compacted.

If the road construction is in close proximity to the top of the gas pipe, a "cushion" of selected fine material such as sand must be used to prevent the traffic shock being transmitted to the gas pipe. The road construction depth must not be reduced without permission from the local Highway Authority.

No concrete or other hard material must be placed or left under or adjacent to any Cast Iron pipe as this may cause fracture of the pipe at a later date.

Concrete backfill should not be used closer than 300 mm to the pipe.

Damage to Coating

Where a gas pipe is coated with special wrapping and this is damaged, even to a minor extent E S Pipelines Ltd must be notified so that repairs can be made to prevent future corrosion and subsequent leakage.

Welding or "Hot Works"

When welding or other "hot works" involving naked flames are to be carried out in close proximity to gas plant and the presence of gas is suspected, E S Pipelines Ltd must be contacted before work commences to check the atmosphere. Even when a gas free atmosphere exists care must be taken when carrying out hot works in close proximity to gas plant in order to ensure that no damage occurs.

Particular care must be taken to avoid damage by heat or naked flame to plastic gas pipes or to the protective coating on other gas pipes.

Leakage from Gas Mains or Services

If damage or leakage is caused or an escape of gas is smelt or suspected the following action should be taken at once:

- Remove all personnel from the immediate vicinity of the escape;
- Contact Transco's National Gas Escape Call Centre, on: **0800 111 999**;
- Prevent any approach by the public, prohibit smoking, extinguish all naked flames or other source of ignition for at least 15 metres from the leakage;
- Assist gas personnel, Police or Fire Service as requested.

REMEMBER - IF IN DOUBT, SEEK ADVICE FROM E S PIPELINES LTD.

ES Pipelines Ltd can be contacted at:

Office Address: Hazeldean, Station Road, Leatherhead, Surrey, KT22 7AA

Office Tel: 01372 227560**; Fax:** 01372 377996**; email:** plantresponses@espipelines.com

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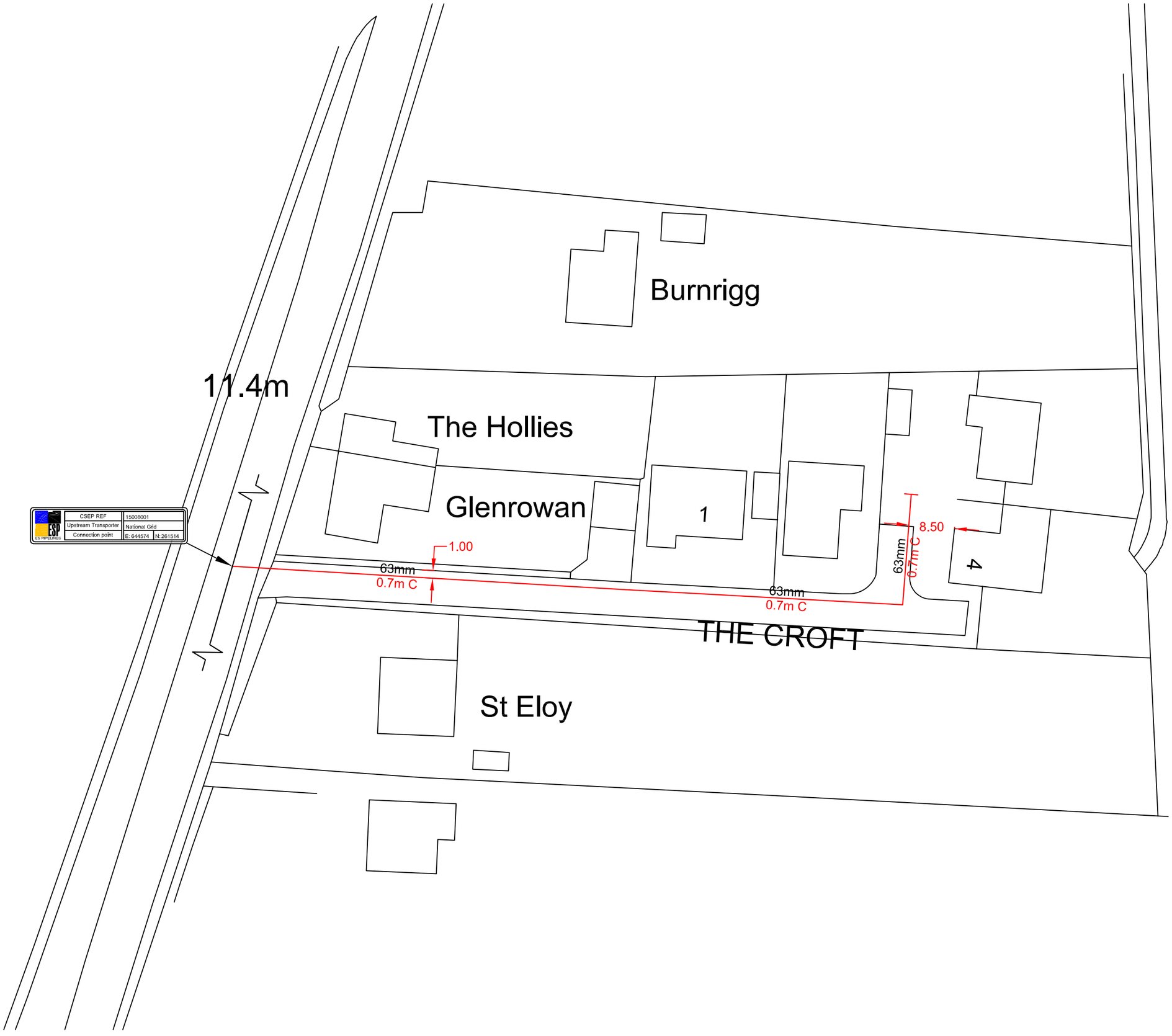


Materials	Description
DI	Ductile Iron Main
CI	Cast Iron Main
ST	Steel main or service
MDPE (17.6)	Medium Density Polyethylene (SDR Rating) main or service
HDPE (11)	High Density Polyethylene (SDR Rating) main or service

Size	Description
12"	Metallic main or service - Imperial (nominal bore)*
150mm	Metallic main or service - Metric (nominal bore)
3"	Polyethylene main or service - Imperial (nominal bore)
90	Polyethylene main or service - Metric (outsidediameter)

* note - for Steel 18" denotes the pipe size where the designation changes from nominal bore to outside diameter

Pressure	Description
LP	Low Pressure - up to 75 millibar gauge
MP	Medium Pressure - between 75 millibar and 2 bar gauge
IP	Intermediate Pressure - between 2 bar and 7 bar gauge
HP	High Pressure - above 7 bar gauge

MDPE Mains: 90mm & above SDR 17.6; 63mm SDR 11

Drawing Nomenclature

- 90 | 125 — Change in diameter nominal bore
- Mains not connected
- Valve
- Pressure Regulator
- Cap End
- Pressure / Purge point
- 0.8m C — Depth of Cover main or service
- 1 — Node

Key for Mains & Service Pipework

- Existing LP mains or services operating up to 75 millibar gauge
- Proposed LP mains or services operating up to 75 millibar gauge
- Existing MP mains or services operating between 75 millibar and 2 bar gauge
- Proposed MP mains or services operating between 75 millibar and 2 bar gauge
- Existing IP mains or services operating between 2 bar and 7 bar gauge
- Proposed IP mains or services operating between 2 bar and 7 bar gauge

ES PIPELINES
ES Pipelines
HAZELDEAN
STATION ROAD
LEATHERHEAD
SURREY
KT22 7AA
Tel: 01372 227560 FAX: 01372 377996

N W E S

Drawn by	Scale:	Date created:
M. Hyslop	1:250	October '15

DRAWING TITLE

Aldeburgh Road
Aldringham
Leiston, Suffolk
IP16

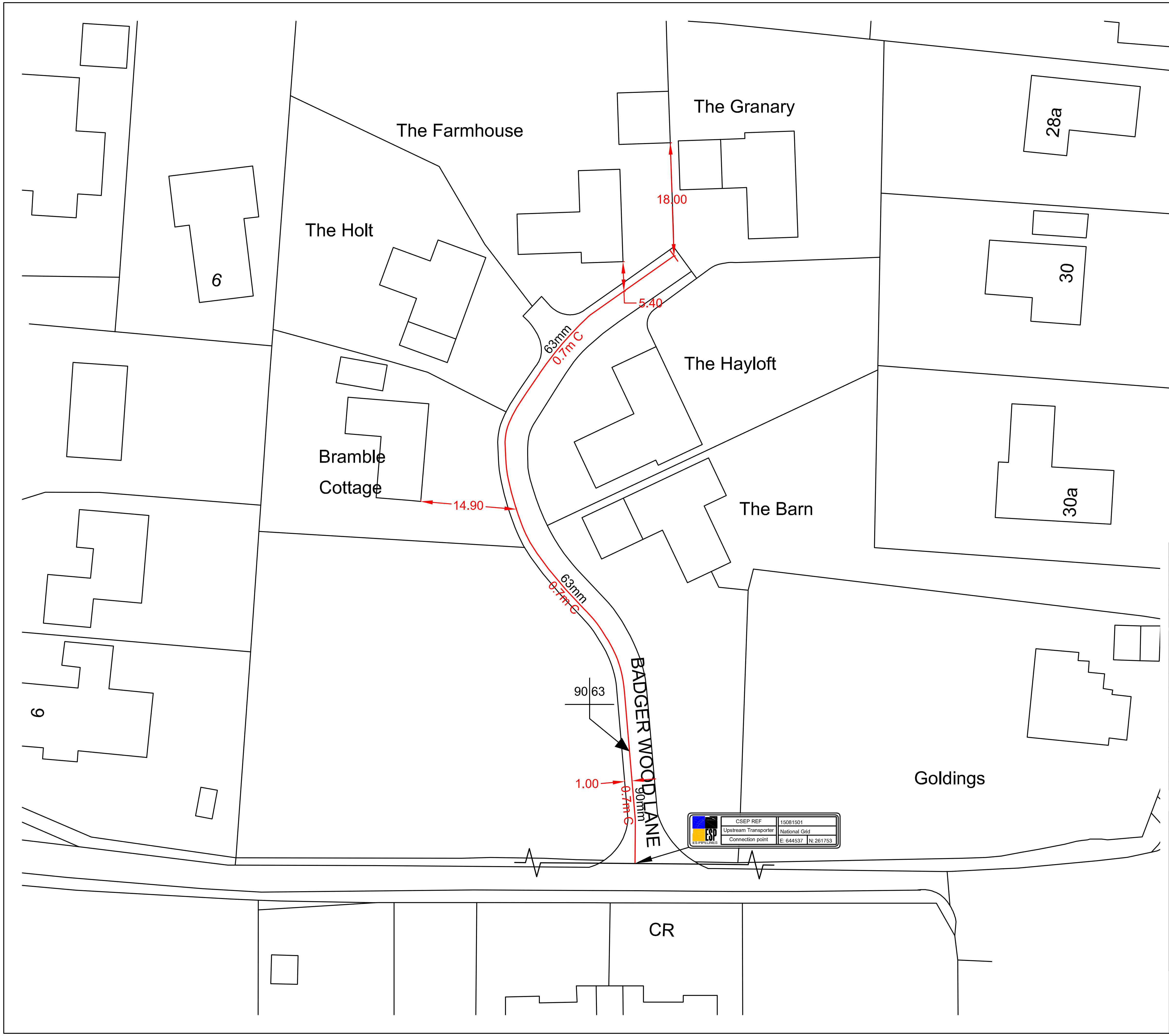
Drawing No	ESN011902	REV:
Issue Number:	SHEET: 1 of 1	Printed:

Pipe Lengths (mm)

	63mm	90mm	125mm	180mm	250mm	315mm	355mm
LP							
MP							
IP							

REV	DETAILS OF REVISION	Date

UNCONTROLLED WHEN PRINTED



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* note - for Steel 18" denotes the pipe size where the designation changes from nominal bore to outside diameter

Pressure	Description
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IP	Intermediate Pressure - between 2 bar and 7 bar gauge
HP	High Pressure - above 7 bar gauge

MDPE Mains 90mm & above SDR 17.6 63mm: SDR 11

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Key for Mains & Service Pipework

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- Proposed LP mains or services operating up to 75 millibar gauge
- Existing MP mains or services operating between 75 millibar and 2 bar gauge
- Proposed MP mains or services operating between 75 millibar and 2 bar gauge
- Existing IP mains or services operating between 2 bar and 7 bar gauge
- Proposed IP mains or services operating between 2 bar and 7 bar gauge

ES PIPELINES

N W E S

ES Pipelines
HAZELDEAN
STATION ROAD
LEATHERHEAD
SURREY
KT22 7AA
Tel: 01372 227560 FAX: 01372 377996

Drawn by	Scale:	Date created:
M. Hyslop	1:250	November '15

DRAWING TITLE

Goldings Lane
Aldringham
Leiston, Suffolk
IP16

Drawing No ESN011956 REV:

Issue Number: SHEET: 1 of 1 Printed:

Pipe Lengths (mtrs)

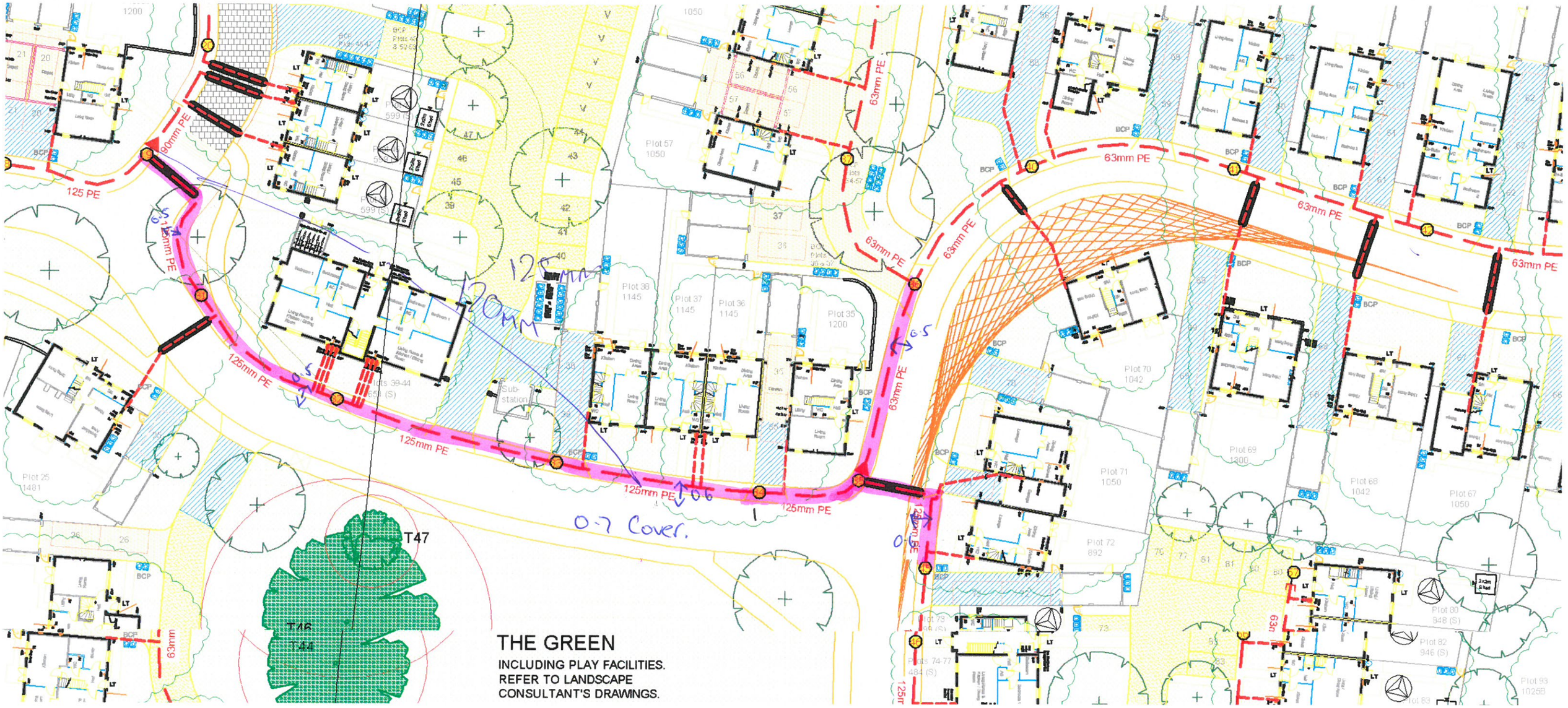
	63mm	90mm	125mm	180mm	250mm	315mm	355mm
LP							
MP							
IP							

REV	DETAILS OF REVISION	Date

This Plan shows only the pipes owned by E S Pipelines Ltd in its role as a licensed Gas Transporter (GT). Gas pipes owned by other GT's, and also privately owned, may be present in the area. Information with regard to such pipes should be obtained from the owners. The information shown on this plan is given without obligation, or warranty. The accuracy thereof cannot be guaranteed. All service pipes are not necessarily shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by E S Pipelines Ltd, its agents or servants, for any error or omission. Safe digging practices, as detailed in Health and Safety booklet HS(G)47 'Avoiding danger from underground services', must be used to verify and establish the actual position of mains, services and other plant on site before any Mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct or contract labour) working for you on or near gas apparatus. The information on this plan should not be referred to beyond 28 days following the date of issue. DATE OF ISSUE:

XIII
Leiston
ESNOISS37

XIII
Leiston
ESN0155 37



XIII
Aldeburgh Road, Leiston
ESN015537

ESPE015537 X111

INTERMEDIATE STRAIGHT JOINT

EXISTING HV OVERHEAD LINE TO BE DISMANTLED AND REMOVED BY UKPN

EXISTING HV OVERHEAD LINE TO BE DISMANTLED AND REMOVED BY UKPN

METER ROOM B SEE NOTE

B.J [2A]
B.J [2C]
B.J [2D]
B.J [2F]
B.J [2G]
B.J [2H]
B.J [2J]
B.E [1B]
B.E [2I]
B.J [2

SL04
SL05
SL06
SL07
SL09
SL10
SL12
SL13
SL14
SL15
SL16
SL19
SL20

1F
24

300mm² Al, TRIPLEX, XPLE
3c-95mm², W/F
3c-185mm², W/F
3c-35mm² CNE
125mm DUCT
2 x 125mm DUCT

L1
L2
L3

From: Meakins, Corinne [mailto:corinne.meakins@forestry.gsi.gov.uk]
Sent: 16 November 2017 15:58
To: East Anglia Two
Subject: Forestry Commission repsonse to East Anglia TWO Scoping Document.

Application by ScottishPower Renewables (UK) Limited for an Order granting Development Consent for the East Anglia TWO Offshore Windfarm , Scoping consultation

Your ref; EN010078-000060

To whom it may concern,

The Forestry Commission is the Government Department with responsibility for forestry, we are statutory consultees for restoration of minerals and waste workings to forestry and on National Strategic Infrastructure Projects , we are non-statutory consultees on developments within 500metres of an Ancient Woodland.

We have examined the scoping document and note the reference to the national grid's Horlock Rules (para 64) which indicates a serious attempt to avoid the worse impacts on the environment however we believe may be a little out of date given that the assessment of Ancient woodland within the scoping document refers to it only within the paragraph on 'areas of local amenity value'. We do not believe this to be an adequate description, Ancient Woodland is of national significance and is an irreplaceable habitat as described in paragraph 118 NPPF therefore we suggest that it needs to be given a much stronger consideration and value than is currently indicated by the wording.

It is not clear how impacts on Ancient woodlands are to be assessed and mitigated, whereas heritage sites has specific passages associated with this. The starting point for assessment for impact's should the cabling route pass through ancient woodlands is the Standing Advice on Ancient Woodlands on Gov.uk

https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences

which has links to the assessment guide; link copied here.

https://www.forestry.gov.uk/pdf/150330AWAssessmentGuide2.pdf/$FILE/150330AWAssessmentGuide2.pdf

We hope you find this of use.

Yours sincerely

[redacted]

Corinne Meakins
Local Partnership Advisor
Forestry Commission East and East Midlands
Tel: 0300 067 4583
Mobile; 07900 227 123

Health and Safety Executive

CEMHD Policy - Land Use Planning
NSIP Consultations
Building 2.2, Redgrave Court
Merton Road, Bootle
Merseyside, L20 7HS

Your ref: EN010078
Our ref: 4.2.1.6178

HSE email: NSIP.applications@hse.gov.uk

FAO Gail Boyle
The Planning Inspectorate
Temple Quay House
Temple Quay,
Bristol
BS1 6PN

Dear Ms Boyle

01 December 2017

PROPOSED EAST ANGLIA TWO OFFSHORE WINDFARM (the project)
PROPOSAL BY SCOTTISHPOWER RENEWABLES (UK) LTD (the applicant))
INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017 (as amended) – Regulations 10 and 11

Thank you for your letter of 10th November 2017 regarding the information to be provided in an environmental statement relating to the above project. HSE does not comment on EIA Scoping Reports but the following information is likely to be useful to the applicant. We have started discussions about health and safety requirements with the developer.

HSE's land use planning advice

Will the proposed development fall within any of HSE's consultation distances?

There are currently no major accident hazard sites or pipelines within the development, if in the intervening period we are notified of a change to this situation the Applicant would need to seek advice from us.

Would Hazardous Substances Consent be needed?

The presence of hazardous substances on, over or under land at or above set threshold quantities (Controlled Quantities) may require Hazardous Substances Consent (HSC) under the Planning (Hazardous Substances) Act 1990 as amended. The substances, alone or when aggregated with others, for which HSC is required, and the associated Controlled Quantities, are set out in The Planning (Hazardous Substances) Regulations 2015.

Hazardous Substances Consent would be required if the site is intending to store or use any of the Named Hazardous Substances or Categories of Substances and Preparations at or above the controlled quantities set out in schedule 1 of these Regulations.

Explosives sites

The Explosives Inspectorate has no comment to make as there are no licensed explosive sites in the vicinity.

Electrical Safety

No comment.

Please send any further electronic communication on this project directly to the HSE's designated e-mail account for NSIP applications. Alternatively any hard copy correspondence should be sent to:

Mr Dave Adams (MHPD)
NSIP Consultations
2.2 Redgrave Court
Merton Road
Bootle, Merseyside
L20 7HS

Yours sincerely,

Dave Adams
CEMHD4 Policy

Historic England

EAST OF ENGLAND OFFICE

Sir or Madam
Planning Inspectorate
Temple Quay House
Temple Quay
BRISTOL
BS1 6PN

Direct Dial: 01223 582710

Our ref: PL00223246

8 December 2017

Dear Sir or Madam

INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2009 SI 2263 (as amended) (the EIA Regulations)

EAST ANGLIA ONE NORTH and EAST ANGLIA TWO OFFSHORE WIND FARM - EIA SCOPING REPORT

Thank you for consulting Historic England on the Environmental Impact Assessment Scoping Report for the East Anglia ONE North and TWO Offshore Wind Farm Projects. The Historic Buildings and Monuments Commission for England, more commonly known as Historic England, are the governments lead advisors on the historic environment. The National Heritage Act (2002) has also given Historic England responsible for maritime archaeology in the English area of the UK Territorial Sea. The development zone for this project extends into the English offshore marine planning area (as defined by the Marine and Coastal Access Act 2009 and detailed within the UK Marine Policy Statement); therefore our advice for this proposed project within this offshore area is offered without prejudice to our responsibilities, as provided by 2002 Act.

We would like to offer our comments on these proposal, taking into consideration the information provided by the applicant in the Scoping Reports (SPR dated November 2017)

Summary

The project, as proposed in the two reports is to seek an Environmental Impact Assessment (EIA) Scoping Opinion for the East Anglia ONE North and East Anglia TWO Offshore Wind Farm Projects. These are Nationally Significant Infrastructure Projects (NSIP) that requires a Development Consent Order (DCO) under the Planning Act (as amended).

It is proposed that the East Anglia ONE North development will be located 36 km offshore (from the closest land point) with a generating capacity of 0.8GW (800MW), taking in an area of the seabed equalling approximately 208km². The application will comprise all elements of the proposed development: an array of up to 67 wind turbines; with electricity delivered through inter-array cables to a number of offshore electrical platforms and then to the shore via two offshore export cables. The tip height of the wind turbines expected to be up to 300m.

The East Anglia TWO development will be located 31 km offshore (from the closest land point) and would have a generating capacity of 0.9GW (900MW), taking in an area of the seabed equalling approximately 255 km² Like East Anglia ONE North the application will comprise all elements of the proposed development: but with an array of up to 75 wind turbines. The electricity delivered through inter-array cables to a number of offshore electrical platforms and then to the shore via two offshore export cables. It is proposed to share where possible the proposed infrastructure with East Anglia ONE North. Likewise the tip height of the wind turbines expected to be up to 300m.

We also note a new National Grid Substation is proposed, and the project includes a potential upgrade of up to two existing overhead power pylons. Details of the size, final design and specification for the turbines and infrastructure are not known at this stage of the project.

We note that the two reports for East Anglia ONE North and TWO are for all intent and purpose identical, and that SPR group have submitted simultaneous Scoping reports. Much of the proposed infrastructure would be shared, and it is proposed that this project will utilise the same landfall and on-shore cable routes. The differences between the two schemes are the project specification and the offshore development area and array cables. As many of our comments are necessarily restricted to generic issues that are common to both reports, we have for ease of analysis, combined our comment in to one letter.

We note that the Preliminary Environmental Information Report (PEIR) submission for East Anglia ONE North and TWO is proposed for late 2019 with the following submission of the DCO planned for 2020. Furthermore the design life of the offshore infrastructure is likely to be in the order of 25 years and therefore some maintenance and upgrading will be required during this time.

Based on the information provided in the scoping reports we are able to offer the following comments.

Historic England Advice

We consider that these projects have the potential to impact upon the historic environment in a number of ways. The impacts are likely to be both direct, which would result in permanent physical changes to the historic environment and indirect impacts through changes to the setting of heritage assets. We are also aware that impacts would vary throughout the life of the project. Some of the impact during the construction phase will be temporary, but elements of the project represent permanent change. These impacts are not confined to the footprints of the wind farm, cable route, cable relay station and substation, and would also potentially comprise of changes to the setting of designated heritage assets.

All aspects of the historic environment are valued, however the particular remit of Historic England in relation to this project would be the impact upon the intertidal and fully marine historic environments and the terrestrial historic environment in regard to the highly graded designated heritage assets (scheduled monuments, grade I and II* listed buildings and registered park and gardens and Conservation Areas). Above the Mean High Water mark, the undesignated terrestrial archaeology would more properly be the province of the Suffolk County Council's Archaeological Service (SCCAS). We recommend the applicant consult with them at the earliest opportunity. Similarly, the conservation and landscape officers in the local planning authorities and the county council would need to be consulted regarding impacts upon the setting of listed building and parks and gardens, including those listed at grade II, as well as conservation areas and other undesignated heritage assets within their remit. We are also aware of the landscape designation that makes this area an AONB.

General comments for On- and Off-shore Archaeology

We note (see 1.5.2.1.1) that there are a number of options suggested for the wind turbine foundations (paragraph 77), the platform foundations (paragraph 78) and the metmast (paragraph 79) and that a combination of the suggested options may be used depending on the site conditions. The impact that each option will have on any near surface or buried archaeological remains/deposits needs to be considered. The same comments also apply to the installation methods for the different foundation types summarised in Table 1.6, cable installation methods (Section 1.5.2.2.4) scour protection (Section 1.5.2.3.1), cable protection (Section 1.5.2.3.2), and cable crossings (Section 1.5.2.3.3).

We note paragraph 1.5.3.1.1 that a number of landfall installation methods have been stated. The impact that each of these options would have on the historic environment would also need to be determined in order to mitigate any damage. We are aware from previous schemes that there is the potential for the bentonite slurry used in the HDD process to breakout and spread into and coat archaeological deposits, features and materials under which the drill would pass. Information would therefore need to be provided regarding the chemistry, pH and composition of the drilling fluid used and any

impacts defined and considered. These comments also apply to the installation method used for the onshore cables as set out in paragraph 1.5.4.1.1.

We accept that the future assessment of impacts will (in accordance with the 2017 EIA Regulations) describe the measures predicted to avoid, prevent, reduce or (where possible) offset any significant adverse effects on the historic environment. We therefore recommend where possible that embedded mitigation strategies, such as archaeological exclusion zones, are set out and established. The success of this will relates closely to the techniques, coverage, quality and accuracy of the marine surveys used to inform the application.

Interestingly we note the proposed assessment of impacts (as detailed within table 1.8) against beneficial outcomes. As such (although it is not directly referenced) this would appear to accord the National Policy Statement EN-3 for Renewable Energy Infrastructure (2011) and we request that this matrix is more broadly considered in regard to the known and potential heritage assets situated within the proposed area of development, and the forthcoming schemes of investigation.

It is also worth considering at this stage the issues of potential cumulative direct impacts. In particular, where cumulative impacts could exist and where the collective heritage value of many individual assets may be impacted, through “multiple impacts upon similar assets”. Furthermore it may be possible for multiple developments to affect the larger-scale archaeological features such as palaeolandscapes and to affect the setting of heritage assets and historic landscapes/seascapes. Similarly, there is often a connection between the seabed area and the site of some First and Second World War shipping casualties. Therefore given the need to include extensive seabed coverage using geophysical survey techniques and other more prescriptive methods it may be possible to illuminate special features within a wider battlefield context. An example of this would be evidence of the First World War U-boat wreck, U-78, situated in the proposed development area of East Anglia One North.

Chapter 2.13 (Marine Archaeology and Cultural Heritage)
We note a summary has been provided of the existing marine geophysics data, representing the surveys acquired for the former East Anglia Zone and the East Anglia ONE North and TWO windfarm sites.

It is worth noting that the applicant contacted and discussed with Historic England the planned use of existing survey datasets (geophysical and geotechnical) prior to this formal scoping document being put forward for consultation, and we currently support the existing strategy. However only a third of the existing side scan sonar (SSS), magnetometry, multibeam echosounder (MBES) and Sub-bottom Profiler (Sb-P) data have been assessed so far and further work is needed.

In view of the current proposals, we consider the following level of information to be appropriate to inform the archaeological desk based assessment for the application process.

- All existing and applicable survey data (as above).
- sidescan sonar and swath bathymetry survey within the East Anglia ONE North windfarm site and area of the export cable corridor Area of Search previously surveyed as part of the ZEA surveys. Completed to 100% coverage of the seabed in summer 2017.
- Swath bathymetry, side scan sonar, magnetometer and sub-bottom profile data will be collected from all areas of the export cable corridors not previously surveyed. The survey is scheduled for spring 2018.
- Use of available overlapping and relevant geotechnical data and core samples from East Anglia ONE and East Anglia THREE.

In Paragraph 413 it is stated that there is potential for the presence of archaeological material of a maritime nature spanning from the Mesolithic period to the present day within the development area. It should also be noted that there is also the potential for Palaeolithic or Pleistocene remains which may be of national or international significance (as for example seen at Happisburg or Pakefield to the north). The potential for encountering these deposits will need to be discussed at the PIER stage for both on-shore and off-shore sections of the projects. It is important to consider the potential age of archaeological deposits present, and therefore how any deposits/remains would be scientifically dated. The choice of techniques may require cores to be collected and stored in a certain way, as is the case for the luminescence dating techniques, which will need to be considered as part of the sampling strategy.

In Paragraph 414 it is stated that although there is potential for prehistoric sites to be present within the proposed development area, that it can be difficult to identify these sorts of sites. Although the post-consent site investigation works currently being carried out will contribute to the understanding of the geological units of greatest archaeological potential (summarised in Table 2.22), it may also be useful to discuss the development area with a North Sea landscape and/or Palaeolithic specialist. The specialist would potentially enhance the discussions and identification of areas of archaeological potential, as well as aid the development of strategies required to locate and investigate these areas where necessary.

The reports state that there is the potential for direct (paragraph 417) and indirect (paragraph 418) impacts on the near surface and buried archaeology, as well as impacts on the setting of heritage assets (see paragraph 419). Any direct or indirect impacts on the historic environment will need to be discussed in detail, with a mitigation strategy being developed in response to any impacts. We also support the statement in 2.13.3 where it is stated that the mitigation strategy embedded in the project design will include the further assessment of geophysical and geotechnical

data prior to construction. It would be important to consider the percentage coverage, quality and resolution of geophysical surveys that will be carried out to ensure that features can be identified from the data and so that confidence can be held in any conclusions that are drawn about the presence/absence of features within a given area. We recommend that there is early communication and collaboration between the geotechnical and geoarchaeological assessments to ensure that opportunities to sample sites and deposits maximised and to minimise the duplication of effort. Discussion of techniques for the recovery of material prior to the sample will also allow greater collaboration and may help reduce client costs.

Appendix 2.6 (Offshore Archaeology)
We note that in 2.3, paragraph 28 it is stated that existing geotechnical data and core samples from East Anglia ONE and East Anglia THREE will be used to ground-truth geophysical data, and that further cores will be collected post consent (paragraph 30). It should be noted that the new geophysical surveys that have been planned may identify features that warrant additional investigation; the existing geotechnical/geoarchaeological cores may not be sited in the locations required to carry out this work and may therefore leave gaps in the knowledge and understanding of the proposed development area. And this would need to be considered appropriately.

In Section 3, paragraph 43 it states that there is potential for there to be archaeological material of a maritime nature spanning from the Mesolithic period to the present day within the development area. It should also be noted as stated above that there is also the potential for Palaeolithic or Pleistocene remains which may be of national or international significance. It is important to consider the potential age of archaeological deposits present, and therefore how any deposits/remains would be scientifically dated. As previously stated, the choice of techniques may require cores to be collected and stored in a certain way, as is the case for the luminescence dating techniques, which will need to be considered as part of the sampling strategy. It may also be useful to discuss the development area with a Palaeolithic/Pleistocene specialist considering the features summarised in paragraph 47. The specialist would enhance the discussions and identification of areas of archaeological potential, as well as aid the development of strategies required to locate and investigate these areas where necessary.

As such it will also be important to consider the area and site specific features of interest, given the scale and coverage of both of these windfarm projects together and the potential for the need to adapt to the types of questions each particular area of the southern North Sea requires. As has been demonstrated in recent work (from EA ONE) the true nature and significance of offshore deposits and their stratigraphy is not always easy to calculate during the PEI stage. It is therefore important to recognise that the potential exists for extensive evidence of submerged landscape deposits that may contain significant archaeological remains. Additionally the offshore areas

proposed for development do not simply illustrate a seamless extension of the modern landscape, but reflect the unique nature of landscapes at various lower elevations, with vast river systems that are rarely evident in the terrestrial archaeological UK landscape, often subjected to dynamic changes over the last 1 million years.

Chapter 3.7 (On-shore Archaeology and Cultural Heritage) and 4.3 (On-shore Landscape and Visual Amenity)

We are broadly content with the approach as set out in the scoping reports particularly in relation to the likely impact of the project on designated and non-designated assets. We recognise the main potential impact upon the significance of the on-shore designated heritage assets is likely to be from the new converter and sub-station, and from changes to the overhead cable system. We note however that a number of important listed buildings lie just outside the study area shown in figure 3.7. These buildings, in particular a group of buildings at Thorpeness (including the House in the Clouds), St Andrews Church (nr Aldringham), Billeaford Hall, a group of buildings at Friston, and those in the southern part of Leiston need to be brought in to the initial study, even if these are scoped out following analysis. We also would like the study to consider the higher grade buildings in Leiston (such as the Grade II* Longshop) even if these are likewise scoped out later. Important designated heritage assets also need to be included in the list of sites to be included in the Landscape and Visual Amenity study, and the heritage viewpoints will need to be discussed and agreed prior to the PEI stage, with ourselves and the LPA. Please also note that in relation to the planning policy (NPPF) that Conservation Areas are considered to be designated heritage assets, and that these also need to be brought into the Study area, specifically Thorpeness and Leiston.

We are aware that there is a considerable difference in the potential visibility of turbines between the types/sizes of turbine that are being considered for this development. Specifically a turbine with max height to tip of 300m, generating 8 MW output is likely to be much more visible from the shore than a smaller turbine with lower tip heights and lower output. If the larger turbines are being considered then a corresponding study will need to be undertaken that demonstrates the likely impact of these turbines on designated coastal heritage assets. The study area and numbers of heritage assets would ideally be considered at the scoping stage.

We also recognise that number turbines will have been built, consented or are planned in this off-shore zone. We therefore have a specific concern in relation to cumulative impact (also noted in the Scoping Reports under Section 1.6.3.8). In our view more also needs to be done to specifically identify the present and planned offshore arrays and numbers of turbines and include these in the cumulative impact study. This is an area of cross over between on- and off-shore methodologies and heritage and visual impact methodologies. The scoping report needs to consider cumulative impacts as well as the differences between landscape and seascape where it is relevant to a heritage asset, and how this will be delivered in the resulting ES. The scoping report

needs to state how these coastal heritage assets will be identified and assessed in relation to the visibility. This may need to be added as an addendum.

More specifically in 3.7.1.1 it is stated that a pre-application geophysical survey will be undertaken across the footprint of the onshore infrastructure area in order to inform the archaeology baseline. We would recommend that the most appropriate geophysical techniques are utilised, which in some cases may result in more than one geophysical technique being applied to a given area. This would maximise the chances of identifying any archaeological features, and hopefully minimise the risk of any unexpected finds.

Under 3.7.3 it is stated that where possible, archaeological remains will be preserved in situ. It may be useful to refer to the recent Historic England 'Preservation of Archaeological Remains' document: <https://historicengland.org.uk/images-books/publications/preserving-archaeological-remains/>

Section 7 (Written Scheme of Investigation)
More is needed to show how cultural heritage investigations can be incorporated and planned for adequately, based upon an indicative timescale similar to that produced for the Appendix 2.1 'Physical Processes Method Statement' (such as table 1, 3 and 7). In doing so this will enable to demonstrate clearly the steps and timescales proposed to enable the WSI to function effectively, directing the project in view of other matters through to remaining post-consent delivery.

Whilst we note clear reference to a project archaeological WSI is included, with specific attention to The Crown Estate (2010) *Model Clauses for Archaeological Written Schemes of Investigation: Offshore Renewables Projects* guidance document, and we accept the statement that "Through the consenting process the WSI will be agreed as a means to ensure enforcement of the agreed mitigation measures through the DCO and DML". We would also recommend however that the Applicant is made aware that this document should function in clearer and broader terms.

By way of explanation, an agreed WSI will set out when, how and why (additional) archaeological mitigation measures recommended in the PEI are to be implemented through detailed and direct scheme specific method statements. The delivery of such mitigation measures, through method statements, should therefore be addressed in regard to archaeological objectives with attention on the time and scale of completing and reporting on relevant individual schemes of investigation. In doing so this will enable survey opportunities to be maximised and appropriate information made available to inform the design process. In summary it's an important principle that survey commissioning, interpretation and reporting are programmed, so that the eventual engineering design selected for delivery of this project, should consent be obtained, is fully informed and guided by professional archaeological advice.

Furthermore the WSI should include a strategy for monitoring the effects over all phases of the development, and as outlined within paragraph 2.6.142 of National Policy Statement for Renewable Energy Infrastructure EN-3, through the assessment work, include the "identification of any beneficial effects on the historic marine environment, for example through improved access or the contribution to new knowledge that arises from investigation", principally through the use of national, regional and local research frameworks.

If you wish to discuss anything further please do not hesitate to contact me.

Yours sincerely,

[redacted]

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Leiston-cum-Sizewell Town Council

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Our Ref: EA1 051217

Your Ref:
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EN010078-000060
Scoping Reports provided by SPR

6 December 2017

Dear Gail

EAST ANGLIA ONE NORTH AND TWO – SCOPING REPORT AND OPINION

Please take these comments from Leiston-cum-Sizewell Town Council as relevant responses **to both** the East Anglia ONE North Windfarm and the East Anglia TWO windfarm.

Firstly, we have no comment on the offshore aspects of this report.

For the onshore element it is noted that it seems to be a foregone conclusion that the landfall will be between Sizewell and Thorpeness. Given the huge effort over many years to keep industrialisation from power generation (wind and nuclear) emphatically to the North of the C228 (Sizewell Gap Road) this latest application is a devastating blow to residents' aspirations to keep the Aldringham Walks sacrosanct and clear of development. It must be clearly and evidentially justified why no other route or site can be considered. This justification at present seems to be purely financial which must be clearly offset against the enormous impact on the AONB and, if it comes further inland, the unacceptable loss of amenity to the residents of Leiston, Aldringham and Knodishall.

The two substations specified are too high (21m) and the National Grid compound, along with these two stations seem to take up a very substantial area indeed – much more than the Gabbard and Galloper substations which we fought so hard to incorporate into our precious landscape. Surely these can be reduced?

All the expected impacts seem to be covered but noise levels during construction and most certainly during operation must be clearly predicted and mitigated for to a very high level.

Crossing the B1122 seems, to the layman, to be a complicated exercise and one that will need careful explanation to the residents along that road – the scoping report should layout how drilling under accommodation affects properties and prove just how safe an underground cable (under your home) is.

Under traffic and transport – bearing in mind that once off the highway there may some very sensitive land to be crossed – the access to any potential site and how the access road will be fenced off should be addressed and a very clear indication of what rights of way or right to roam inhibitions will have to be put in place to achieve this.

The LVIA will be the most difficult to scope out and I think it should be clearly stated that Leiston-cum Sizewell Town Council, Aldringham-cum-Thorpe Parish Council and Knodishall Parish Council be added to the consultees in paragraph 4.3.4. (701 -EA2)(703-EA1N) to ensure locally important elements are taken into consideration. These should also be included in any list being considered for further consultations {paragraph 5.1.2. (752 – EA2) (754 – EA1N)}

Yours sincerely

John Rayner
Town Clerk

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Organisation

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Gail Boyle
The Planning Inspectorate
3D Eagle Wing, Temple Quay House
2 The Square, Bristol, BS1 6PN.

Your reference: EN010078-000060
Our reference: DCO/2016/00005

[By email only]

8 December 2017.

Dear Ms Boyle,

Re: Formal scoping request under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 for the proposed East Anglia Two Offshore Wind Farm Project by Scottish Power Renewables Ltd.

Thank you for your scoping opinion request dated 10 November 2017 and for providing the Marine Management Organisation (MMO) with the opportunity to comment on the East Anglia Two Offshore Wind Farm scoping request.

Please find attached the scoping opinion of the MMO. In providing these comments, the MMO has sought the views of our technical advisors at the Centre for Environment, Fisheries and Aquaculture Science (Cefas).

If you require any further information, please do not hesitate to contact me using the details provided below.

Yours sincerely,

Emma Toogood

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Marine Licensing Case Officer

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Enclosed: MMO Scoping Opinion: East Anglia Two Offshore Wind Farm.

Marine Management Organisation

Scoping Opinion

Title: East Anglia Two Offshore Wind Farm

Applicant: Scottish Power Renewables Ltd.

MMO Reference: DCO/2016/00005

Contents

1. Proposal

1.1. East Anglia Two (EA2) is a proposed offshore wind farm (OWF) including up to 75 wind turbine generators. The site is located in the southern North Sea, with a total generating capacity of up to 900 megawatts (MW), and will include all associated offshore and onshore infrastructure. The EA2 array area is approximately 255 square kilometres (km^2) and is located approximately 31 km from Lowestoft and 32 km from Southwold at its nearest point to land.

1.2. Electricity will flow from the wind turbines via subsea inter-array cables to a number of offshore electrical platforms. Export cables will connect the electrical platforms with the landfall site. The proposed EA2 offshore export cable route (ECR) corridor search area extends from the Suffolk coast to the western boundary of the EA2 array area. The area of search splits half-way along to allow flexibility for connection either into the north or south of the windfarm site. The offshore ECR corridor is approximately 57 km in length. Offshore and onshore export cables will connect via a transition bay near the landfall point between Sizewell and Thorpeness in Suffolk.

1.3. The onshore study area includes land between Sizewell and Thorpeness and inland approximately 7 km north of Friston. Onshore underground cables will connect the OWF from the transition bay on the Suffolk coast to a new high voltage alternating current (HVAC) substation. EA2 proposes an offshore generating station with a capacity of greater than 100 MW and therefore is a Nationally Significant Infrastructure Project (NSIP). As such, there is a requirement to submit an application for Development Consent to the Planning Inspectorate (PINS).

2. Scoping Opinion

2.1. The applicant has prepared a scoping report entitled *'East Anglia Two Offshore Wind Farm: Scoping Report',* which has been submitted to the Marine Management Organisation (MMO) via PINS.

2.2. The MMO agrees with the topics outlined in the scoping report and in addition recommends that the following aspects are considered further during the assessment process and should be included in any resulting Environmental Statement (ES).

3. General Comments

3.1. The MMO notes that unexploded ordnance clearance may be required prior to the construction phase of the EA2 project (Section 1.5.2.1.2: *'Indicative Installation Methods'*). The MMO recommends that the potential impacts of this activity are fully considered in the ES. This should include the maximum number of UXOs and the maximum extent of potential impacts should be included within the 'Rochdale Envelope' for the proposed development. The extent of potential impacts on marine mammals, benthos etc should be assessed fully in the ES.

3.2. Operation and maintenance (O&M) activities for EA2 have been included in the Scoping report (Section 1.5.6: *'Operations and Maintenance Strategy'*). The MMO recommends that full consideration is given to the potential impact of O&M activities in the ES. Further detail should be provided in the ES on the scope of the O&M activities including the types of activity expected to occur, i.e. repair or replacement of components, the frequency of works and the extent of potential impacts on receptors.

3.3 The MMO acknowledges that the applicant has identified cable protection as one of the key characteristics of the project and proposed methods of cable protection which may be used. Details within the Rochdale Envelope should include the maximum percentage of both export and inter array cables potentiall requiring protection and the maximum volumes and footprints of cable protection proposed.

4. Nature Conservation

4.1. The proposed EA2 OWF array area and ECR corridor are located within the Southern North Sea candidate Special Area of Conservation (cSAC), designated under the EU Habitats Directive (92/43/EEC). Areas of the ECR corridor are also located within the Outer Thames Estuary Special Protected Area (SPA), designated under the EU Birds Directive (2009/147/EEC). The MMO would expect that the potential impacts of the development on the features of these designated sites, including in-combination with other plans or projects, to be considered within the Habitats Regulations Assessment (HRA) process.

5. Coastal Processes

5.1. The MMO considers that the scoping assessment approach and proposed data gathering for coastal processes issues is comprehensive in nature.

5.2 The applicant does not anticipate there will be any transboundary receptors within the zone of influence and therefore proposes transboundary impacts be scoped out of assessment in the ES. However the MMO considers that until the results of the cumulative wave assessment have been produced, transboundary effects during operation should be scoped in. It is agreed that tidal current impacts can be scoped out for both cumulative and transboundary issues for all activities.

5.3 With regard to Section 4.3.7.1, Table 6, of the *Physical Processes Method Statement*, it should be noted that the cumulative wave assessment methodology has subsequently been agreed with the MMO and Cefas.

5.4 It is suggested that a section addressing the impacts of climate change on the structures, cable and infrastructure is included in the Marine Geology, Oceanography and Physical Processes chapter of the ES. This is particularly relevant as the UK Climate Projections 2018 (UKCP18) output is currently due to be published in May 2018 and therefore relevant to this development.

6. Benthic Ecology

6.1 Table 2.6 ('*Summary of Potential Impacts – Benthic Habitats*') indicates that permanent habitat loss during decommissioning will be scoped out. However Section 1.5.7 states that decommissioning will involve the removal of accessible installed components and will likely include part of the wind turbine foundations, down to 1 metre below the seabed. If there is any possibility that the physical structure is not going to be fully removed below the seabed during decommissioning, then the impact of permanent habitat loss on the benthos should be scoped in.

6.2 It is noted that Electromagnetic Field (EMF) impacts have been scoped out, based on previous assessments undertaken for East Anglia One and East Anglia Three. However this field of research is still emerging, therefore further, more recent evidence is needed to support the exclusion of EMF on benthic invertebrates from further assessment for the EA2 development.

6.3 Section 2.6.2.5 states that the impacts of the development are expected to be localised and that transboundary effects can therefore be scoped out. The MMO suggest further justification should be provided as to how this conclusion was reached.

6.4 The MMO agrees that it is important that benthic sampling be undertaken to cover all areas not previously covered by the Zone Environmental Appraisal (ZEA) survey. Of particular importance are any areas where the sediment appears to be muddy, as muddy sediment types are most likely to retain contaminants which are likely to be mobilised when disturbed.

7. Fish and Shellfish Ecology and Fisheries

7.1. Section 2.7.1.1 of the scoping report provides a fish baseline and correctly identifies that the EA2 array area and ECR corridor are within or near spawning grounds for several species. The data and sources identified to inform the fish ecology and commercial fisheries assessment are appropriate. It should be noted that the proposed development is within a recognised spawning and nursery area for whiting and mackerel (Coull *et al*, 1998; Ellis *et al*, 2012).

7.2 The MMO welcomes the recognition of the seabass special protection measures (MMO, 2017) and confirmation that the ES will consider important seabass habitats.

7.3 The report recognises that there are areas of sandbanks inshore of the ECR corridor area of search which are supporting features of the Outer Thames Estuary SPA which are of importance to foraging red throated diver (*Gavia stellata*). Sandeels are a prey species of red throated diver. If the ornithological impact assessment indicates that sandeel are a prey item for seabirds which may be impacted by the wind farm, the ES should consider and assess the importance of sandeel habitat present. The MMO recognises that cumulative impacts on key sensitive species such as herring and sandeel will be considered in the ES. Sediment data collected during the ZEA indicates that sediment within the EA2 windfarm site is predominantly sandy with some areas of sandy gravel (Section 2.2, Figure 2.2: *'Sediment Characteristics within the East Anglia TWO Windfarm*

Site & Export Cable Corridor Area of Search'). This is likely to support some sandeel habitat.

7.4 The MMO notes that, should the results of benthic sampling demonstrate low levels of contamination, SPR would seek to scope the potential impacts of resuspension of contaminants out of further assessment. The fish ecology method statement provides reasoning for scoping out the potential impacts of contaminated resuspended sediment and the MMO acknowledges that the site-specific sediment data is currently being acquired (Section 2.6.3, Table 2.7: *'Summary of Survey Data and Relevant Sampling Sites*'). The MMO recommends that clarification regarding the scoping in or out of potential resuspended contaminated sediment impacts on fish and shellfish ecology should be provided in the ES following analysis of forthcoming benthic survey data.

7.5 The MMO notes that table 2.10 ('*Summary of Potential Impacts – Fish Ecology'*) refers specifically to fish ecology only. Please could SPR confirm whether potential impacts on shellfish will also be included in the ES.

7.6 The MMO advised that the EA2 area does not support any nationally significant shellfisheries, although there is some potting for crabs, lobsters and whelks as well as some trawling for shrimps in the area.

7.7 The MMO recognises that the developer has highlighted the likely underrepresentation of smaller vessels within official datasets and the importance of consultation with fishers as a result. Commercial shellfish in the EA2 project area will mostly be targeted by <10m shellfish vessels operating in the inshore area, including the inshore section of the cable corridor. The MMO advises that such vessels are likely to be more sensitive to impacts from construction activities owing to their limited range and ability to relocate to alternative fishing grounds.

7.8 The site will be 31km from Lowestoft and 32 km from Southwold. The MMO recommends that consideration is given in the ES to the cables being installed and the potential for cables to become exposed, which may impact upon trawling and other fishing activities.

7.9 Good practice has been outlined to ensure the fishing industry is well informed of the survey and construction works. The continuation of the Commercial Fisheries Working Group is commended and the MMO encourages ongoing engagement with the fishing industry. The MMO welcomes the appointment of a Fisheries Liaison Officer to facilitate ongoing communication with the fishing industry.

8. Marine Mammals

8.1 The scoping report identifies potential impacts to marine mammals during the construction, operation and decommissioning phases of the project, particularly from underwater noise. The MMO supports the proposal that such impacts on marine mammals and their nature conservation interests are screened into the ES.

8.2 The MMO notes that harbour porpoise has been intended to be the focus of the marine mammal assessment. The Southern North Sea cSAC has been proposed for the

protection of harbour porpoise and the EA2 windfarm site lies wholly within the cSAC. The MMO would expect that potential impacts to the features of the cSAC, including in-combination with other projects, be assessed within the HRA process as previously highlighted in Section 4.

8.3 Grey seal and harbour seal are both present in the southern North Sea and have been recorded in the former East Anglia Zone. The MMO suggests that pinniped species are also included in the marine mammal assessment.

9. Underwater Noise

9.1. The MMO acknowledges that disturbance to benthic habitats from noise and vibration will be scoped into the ES for construction and decommissioning activities. The MMO request that further justification is provided for scoping out impacts to benthic habitats during the operational phase.

9.2 The potential impacts of underwater noise from operational turbines has been scoped in for marine mammals but not for fish receptors. However, Appendix 2.3 '*Fish Ecology Method Statement*' appears to suggest that impacts of underwater noise during the operational phase will be scoped in for fish and shellfish receptors. Further clarification is required on consideration of the impacts of underwater noise on fish and shellfish receptors.

9.3 The MMO considers that the most appropriate noise exposure criteria for fish are those published by Popper *et al.* (2014) and recommend this criteria is used for the EA2 noise assessment as they represent the most recent and relevant criteria.

9.4 The MMO recommends the use of the National Marine Fisheries Service (NMFS, 2016) thresholds and criteria for the modelling of underwater noise from piling activity as these are the most recent guidelines available. The MMO acknowledges that the thresholds and criteria to be used in the assessment will be discussed and agreed through the Evidence Plan Process.

10. Dredging

10.1 The MMO acknowledge that the impacts of dredging and disposal activities on the marine environment, including the composition of the material and potential disposal sites have been considered. However, a description of the dredging method and the amount of material that will be removed and to what depth will need to be provided. The *'Disposal Site for the Proposed East Anglia THREE Project Site Characterisation Document'* submitted to the MMO for the East Anglia Three OWF project will need to be updated, taking account of the additional material proposed for disposal, which should include as a minimum:

- The need for the new disposal site;
- The dredged material characteristics;
- The disposal site characteristics;
- The assessment of potential effects and

- The reasons for the site selection.

Relevant chapters of the ES should provide sufficient information to inform the amended disposal site characterisation report, putting the evidence above into context with the proposed disposal site.

10.2 Dredge material destined for disposal within a designated site typically requires contaminant characterisation by a certified laboratory. Should characterisation results show the dredged material to be contaminated, the applicant would need to consider other disposal methods in line with the EU Waste Hierarchy Framework. Under certain circumstances contaminant testing may not be required for a licence determination, for example if there is sufficient evidence that the material comprises clean sand or gravel without any mud/silt fractions.

10.3 Section 2.2.2.1 '*Potential Effects During Construction*' states that the ES will include an assessment of the effects of disposal of dredged or drilled material. Disposal of dredged or drilled material is not, however, included in the lists of potential impacts on the physical environment (Table 2.1) or benthos (Table 2.6), and is only included in the section on infrastructure and other users (Table 2.26). The MMO recommends that the potential impact of dredged or drilled material disposal on the benthos should be included in the EIA.

11. Conclusion

11.1 The topics highlighted in this scoping opinion should be assessed during the EIA process and outcomes documented in the EIA report submitted in support of subsequent applications. However this scoping opinion should not be viewed as a definitive list of all ES (and HRA) requirements. Given the nature and scale of the proposed works, other work may prove necessary.

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Maritime & Coastguard Agency

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UK

Tel: +44 (0)20 3817 2426
Fax:
E-mail: Helen.Croxson@mcga.gov.uk

Your ref: EN010078-000060
Our ref:

The Planning Inspectorate
3D Eagle Wing
Temple Quay House
2 The Square
Bristol
BS1 6PN

By email to:
eastangliatwo@pins.gsi.gov.uk

5 December 2017

Dear Sir/Madam,

Scoping Opinion for the Proposed East Anglia Two Development

The MCA has reviewed the scoping report provided by Scottish Power Renewables as detailed in your letter of 10th November 2017 and would comment as follows:

The Environmental Statement should supply detail on the possible the impact on navigational issues for both commercial and recreational craft, viz.

Collision Risk
Navigational Safety
Visual intrusion and noise
Risk Management and Emergency response
Marking and lighting of site and information to mariners
Effect on small craft navigational and communication equipment
The risk to drifting recreational craft in adverse weather or tidal conditions
The likely squeeze of small craft into the routes of larger commercial vessels.

A Navigational Risk Assessment will need to be submitted in accordance with MGN 543 (and MGN 372) and the MCA Methodology for Assessing the Marine Navigation Safety & Emergency Response Risks of Offshore Renewable Energy Installations (OREI). This NRA should be accompanied by a detailed MGN 543 Checklist which can be downloaded from the MCA website.

The development area carries a significant amount of through traffic, attention needs to be paid to routing, particularly in heavy weather ensuring shipping can continue to make safe passage without significant large scale deviations. The possible cumulative and in combination effects on shipping routes should also be considered, taking into proximity to other windfarm developments and the impact on navigable sea room.

The turbine layout design will require MCA approval prior to construction to minimise the risks to surface vessels, including rescue boats, and Search and Rescue aircraft operating within the site. As such, MCA will seek to ensure all structures are aligned in straight rows and columns. Any additional navigation safety and/or Search and Rescue requirements, as per MGN 543 Annex 5, will be agreed at the approval stage

Particular attention should be paid to cabling routes and where appropriate burial depth for which a Burial Protection Index study should be completed and, subject to the traffic volumes, an anchor penetration study may be necessary. If cable protection are required e.g. rock bags, concrete mattresses, the MCA would be willing to accept a 5% reduction in surrounding depths referenced to Chart Datum. This will be particularly relevant where depths are decreasing towards shore and potential impacts on navigable water increase.

It is noted that floating wind turbines are being considered and information on potential mooring arrangements should be included in the ES. This includes possible anchor and line spread, monitoring during construction and operation, recovery of turbines and Third Party Verification. Reference should be made to recent guidance on regulatory expectations developed by MCA and HSE.

Any application for safety zones will need to be carefully assessed and additionally supported by experience from the development and construction stages.

Particular consideration will need to be given to the implications of the site size and location on SAR resources and Emergency Response Co-operation Plans (ERCoP). Attention should be paid to the level of radar surveillance, AIS and shore-based VHF radio coverage and give due consideration for appropriate mitigation such as radar, AIS receivers and in-field, Marine Band VHF radio communications aerial(s) (VHF voice with Digital Selective Calling (DSC)) that can cover the entire wind farm sites and their surrounding areas.

MGN 543 Annex 2 requires that hydrographic surveys should fulfil the requirements of the International Hydrographic Organisation (IHO) Order 1a standard, with the final data supplied as a digital full density data set, and survey report to the MCA Hydrography Manager. Failure to report the survey or conduct it to Order 1a might invalidate the Navigational Risk Assessment if it was deemed not fit for purpose.

The radar effects of a wind farm on ships' radars are an important issue and the effects, particularly with respect to adjacent wind farms on either side of a route, will need to be assessed on a site specific basis taking into consideration previous reports on the subject available on the MCA website.

Yours faithfully,

Helen Croxson

Offshore Renewables Advisor
Navigation Safety Branch

Defence Infrastructure Organisation

Claire Duddy
Assistant Safeguarding Officer
Ministry of Defence
Safeguarding – Wind Energy
Kingston Road
Sutton Coldfield
West Midlands B75 7RL
United Kingdom

Telephone [MOD]: +44 (0)121 311 3714
Facsimile [MOD]: +44 (0)121 311 2218
E-mail: DIOSEE-EPSSG2a1@mod.uk

Your Reference: EN010078-000060

Our Reference: DIO10037292

Gail Boyle
The Planning Inspectorate

7th December 2017

Dear Ms Boyle,

Please quote in any correspondence: DIO10037292

Proposal: Application by Scottish Power Renewables (UK) Limited for an Order granting Development consent for the East Anglia Two Offshore Windfarm

Scoping consultation and notification of the Applcant's contact details and duty to make available information to the Applicant if requested

Thank you for consulting the Ministry of Defence (MOD) about the above application in your communication dated 10th November 2017.

I am writing to advise you that the MOD objects to the proposal. Our assessment has been carried out on the basis that there will be up to 75 turbines, a maximum of 300 metres in height from ground level to blade tip and located within the boundary points indicated below as provided by the developer:

Point	Easting	Northing
1	682532.5702	248724.9961
2	684264.3309	246959.9877
3	682531.444	277140.1292
4	685132.5207	277291.5037
5	696942.5497	247834.1734

Air Defence (AD) radar

The turbines will be between 82.1km and 109.0km from, detectable by, and will cause unacceptable interference to the AD radar at RRH Trimingham.

Wind turbines have been shown to have detrimental effects on the operation of radar. These 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, hence turbine

proliferation within a specific locality can result in unacceptable degradation of the radar's operational integrity. This would reduce the RAF's ability to detect and deter aircraft in United Kingdom sovereign airspace, thereby preventing it from effectively performing its primary function of Air Defence of the United Kingdom.

An operational assessment has been conducted by an AD Subject Matter Expert (SME) who considered the position of the turbines weighed against a number of operational factors including:

a. Detectability of the turbines.
b. Position of the development.
c. Number of turbines within the development.
d. Other developments within the vicinity.

Close examination of the proposal has indicated that the proposed turbines would have a significant and detrimental affect on AD operations. The MOD therefore has concerns with the development. The reasons for this objection include, but are not limited to:

a. Several of the turbines within the development being radar line of sight (RLOS)
b The quantity of the turbines visible to the radar at RRH Trimingham would exceed our 'cumulative effect' thresholds.

Research into technical mitigation solutions is currently ongoing and the developer may wish to consider investigating suitable mitigation solutions.

If the developer is able to overcome the issues stated above, the MOD will request that the turbines are fitted with aviation lighting in accordance with Article 219 of the Air Navigation Order.

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. Further information about the effects of wind turbines on MOD interests can be obtained from the following website:

***MOD*: https://www.gov.uk/government/publications/wind-farms-ministry-of-defence-safeguarding**

Yours sincerely

[redacted]

Assistant Safeguarding Officer – Wind Energy
Defence Infrastructure Organisation

SAFEGUARDING SOLUTIONS TO DEFENCE NEEDS

National Grid House
Warwick Technology Park
Gallows Hill, Warwick
CV34 6DA

Sent electronically to:

EastAngliaTwo@pins.gsi.gov.uk

Nick Dexter
DCO Liaison Officer
Land & Business Support

Nicholas.dexter@nationalgrid.com
Tel: +44 (0)7917 791925

www.nationalgrid.com

8th December 2017

Dear Sir/Madam,

Ref: East Anglia TWO Offshore Windfarm - EIA Scoping Notification and Consultation

I refer to your letter dated 10th November 2017 in relation to the above proposed application for a Development Consent Order for the proposed East Anglia Two Offshore Windfarm. Having reviewed the Scoping Report, I would like to make the following comments:

National Grid infrastructure within / in close proximity to the order boundary

Electricity Transmission

National Grid Electricity Transmission has high voltage electricity overhead transmission lines, high voltage underground cables and a high voltage substation which lie within or in close proximity to the proposed order limits. The overhead lines and substation form an essential part of the electricity transmission network in England and Wales and include the following:

- 4ZW 400kV from Bramford substation to Sizewell 1 substation.
- 4ZX 400kV from Bramford substation to Sizewell 2 substation
- 4 x 132kV underground cables between Sizewell and Leiston Substations

The following substation is also located within or in close proximity to the proposed order limits:

- Sizewell (400kV) Substation
- Leiston (132kV) Substation

Please find attached a plan showing the location of the electricity transmission apparatus.

Gas Transmission

National Grid Gas has no high pressure gas transmission pipelines located within or in close proximity to the proposed order limits.

Electricity Infrastructure:

National Grid House
Warwick Technology Park
Gallows Hill, Warwick
CV34 6DA

- National Grid's Overhead Line/s is protected by a Deed of Easement/Wayleave Agreement which provides full right of access to retain, maintain, repair and inspect our asset

- 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).

- 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.

- 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 using the contact details above.

- If a landscaping scheme is proposed as part of the proposal, we request that only slow and low growing species of trees and shrubs are planted beneath and adjacent to the existing overhead line to reduce the risk of growth to a height which compromises statutory safety clearances.

- 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 using the contact details above

- National Grid Electricity Transmission high voltage underground cables are protected by a Deed of Grant; Easement; Wayleave Agreement or the provisions of the New Roads and Street Works Act. These provisions provide National Grid full right of access to retain, maintain, repair and inspect our assets. Hence we require that no permanent / temporary structures are to be built over our cables or within the easement strip. Any such proposals should be discussed and agreed with National Grid prior to any works taking place.

- Ground levels above our cables must not be altered in any way. Any alterations to the depth of our cables will subsequently alter the rating of the circuit and can compromise the reliability, efficiency and safety of our electricity network and requires consultation with National Grid prior to any such changes in both level and construction being implemented.

Further Advice

National Grid House
Warwick Technology Park
Gallows Hill, Warwick
CV34 6DA

We would request that the potential impact of the proposed scheme on National Grid's existing assets as set out above and including any proposed diversions is considered in any subsequent reports, including in the Environmental Statement, and as part of any subsequent application.

Where any diversion of apparatus may be required to facilitate a scheme, National Grid is unable to give any certainty with the regard to diversions until such time as adequate conceptual design studies have been undertaken by National Grid. Further information relating to this can be obtained by contacting the email address below.

Where the promoter intends to acquire land, extinguish rights, or interfere with any of National Grid apparatus protective provisions will be required in a form acceptable to it to be included within the DCO.

National Grid requests to be consulted at the earliest stages to ensure that the most appropriate protective provisions are included within the DCO application to safeguard the integrity of our apparatus and to remove the requirement for objection. All consultations should be sent to the following: **box.landandacquisitions@nationalgrid.com**

I hope the above information is useful. If you require any further information please do not hesitate to contact me.

The information in this letter is provided not withstanding any discussions taking place in relation to connections with electricity or gas customer services.

Yours Faithfully

[redacted]

Nick Dexter.

nationalgrid | Map Title

Legend:

- Substations Commissioned
- OHL 400Kv Commissioned
- OHL 275Kv Commissioned
- OHL 132Kv & Below Commissioned
- Towers Commissioned
- Buried Cable Commissioned
- Fibre Cable Commissioned
- Pilot Cable
- Gas Operational Boundary
- Gas Site Boundary
- Block Valve
- Compressor
- LNG Site
- Multijunction
- Minimum Offtake
- Future Minimum Offtake
- Offtake
- Pressure Reduction Installation
- Pig Trap
- Terminal
- Transferred Offtake
- Aerial Marker Post
- CP Test Post
- Transformer Rectifier
- Gas Pipe Feeder
  - Commissioned
  - Decommissioned Group
  - Planned and Spares
- SRP Sightings - Open
- SRP Sightings - Closed
- Eagles Enquiries - Open
- Eagles Enquiries - Closed

Notes:

0 — 0.99 — 2.0 Kilometers

Date: 08/12/2017
Time: 14:35:08

Page size: A3 Landscape Scale: 1: 39,116

Print by: **Dexter, Nicholas**

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3D Eagle Wing
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27th November 2017

NATS / PINS Ref: SG23417 - EN010078

Sent via email: EastAngliaTwo@pins.gsi.gov.uk
cc: EA2OffshoreConsents@Scottishpower.com ; amackenzie@scottishpower.com

Dear Sir/Madam,

Application by Scottish Power Renewables (UK) Limited for an Order granting Development Consent for the East Anglia TWO Offshore Windfarm

I write in respect of the application referenced above, for the East Anglia TWO offshore windfarm. NATS has assessed the proposal and as identified by the Applicant in their application, anticipates an impact on its infrastructure. Depending on the exact height of the turbine tip, the potential is for the northern part of the application site to be detected by NATS's Cromer radar.

It is anticipated that the radar detection of the turbines will lead to substantial "clutter" appearing on Air Traffic Controllers' displays. Accordingly, the anticipated impact is deemed to be unacceptable to NATS's operations and at this time, NATS objects to the application.

Notwithstanding the objection however, NATS has been and remains positively engaged with SPR (UK) around the need for and identification of an acceptable mitigation scheme.

While a solution has not been identified at this time, through its work with its stakeholders and the Applicant, NATS believes that a solution will be forthcoming in order to address the impact of the proposal and thus mitigate the effect of the turbines.

NATS will continue to work on the identification of a suitable mitigation scheme, and once a tangible solution has been identified and agreed with the Applicant, it will submit a further representation.

I trust this clarifies our position and is acceptable to the Inspector. Should there be any queries at any time, do not hesitate to contact us.

Yours faithfully

[redacted]

Mr Sacha Rossi
For and on behalf of NATS En-Route plc

Gail Boyle
The Planning Inspectorate
3D Eagle Wing
Temple Quay House
2 The Square
Bristol
BS1 6PN

Our ref: Case 10572: 231180
Your ref: EN010078-000060

8th December 2017

Dear Gail,

INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2009 SI 2263 (as amended) (the EIA Regulations)
PROPOSED EAST ANGLIA ONE NORTH OFFSHORE WINDFARM (the project)
PROPOSAL BY SCOTTISH POWER RENEWABLES (UK) (the Applicant)

Thank you for requesting our advice on the East Anglia TWO (EA2) Environmental Impact Assessment Scoping Report.

Background

It is important to note that many of the issues pertinent to this application are likely to be similar to those raised in relation to the East Anglia ONE and East Anglia THREE Environmental Impact Assessments (EIA) and Environmental Statements (ES). We therefore strongly advise that due consideration is given to Statutory Nature Conservation Body (SNCB) advice that has been and is currently being provided in relation to these developments 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.

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 and some Round 3 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. 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 ES, the confidence in their predictions on potential impacts.

Whilst we appreciate the Applicant's intention to identify appropriate mitigation for the impacts predicted to occur as a result of EA1N we highlight that this development is still constrained by the fixed limits of the licence area and grid connection location 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 and/or

compensation. We would welcome the opportunity to discuss these options as the application progresses.

Pre-Application Consultation

Natural England recognises 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 the Applicant has begun an Evidence Plan process and has engaged Natural England at both the Steering Group and Topic Group level.

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 report submitted by the Applicant pertaining to EA2, 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 and in-combination with other plans/projects. 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 Natural England that the most appropriate form for a PEI to adopt is that of a draft Environmental Statement (ES). This would reassure Natural England and other key stakeholders, that the Applicant'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 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 Natural England and the PEI to present sufficient detail such that an assessment of the Applicant's approach to EIA can be identified.

Timeframes post PEI should also allow sufficient time to resolve any issues raised during the process; noting that 6 months is proving to be insufficient where there are complex and contentious issues still to be resolved.

Habitats Regulations Assessment (HRA)

In accordance with the 2017 Habitats Regulations 63 (2) and 2017 Offshore Habitat Regulations anyone applying for development consent for an NSIP must provide the competent authority with such information as may reasonably be required "for the purposes of the assessment" or "to enable them to determine whether an appropriate assessment is required". NE advise that this information should therefore be provided and appraised as part of the EIA process.

Further Liaison and Advice

The EA2 lies in relative proximity to other Round 3 projects currently pursuing development consent for the phased development of large scale wind arrays, within the North Sea. These include: the Hornsea OWF projects, the Vanguard and Boreas OWF projects. We would strongly recommend that collaborative working is pursued with these other projects who are likely to be

facing the same consenting risks. We recognise the value of collaborative working particularly in relation to cumulative impacts (including non-windfarm projects). We strongly support any initiatives to pursue collaborative working and are happy to engage in any such projects that the Applicant 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.

Key Environmental Issues

We provide our advice in relation to the scoping report in the **Annexes 1- 4.**

Our key concerns are as follows and we consider that these issues will need thorough consideration through EIA and close discussion between the Applicant, 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.

- There is potential for impacts on designated sites from onshore cable installation and onshore substation construction – both at a project level and cumulatively. But until the site selection process and surveys are completed we are unable to provide further advice on the significance of any impact and appropriate mitigation measures

If you have any questions regarding the above comments or want to discuss further any of the issues we have raised please contact Louise Burton louise.burton@naturalengland.org.uk at Natural England.

Yours sincerely,

Louise Burton
Senior Adviser Marine SD, East Midlands Team
Telephone: 020 802 68493 Mob. 07770 813158

ANNEX 1: INTRODUCTION (Part 1)

13: Natural England recognises and welcomes the Applicant's approach to scope in a full Rochdale Envelope for the proposed project and would welcome clarification of the likely/realistic maximums e.g. number of offshore electrical platforms and export cables proposed in the.

Table 1.2 - Natural England notes that as of 30th November 2017 the Conservation of Habitats and Species Regulations 2010 and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 were both consolidated and should now be referred to as;

- The Conservation of Habitats and Species Regulations 2017 (or 'the Habitats Regulations 2017')
- The Conservation of Offshore Marine Habitats and Species Regulations 2017 (or 'the Offshore Habitats Regulations 2017')

The 2017 Regulations do not introduce any material changes to the regulations or change how they should be interpreted and applied but where reference to specific regulations are made the numbering may have changed.

1.5.2.1.1 Natural England understands that the foundation design has not been decided upon but would support the use of foundations that require little or no scour protection to minimise the environmental impact of the footprint on the seabed.

84: Natural England would support project design that minimises the seabed preparation required, particularly avoiding the levelling of sandwaves.

96: Natural England advises that a minimum offshore cable burial depth of 1m be achieved.

98: Natural England would welcome a clear description and assessment of the pros and cons of the scour and cable protection methodologies considered to ensure we achieve the best environmental option. This assessment should clearly present the full, but realistic extent of cable protection required. Consideration should be given to using protection that can be recovered on decommissioning if required i.e. mattresses that won't degrade, rock that can be recovered.

105: Natural England advises that the use of HDD is the preferred method for the landfall installation as it will minimise environmental impact.

107: Natural England requests that any vehicular access to the intertidal is fully scoped out and that a full assessment of the potential environmental impacts is provided, including contingency planning for soft sediment and extreme tides.

123: Natural England welcomes the sharing of onshore substation compound works and mitigation between EA1N and EA2. Any publically available information from the Size C project should be used to inform the ES

EIA Methodology

155-158: It is proposed to assess impacts associated with the construction, operation and decommissioning of EA1N and EA2 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.

Significance of Impact

159- 164: 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.

Cumulative Impacts

166-172: We welcome the Applicant's intention to agree the approach to cumulative impact assessment (CIA) with consultees. This will form an important component in assessing the true potential impacts of the development of these two projects.

ANNEX 2: OFFSHORE (Part 2)

Marine Geology, Oceanography and Physical Processes

191: NE acknowledge that further surveys will be carried out within the inshore areas of the export cable corridor to further inform the sediment composition.

192: Due to the common nature of sandbanks, sand waves and mega ripples in this area, any future environmental assessments should determine the likelihood or necessity for sand wave clearance in relation to the construction and operation of any windfarm assets.

193: Orford Inshore rMCZ has been put forward for designation during Tranche 3. The decision on designation is not due until 2018. From looking at the potential AoS for the export cable corridor it could be relatively close to the site, and should be considered under the designated sites assessment, particularly if the site gets designated.

Appendix 2.1

Natural England notes that some of the data is now considered 'old' and collected from the overall East Anglia zone; therefore we advise that further consideration is given to the ability to potentially repeat these surveys post construction should any changes noted. A (visual) representation of how much data has been collected would be useful to fully quantify it.

3: Point 2 states that only site specific bathymetric data will be collected for the EIA assessment, with the use of site specific data from the "zone" as well. Although this may represent a large data set, the importance of focussing on the data collection within the proposed array areas should not be underestimated. More site specific data will allow a larger data set to be collected and provide a further robust baseline that can be used pre-construction to potentially avoid important habitats, but also post construction to monitor any potential effects of the windfarm, if required.

10: NE doesn't necessarily agree that because the turbine numbers have been reduced the impacts to benthic ecology have been reduced. Admittedly the impacts will be occurring over a smaller area, but if larger turbines are used this probably equates to larger piles and hammer energies, and could still have potentially large impacts upon benthic ecology, fish, marine mammals and geophysical processes. A full assessment of these larger turbines and thus piles is needed to assess their potential effects.

12: Table 2 point 2 – NE maintain that a seasonal restriction is put in place from Nov – Feb for cable installation in order to mitigate against impacts to RTD. This species has been particularly affected and displaced form large areas within the Outer Thames Estuary due to OWF construction. To reduce impacts further it would be a sensible option to cease works/activities that interact with the designated sites during this period.

15: Bullet point 4 – NE should also be consulted upon regarding the extent to which scour management will be required particularly within any protected sites.

19: What is the reasoning behind wanting to connect electrical infrastructure between the two proposed OWFs? Has the potential effects of this been scoped into any environmental assessments? Will there be the need for greater amounts of scour protection as result?

24: Were constraints associated with protected sites e.g. MCZs, SACs etc. considered as part of the EA1N/EA2 cable corridor AOS?

28: There is the potential for a large number of cables coming into a relatively small area. Although the construction period will not necessarily overlap, the area still represents a continuation of disturbance and may have not recovered sufficiently to effectively provide the resource and habitat for a range of species.

30: The developers must ensure sufficient geophysical surveys are carried out to identify the actual areas of *Sabellaria spinulosa* reef to successfully mitigate or microsite around extensive reefs.

31: Again, were environmental constraints not considered when developing the AoS for the EA1N/EA2 cable corridor?

47/48: If further geophysical surveys are being undertaken, then why are no further site specific benthic grab or DDV surveys being proposed? This existing data from the ZEA needs to be presented so we can confidently assess whether enough samples within the array sites have been gathered. Also, the current data is seven years old, in such an ephemeral environment like the southern North Sea habitats and thus the species that reside in them can change quite quickly. Further still, the more site specific data that is collected now will allow for greater comparisons to be made post construction, particularly if the methodology and locations of the surveys can be repeated.

Table 6:

- Construction and Decommissioning - Has the resuspension of contaminants from dredging been considered? This may be more relevant as you move further inshore. However, if large dredging protocols are being undertaken over a large area there is the potential for the resuspension of contaminants. Particularly relevant around the Sizewell nuclear outfalls/ power plants.
- Operational - There needs to be sufficient justification provided when proposing to use additional scour protection, particularly in a soft sediment dominated habitat. Careful placement of scour protection also needs to be considered as to not further encourage scour along the cable route, especially where there is obvious sand wave movement. Every effort should be made to bury the cable to the required depth in the first instance.
- Operational - Changes to the sediment transport regime due to the presence of the foundation structures – Although the formation of turbid wakes is further understood, their potential effect on benthic ecology and thus recruitment and food availability should be fully assessed. Particularly as monopole foundations continue to increase in size.

Benthic and Intertidal Ecology

246 (244 in EA2): Natural England is pleased to note that project-specific sediment contaminant data is currently being collected. Until those data are available, impacts from re-suspension of contaminated sediments should be scoped into the EIA, as agreed with the Expert Topic Group.

Table 2.6 Agree with the impacts scoped in for benthic habitats.

Appendix 2.2

Tables 5 and 7: Sensitivity and magnitude definitions – We note that the developer proposes to use the same definitions as were used for the East Anglia Three project. Natural England is content with the approach suggested.

General: Natural England supports the use of MarLIN for benthic receptor sensitivity assessments.

88: Impacts during construction do not mention the potential need for sandwave levelling for cable installation. Based on experience from other offshore energy projects, Natural England questions whether the impacts can be regarded as 'relatively small' and urges the developer to assess the worst case scenario with reasonable precaution.

Fish and Shell Fish

As part of the evidence plan process NE, CEFAS and MMO advised EA1N and EA2 not to scope out re-suspended contaminants without site specific data to justify that contamination levels were low. We note that this has been provided and EA1N and EA2 are collecting site specific data, so this may be scoped out at a later date dependant on findings.

Marine Mammals

Section 1.5.2.1.1: Natural England queries why floating turbines are not being considered as a foundation option?

Section 1.5.2.2.4: It should be noted that Natural England consider the optimum depth for cable burial to be at least 1.0 m.

296: Please can the text be changed here to reflect that the site selection document for the Southern North Sea cSAC states it is estimated the site supports approximately 18,500 individuals and this number should not be referred to as an estimated population.

300: Natural England notes that barrier effects are not explicitly listed as a potential impact, however they are included in the Method Statement. Has barrier effects been removed from the assessment or is this an oversight? The two documents should be consistent.

308: Natural England looks forward to working with SPR on the development of the Marine Mammal Mitigation Protocol (MMMP) during future Evidence Plan meetings.

Appendix 2.5

25: Natural England believes paragraph 25 should refer to table 6, not table 4.

28: Natural England agrees that the focus of the assessment should be harbour porpoise, grey seal and harbour seal. However, we note that dolphin species and minke whale have been captured in survey data and impacts to these species may need to be considered, particularly in relation to the use of Acoustic Deterrent Devices (ADDs). Work has been undertaken on this issue through the Offshore Renewables Joint Industry Programme (ORJIP) which is due to report soon and will be able to inform future discussions.

41: Natural England welcomes the precautionary approach of using the higher of the SCANS III and site specific density estimates for the assessment.

87: Natural England does not consider that disturbance at seals haul-out sites should be scoped out. The nearest haul-out site may be tens of kilometres away from the landfall location, but until factors such as the port to be used during construction and the increased level of vessel movements are known, they have the potential to impact seals at haul-out sites and this should be included in the assessment.

138: As advised above, Natural England does not consider it to be appropriate to consider there to be an estimated population of the Southern North Sea cSAC. The site selection document for the Southern North Sea cSAC states it is estimated the site supports approximately 18,500 individuals and this number should not be referred to as an estimated population. Therefore, Natural England considers impacts should be assessed against the North Sea MU reference population only.

Offshore Ornithology

311: Natural England agrees that the key species of concern for impact assessment are those as listed.

312: We agree with the use of Furness (2015) for use of definitions of biological seasons.

313: We note that reference populations for each species and population sizes will be based on the best available information at the time of undertaking the assessment and will be agreed during the EPP.

Table 2.16: It appears that the Birds of Conservation Concern (BoCC) listing from BoCC 3 (Eaton et al. 2009) has been used. This listing has since been updated by BoCC 4, we advise the Applicant to see Eaton et al. (2015), available online at: http://britishbirds.co.uk/wp-content/uploads/2014/07/BoCC4.pdf

317: We note that it is proposed that draft HRA screening will be undertaken in early 2018, to be agreed through the EPP.

318: We acknowledge that consideration of potential impacts is a reflection of what was agreed in the Evidence Plan Process. Note that it states that the Ornithology Method Statement is Appendix 2.5 whereas it should be Appendix 2.4. Incorrect reference is made to Appendix 2.5 in other parts of the document.

327: We note the comments on the need for mitigation will be to some extent dependent on the results of site specific survey and the impact assessment. However, Natural England's advice at the EA3 hearing was that adverse effect on site integrity cannot be excluded in-combination with other plans or projects in respect of predicted mortality from collision on kittiwake from Flamborough Head & Bempton Cliff SPA and Flamborough and Filey Coast pSPA. Therefore Natural England would welcome any mitigation measures, such as raising the minimum hub height to be considered at the earliest opportunity.

329: We note that surveys are planned between May to August 2018 to ensure there are 24 months of site-specific data available for assessment. We welcome the commitment to collect 24 months of site specific data at the EA2 windfarm site.

330: We also acknowledge that additional contextual information will come from surveys undertaken for the former East Anglia Zone and the former East Anglia TWO windfarm site.

336: In addition to the RSPB tagging studies from Flamborough, there is tracking data of lesser black-backed gulls from Alde-Ore Estuary SPA from the BEIS funded BTO study, and there is further tracking planned as part of Galloper's post construction monitoring which may be available during the examination.

337: We welcome the proposal to use the most appropriate reference populations for each species and that these will be agreed in the EPP.

Appendix 2.4

24: Natural England welcomes SPR's agreement to our recommendation to collect a minimum of 24 months of site specific survey data.

27: We welcome the proposal to use the MRSea package and to note that that density data from digital stills and video methods can be accommodated and there will be no effect on the density and abundance estimates calculated. We would like to clarify if it is planned to use MRSea on all the survey data, or whether reliable model based estimates require a minimum number of observations, and therefore may only be used for the more numerous species.

29: We accept that no additional surveys along the offshore cable route from array to landfall are proposed, as the information available from existing survey sources will be used for assessment of the potential impacts on non-breeding red-throated diver.

33: We are content with the proposals for measuring flight height, and would expect there to be enough samples within the site specific surveys to get an adequate sample particularly if the historic digital aerial survey data can be used. We would expect flight heights to be provided with confidence intervals to enable them to be used with a stochastic collision risk model should that be available by the time the application is submitted.

35: We agree with the use of the appropriate population from the breeding colonies within foraging range, and for the non-breeding season we agree that the Biologically Defined Minimum Population Scale (BDMPS) review (Furness 2015) should be used.

37: We agree that the species assessed will depend on the results of the surveys but will include: fulmar, gannet, kittiwake, lesser black-backed gull, great black-backed gull, herring gull, red-throated diver, guillemot, razorbill and puffin. We assume that other species assessed may include those that may pass through on migration but are only recorded in small numbers by snap shot aerial surveys, for example little gull. It is not clear if non-seabird migrants also being considered.

43: We welcome that the specific impacts raised in the EPP will be assessed as part of the EIA.

44: We agree with the likely key issues listed, although we would include lesser black-backed gull collision risk during the breeding season, in addition to the non-breeding season.

46: We agree that the listed features below are expected to be included in the HRA

- Flamborough and Filey Coast pSPA (gannet and kittiwake);
- Alde-Ore Estuary SPA (lesser black-backed gull, herring gull);
- Outer Thames Estuary pSPA (red-throated diver); and
- Greater Wash pSPA (red-throated diver and little gull).

However, we recommend that impacts on other qualifying features of Flamborough and Filey Coast pSPA and other qualifying features from the Outer Thames Estuary pSPA are also likely be included in the HRA.

Natural England agree with the approach to impact assessment as set out in Section 4 of Appendix 2.4. We are also content that the HRA process will follow that adopted for the East Anglia THREE assessment and will be discussed in more detail in future Evidence Plan meetings.

ANNEX 3: ONSHORE (Part 3)

We note that SPR is proposing to install ducting for the EA1N onshore electrical cables during the EA2 construction. We seek clarification that the cables will follow the same route and be constructed simultaneously within the onshore zone. If not, a more thorough cumulative ecology, and landscape and visual impact assessment is likely to be required.

Due to the location of the onshore export cable route and onshore substation in close proximity to Sizewell C, we recommend reviewing all publically available information produced, thus far for that project.

473: NE welcomes the engagement in the site selection process through the evidence plan process and will continue to provide further advice to inform the survey methodologies and completion of the Environmental Statement under our Discretionary Advice Service

Air Quality

Air quality in the UK has improved over recent decades but air pollution remains a significant issue; for example over 97% of sensitive habitat area in England is predicted to exceed the critical loads for ecosystem protection from atmospheric nitrogen deposition (England Biodiversity Strategy, Defra 2011). A priority action in the England Biodiversity Strategy is to reduce air pollution impacts on biodiversity. The planning system plays a key role in determining the location of developments which may give rise to pollution, either directly or from traffic generation, and hence planning decisions can have a significant impact on the quality of air, water and land. The assessment should take account of the risks of air pollution and how these can be managed or reduced. Further information on air pollution impacts and the sensitivity of different habitats/designated sites can be found on the Air Pollution Information System (www.apis.ac.uk). Further information on air pollution modelling and assessment can be found on the Environment Agency website.

Land Use

520: Impacts from the development should be considered in light of the Government's policy for the protection of the best and most versatile (BMV) agricultural land as set out in paragraph 112 of the National Policy Planning Framework (NPPF). We also recommend that soils should be considered under a more general heading of sustainable use of land and the ecosystem services they provide as a natural resource in line with paragraph 109 of the NPPF.

532: Once more is known about the potential impacts to soils we can provide further standard advice

Terrestrial Ecology

545: Table 3.9 - Natura 2000 network site conservation objectives are available on our internet site http://publications.naturalengland.org.uk/category/6490068894089216

547 Table 3.10 – Natural England agrees with the designated sites listed. However, the EIA will need to consider any impacts upon local wildlife and geological sites. Local Sites are identified by the local wildlife trust, geoconservation group or a local forum established for the purposes of identifying and selecting local sites. They are of county importance for wildlife or geodiversity. The Environmental Statement should therefore include an assessment of the likely impacts on the wildlife and geodiversity interests of such sites. The assessment should include proposals for mitigation of any impacts and if appropriate, compensation measures. Contact the local wildlife trust, geoconservation group or local sites body in this area for further information.

548: Protected Species - Species protected by the Wildlife and Countryside Act 1981 (as amended) and by the Habitat Regulations 2017

The ES should assess the impact of all phases of the proposal on protected species (including, for example, great crested newts, reptiles, birds, water voles, badgers and bats). Natural England does not hold comprehensive information regarding the locations of species protected by law, but advises on the procedures and legislation relevant to such species. Records of protected species should be sought from appropriate local biological record centres, nature conservation organisations, groups and individuals; and consideration should be given to the wider context of the site for example in terms of habitat linkages and protected species populations in the wider area, to assist in the impact assessment.

The conservation of species protected by law is explained in Part IV and Annex A of Government Circular 06/2005 *Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System*. The area likely to be affected by the proposal should be thoroughly surveyed by competent ecologists at appropriate times of year for relevant species and the survey results, impact assessments and appropriate accompanying mitigation strategies included as part of the ES.

In order to provide this information there may be a requirement for a survey at a particular time of year. Surveys should always be carried out in optimal survey time periods and to current guidance by suitably qualified and where necessary, licensed, consultants. Natural England has adopted standing advice for protected species which includes links to guidance on survey and mitigation.

Habitats and Species of Principal Importance

The ES should thoroughly assess the impact of the proposals on habitats and/or species listed as 'Habitats and Species of Principal Importance' within the England Biodiversity List, published under the requirements of S41 of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 of the NERC Act 2006 places a general duty on all public authorities, including local planning authorities, to conserve and enhance biodiversity. Further information on this duty is available in the Defra publication 'Guidance for Local Authorities on Implementing the Biodiversity Duty'.

Government Circular 06/2005 states that Biodiversity Action Plan (BAP) species and habitats, 'are capable of being a material consideration…in the making of planning decisions'. Natural England therefore advises that survey, impact assessment and mitigation proposals for Habitats and Species of Principal Importance should be included in the ES. Consideration should also be given to those species and habitats included in the relevant Local BAP.

Natural England advises that a habitat survey (equivalent to Phase 2) is carried out on the site, in order to identify any important habitats present. In addition, ornithological, botanical and invertebrate surveys should be carried out at appropriate times in the year, to establish whether any scarce or priority species are present. The Environmental Statement should include details of:

- Any historical data for the site affected by the proposal (e.g. from previous surveys);
- Additional surveys carried out as part of this proposal;
- The habitats and species present;
- The status of these habitats and species (e.g. whether priority species or habitat);
- The direct and indirect effects of the development upon those habitats and species;
- Full details of any mitigation or compensation that might be required.

The development should seek if possible to avoid adverse impact on sensitive areas for wildlife within the site, and if possible provide opportunities for overall wildlife gain.

The record centre for the relevant Local Authorities should be able to provide the relevant information on the location and type of priority habitat for the area under consideration.

Ancient Woodland

The S41 list includes six priority woodland habitats, which will often be ancient woodland, with all ancient semi-natural woodland in the South East falling into one or more of the six types.

Information about ancient woodland can be found in Natural England's standing advice http://www.naturalengland.org.uk/Images/standing-advice-ancient-woodland_tcm6-32633.pdf.

Ancient woodland is an irreplaceable resource of great importance for its wildlife, its history and the contribution it makes to our diverse landscapes. Local authorities have a vital role in ensuring its conservation, in particular through the planning system. The ES should have regard to the requirements under the NPPF (Para. 118)2 which states:

'Planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss.'

551: We advise that NE's standing advice is considered when designing the survey methodology and we with work with SPR through the evidence plan process to agree the surveys and the subsequent results

557/558: We recommend reviewing NE's Standing advice in relation to mitigation and adoption of mitigation measures recently adopted for the EA ONE project.

As advised during the meeting with SPR on 6th November 2017, the Sandlings SPA is within the onshore study area. Substation site selection is on-going, but any location west of the SPA would require the cable route to cross the Sandlings SPA either via HDD or trenching. Therefore:-

- Any mitigation must be dependent on the sensitivity of the designated habitat and/or species impacted – surveys must be undertaken to better inform mitigation.
- Recommend at least 1 year of survey data – must ensure these are programmed in sufficiently (N.B woodlark can nest early).
- Timing of construction works could be a likely mitigation option.
- HDD under the narrowest point of the Sandlings SPA would be Natural England's preferred option to avoid direct impacts on habitat. Noting that even with a HDD option, there would be a need to consider seasonal restrictions or mitigation (e.g. screening) as nests within the SPA could still be disturbed by noise, light and vibration during construction.

Additional Advice

In addition Natural England advises that the potential impact of the proposal upon features of nature conservation interest and opportunities for habitat creation/enhancement should be included within this assessment in accordance with appropriate guidance on such matters. Guidelines for Ecological Impact Assessment (EcIA) have been developed by the Chartered Institute of Ecology and Environmental Management (CIEEM) and are available on their website.

EcIA is the process of identifying, quantifying and evaluating the potential impacts of defined actions on ecosystems or their components. EcIA may be carried out as part of the EIA process or to support other forms of environmental assessment or appraisal.

The National Planning Policy Framework sets out guidance in S.118 on how to take account of biodiversity interests in planning decisions and the framework that local authorities should provide to assist developers.

Annex 4: Wider Scheme Aspects (Part 4)

General landscape comments

As the onshore development site is within Suffolk Coast and Heaths AONB, consideration should be given to the direct and indirect effects upon this designated landscape and in particular the effect upon its purpose for designation within the environmental impact assessment, as well as the content of the relevant management plan for Suffolk Coast and Heaths AONB.

Natural England would wish to see details of local landscape character areas mapped at a scale appropriate to the development site as well as any relevant management plans or strategies pertaining to the area. The EIA should include assessments of visual effects on the surrounding area and landscape together with any physical effects of the development, such as changes in topography. The European Landscape Convention places a duty on Local Planning Authorities to consider the impacts of landscape when exercising their functions.

The EIA should include a full assessment of the potential impacts of the development on local landscape character using landscape assessment methodologies. We encourage the use of Landscape Character Assessment (LCA), based on the good practice guidelines produced jointly by the Landscape Institute and Institute of Environmental Assessment in 2013. LCA provides a sound basis for guiding, informing and understanding the ability of any location to accommodate change and to make positive proposals for conserving, enhancing or regenerating character, as detailed proposals are developed.

Natural England supports the publication *Guidelines for Landscape and Visual Impact Assessment*, produced by the Landscape Institute and the Institute of Environmental Assessment and Management in 2013 (3rd edition). The methodology set out is almost universally used for landscape and visual impact assessment.

In order to foster high quality development that respects, maintains, or enhances, local landscape character and distinctiveness, Natural England encourages all new development to consider the character and distinctiveness of the area, with the siting and design of the proposed development reflecting local design characteristics and, wherever possible, using local materials. The Environmental Impact Assessment process should detail the measures to be taken to ensure the building design will be of a high standard, as well as detail of layout alternatives together with justification of the selected option in terms of landscape impact and benefit.

The assessment should also include the cumulative effect of the development with other relevant existing or proposed developments in the area. In this context Natural England advises that the cumulative impact assessment should include other proposals currently at Scoping stage. Due to the overlapping timescale of their progress through the planning system, cumulative impact of the proposed development with those proposals currently at Scoping stage would be likely to be a material consideration at the time of determination of the planning application.

The assessment should refer to the relevant National Character Areas which can be found on our website. Links for Landscape Character Assessment at a local level are also available on the same page.

You should consider whether there is land in the area affected by the development which qualifies for conditional exemption from capital taxes on the grounds of outstanding scenic, scientific or historic interest. An up-to-date list may be obtained at www.hmrc.gov.uk/heritage/lbsearch.htm.

Offshore Seascape, Landscape and Visual Amenity

641: We agree that significant seascape, landscape and visual impacts as a result of the East Anglia ONE North windfarm site can be scoped out beyond 50km.

647: We are satisfied that the seascape character assessment for the waters off the Suffolk and Norfolk coastlines within the study currently being prepared by Suffolk County Council can inform the baseline seascape characterisation in the SLVIA.

653/654: We agree that the SLVIA should assess the impacts of the proposed East Anglia ONE North windfarm site on the special characteristics and qualities of the Suffolk Coast and Heaths AONB and the Suffolk Heritage Coast.

655: ZTVs indicate that the offshore structures may be visible within The Broads National Park. We recommend that the advice of The Broads Authority is sought in terms of whether this protected landscape can be scoped out of the assessment at this stage as they have more local knowledge and experience than Natural England, and if not, what viewpoints they would suggest.

656: Please note that Natural England may wish to comment on Inheritance Tax Exempt Registered land which includes Henham Estate in Fig 4.5.

Table 4.1: We agree that the focus of the cumulative SLVIA will be on the additional impact of the proposed East Anglia ONE North windfarm site in conjunction with other developments of the same type, i.e. other offshore windfarms, i.e. Scroby Sands, Greater Gabbard, Galloper and East Anglia TWO offshore windfarms.

Onshore Landscape and Visual Amenity

677: The eastern part of the LVIA study area is located within the nationally important protected landscape of Suffolk Coast and Heaths AONB. We agree that the LVIA study area should extend to a 3km buffer beyond the onshore study area.

678: We note that the main physical landscape elements such as woodlands, trees and hedgerows within the onshore study area, which have the potential to be physically impacted, will be identified and their value assessed, as part of the baseline survey. Individual veteran trees, tree lines, hedgerows with trees and patches of woodland are important landscape features. It will be important for the final ES to include information about where there will be a permanent loss of these key landscape features along the route and provide details of the steps that have been taken to minimise the loss.

687/688: We agree that the SLVIA should assess the impacts of the substation site, National Grid infrastructure, onshore cable corridor and landfall location on the special characteristics and qualities of the Suffolk Coast and Heaths AONB and Suffolk Heritage Coast. In additional to the impact of the cable route, the impact of the construction of any Joint Bays, Link Boxes, compounds etc. should be assessed in full.

692: We agree that there is likely to be an impact on the visual amenity of users of the Suffolk Coast Path. The route of England Coast Path (ECP) is expected to follow the Suffolk Coast Path but has scope to vary this where necessary; for further information, see: https://www.gov.uk/government/collections/england-coast-path-aldeburgh-to-hopton-on-sea . This section of ECP, namely Aldeburgh to Hopton-on-Sea, is expected to be opened in 2019 and impacts of the project on visual amenity should be taken into account. We seek confirmation that there will be no temporary closures of ECP during construction, operation or decommissioning. If there will be a requirement for a temporary closure of the National Trail, we will be happy to give further advice about the implications of this for the project. Note that coastal access rights normally apply to all land that is coastal margin, including any land seaward of the trail.

Table 4.2: We advise that until the amount of trees, hedgerows, woodland etc. that will need to be felled is known, that the operational landscape and visual impacts of onshore cable corridor are scoped in to the assessment as a minimum within the AONB. We advise that cumulative

landscape and visual impacts of landfall, onshore cable corridor, onshore substation and National Grid infrastructure sites are scoped in within AONB.

702: Details of mitigation planting should be identified in the ES with reference to any advance (i.e. pre-construction) planting which is able to be carried out. The ability of the planting to provide a suitable screen during operation should be considered in the LVIA along with an estimation of the length of time for the landscape to recover where appropriate. We note that an outline landscape strategy will be prepared to set out mitigation proposals.

Appendix 4.1

No further comment.

Tourism and Recreation

Natural England encourages any proposal to incorporate measures to help encourage people to access the countryside for quiet enjoyment. Measures such as reinstating existing footpaths together with the creation of new footpaths and bridleways are to be encouraged. Links to other green networks and, where appropriate, urban fringe areas should also be explored to help promote the creation of wider green infrastructure. Relevant aspects of local authority green infrastructure strategies should be incorporated where appropriate.

Rights of Way, Access land, Coastal access and National Trails

The EIA should consider potential impacts on access land, public open land, rights of way and coastal access routes in the vicinity of the development. Appropriate mitigation measures should be incorporated for any adverse impacts. We also recommend reference to the relevant Right of Way Improvement Plans (ROWIP) to identify public rights of way within or adjacent to the proposed site that should be maintained or enhanced.

Additional Comments

Climate Change Adaptation

The England Biodiversity Strategy published by Defra establishes principles for the consideration of biodiversity and the effects of climate change. The ES should reflect these principles and identify how the development's effects on the natural environment will be influenced by climate change, and how ecological networks will be maintained. The NPPF requires that the planning system should contribute to the enhancement of the natural environment 'by establishing coherent ecological networks that are more resilient to current and future pressures' (NPPF Para 109), which should be demonstrated through the ES.

Norfolk County Council

Scoping Response to East Anglia One North and East Anglia Two:

Wind Farm Proposals - Potential Information Requirements for inclusion in an / Environmental Impact Assessment / Preliminary Environmental Information Report (EIA/PEIR)

(November 2017)

The following areas ought to be addressed/covered in the Environmental Impact Assessment (EIA) / Preliminary Environmental Impact Report:

(a) Landscape

1. Landscape and Visual Assessment Including Impact on Heritage Landscape

For both offshore and any associated onshore development / infrastructure (e.g. work compound, sub-station; relay stations etc) the EIA/PEIR will need to provide:

- An assessment of the impact of the development on the landscape and seascape character (where visible from onshore), 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 EIA/PEIR 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 EIA/PEIR 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.

Grid Connection and Landscape Issues

The EIA/PEIR 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 upgrading of any existing overhead power lines. The EIA/PEIR should also address the cumulative impact on the Grid Network arising from any existing or proposed Wind Farm 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 EIA/PEIR 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 Dr David White (Senior Green Infrastructure Officer) on 01603 222058.

(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 I would suggest you contact Dr David White (Green Infrastructure Officer) on 01603 222058 or email david.white.etd@norfolk.gov.uk.

(c) Cultural Heritage and Archaeology

The EIA/PEIR will need to address the potential onshore and inter-tidal zone impact on Cultural Heritage and Archaeology including the following aspects:

- Direct and indirect (i.e. setting) impacts on designated heritage assets. e.g. Scheduled Monuments, Listed Buildings, Conservation Areas, Registered Parks and Gardens. Please also refer to the *Landscape and Visual Assessment* section above;

- Direct impacts on above-ground and buried undesignated heritage assets.

The EIA should include a comprehensive assessment of relevant Historic Environment data supported by the results of archaeological field evaluations and visualisations where necessary, and should also set out appropriate mitigation measures to minimise adverse impact on Cultural Heritage and Archaeology.

For further information I would suggest you contact the Historic Environment Planning Team on 01362 869278 or hep@norfolk.gov.uk.

(d) Socio-Economic

Commercial Fishing – The EIA/PEIR should consider the potential impact of the offshore scheme, including any underwater cable routes and other ancillary development, on Norfolk's commercial fishing interests. The EIA will need to consider the wider cumulative impacts taking into account existing operational wind farm; those under constructions; those consented and those in planning. The EIA should set out appropriate mitigation, and where necessary indicate what compensation, will be given to those commercial fishing interests in Norfolk adversely impacted by the operation of the wind farm and/or ancillary development. In addition the EIA should provide an indication of the likely impact on the local fishing industry particularly when other proposals are taken into account;

Shipping/Navigation and Ports – The EIA should indicate that suitable navigation and shipping mitigation measures can be agreed with the appropriate regulatory bodies to ensure that Norfolk's Ports (King's Lynn and Wells) are not adversely affected by this proposal. The EIA will need to consider the wider cumulative impacts taking into account existing operational wind farm; those under constructions; those consented and those in planning

Tourism – The EIA should consider the likely impacts on Norfolk's tourism sector;

Economic development - It would be helpful if the EIA/PEIR 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.

(e) Highway – Traffic and Access

The comments below relate to the onshore 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

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 or email john.r.shaw@norfolk.gov.uk.

From: Steve.Newman@onr.gov.uk [mailto:Steve.Newman@onr.gov.uk]
Sent: 17 November 2017 08:54
To: Alison Down
Cc: ONR-Land.Use-Planning@onr.gov.uk; Tim.Randles@onr.gov.uk; Liz.Thomas@onr.gov.uk; Nicola.Jaynes@onr.gov.uk; Ryan.Maitland@onr.gov.uk; Craig.Reiersen@onr.gov.uk
Subject: RE: EN010078 - East Anglia TWO Offshore Windfarm - EIA Scoping and Consultation

FAO Gail Boyle

Dear Gail,

ONR's interests in the proposed development relate to any potential impact that the development may have on the safety of the nuclear licensed site or on the operability and viability of the off-site emergency plan. ONR has no comments regarding the scope of the Environmental Impact Assessment.

Kind regards

Steve

ONR Office for Nuclear Regulation

Steve Newman LLM, BSc (Hons)
Para-Technical Officer – Emergency Preparedness & Response

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Mr Gail Boyle
Senior EIA and Land Rights Advisor
The Planning Inspectorate
3D Eagle Wing
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2 The Square
Bristol BS1 6PN

Your Ref : EN010078-000060

Our Ref : 41637

5th December 2017

Dear Gail

Re: Scoping Consultation
Application for an Order Granting Development Consent for the proposed East Anglia TWO Offshore Windfarm

Thank you for including Public Health England (PHE) in the scoping consultation phase of the above application. Our response focuses on health protection issues relating to chemicals and radiation. Advice offered by PHE is impartial and independent.

In order to ensure that health is fully and comprehensively considered the Environmental Statement (ES) should provide sufficient information to allow the potential impact of the development on public health to be fully assessed.

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, windfarms should not produce emissions, pollutants, or waste products. Offshore wind farms are located out to sea, away from members of the public, hence the potential for the public to be exposed to any emissions from them is very small. However, 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). We 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.

PHE 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.

We consider the onus to be 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 PHE. 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 Government policy.

We welcome the promoter's proposal to include a Health section within the ES, which will review the potential health impacts of the onshore aspects of the project. We understand these will be presented in other chapters (ie air quality, contaminated land, etc). In terms of the level of detail to be included in an ES, we recognise that the differing nature of projects is such that their impacts will vary. Any assessments undertaken to inform the ES should be proportionate to the potential impacts of the proposal, therefore we accept that, in some circumstances particular assessments may not be relevant to an application, or that an assessment may be adequately completed using a qualitative rather than quantitative methodology. In cases where this decision is made the promoters should fully explain and justify their rationale in the submitted documentation.

The attached appendix outlines generic areas that should be addressed by all promoters when preparing ES for inclusion with an NSIP submission. We are happy to assist and discuss proposals further in the light of this advice.

Yours sincerely,

Environmental Public Health Scientist

nsipconsultations@phe.gov.uk

Please mark any correspondence for the attention of National Infrastructure Planning Administration.

Appendix: PHE recommendations regarding the scoping document

General approach

The EIA should give consideration to best practice guidance such as the Government's Good Practice Guide for EIA[1]. It is important that the EIA identifies and assesses the potential public health impacts of the activities at, and emissions from, the installation. Assessment should consider the development, operational, and decommissioning phases.

It is not PHE's role to undertake these assessments on behalf of promoters as this would conflict with PHE's role as an impartial and independent body.

Consideration of alternatives (including alternative sites, choice of process, and the phasing of construction) is widely regarded as good practice. Ideally, EIA should start at the stage of site and process selection, so that the environmental merits of practicable alternatives can be properly considered. Where this is undertaken, the main alternatives considered should be outlined in the ES[2].

The following text covers a range of issues that PHE would expect to be addressed by the promoter. However this list is not exhaustive and the onus is on the promoter to ensure that the relevant public health issues are identified and addressed. PHE's advice and recommendations carry no statutory weight and constitute non-binding guidance.

Receptors

The ES should clearly identify the development's location and the location and distance from the development of off-site human receptors that may be affected by emissions from, or activities at, the development. Off-site human receptors may include people living in residential premises; people working in commercial, and industrial premises and people using transport infrastructure (such as roads and railways), recreational areas, and publicly-accessible land. Consideration should also be given to environmental receptors such as the surrounding land, watercourses, surface and groundwater, and drinking water supplies such as wells, boreholes and water abstraction points.

Impacts arising from construction and decommissioning

Any assessment of impacts arising from emissions due to construction and decommissioning should consider potential impacts on all receptors and describe monitoring and mitigation during these phases. Construction and decommissioning will be associated with vehicle movements and cumulative impacts should be accounted for.

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[1] Environmental Impact Assessment: A guide to good practice and procedures - A consultation paper; 2006; Department for Communities and Local Government. Available from: http://webarchive.nationalarchives.gov.uk/20100410180038/http:/communities.gov.uk/planningandbuilding/planning/sustainabilityenvironmental/environmentalimpactassessment/

[2] DCLG guidance, 1999 http://www.communities.gov.uk/documents/planningandbuilding/pdf/155958.pdf

We would expect the promoter to follow best practice guidance during all phases from construction to decommissioning to ensure appropriate measures are in place to mitigate any potential impact on health from emissions (point source, fugitive and traffic-related). An effective Construction Environmental Management Plan (CEMP) (and Decommissioning Environmental Management Plan (DEMP)) will help provide reassurance that activities are well managed. The promoter should ensure that there are robust mechanisms in place to respond to any complaints of traffic-related pollution, during construction, operation, and decommissioning of the facility.

Emissions to air and water

Significant impacts are unlikely to arise from installations which employ Best Available Techniques (BAT) and which meet regulatory requirements concerning emission limits and design parameters. However, PHE has a number of comments regarding emissions in order that the EIA provides a comprehensive assessment of potential impacts.

When considering a baseline (of existing environmental quality) and in the assessment and future monitoring of impacts these:

- should include appropriate screening assessments and detailed dispersion modelling where this is screened as necessary
- should encompass all pollutants which may be emitted by the installation in combination with all pollutants arising from associated development and transport, ideally these should be considered in a single holistic assessment
- should consider the construction, operational, and decommissioning phases
- should consider the typical operational emissions and emissions from start-up, shut-down, abnormal operation and accidents when assessing potential impacts and include an assessment of worst-case impacts
- should fully account for fugitive emissions
- should include appropriate estimates of background levels
- should identify cumulative and incremental impacts (i.e. assess cumulative impacts from multiple sources), including those arising from associated development, other existing and proposed development in the local area, and new vehicle movements associated with the proposed development; associated transport emissions should include consideration of non-road impacts (i.e. rail, sea, and air)
- should include consideration of local authority, Environment Agency, Defra national network, and any other local site-specific sources of monitoring data
- should compare predicted environmental concentrations to the applicable standard or guideline value for the affected medium (such as UK Air Quality Standards and Objectives and Environmental Assessment Levels)
    - If no standard or guideline value exists, the predicted exposure to humans should be estimated and compared to an appropriate health-based value (a Tolerable Daily Intake or equivalent). Further guidance is provided in Annex 1
    - This should consider all applicable routes of exposure e.g. include consideration of aspects such as the deposition of chemicals emitted to air and their uptake via ingestion
- should identify and consider impacts on residential areas and sensitive receptors (such as schools, nursing homes and healthcare facilities) in the area(s) which

may be affected by emissions, this should include consideration of any new receptors arising from future development

Whilst screening of impacts using qualitative methodologies is common practice (e.g. for impacts arising from fugitive emissions such as dust), where it is possible to undertake a quantitative assessment of impacts then this should be undertaken.

PHE's view is that the EIA should appraise and describe the measures that will be used to control both point source and fugitive emissions and demonstrate that standards, guideline values or health-based values will not be exceeded due to emissions from the installation, as described above. This should include consideration of any emitted pollutants for which there are no set emission limits. When assessing the potential impact of a proposed installation on environmental quality, predicted environmental concentrations should be compared to the permitted concentrations in the affected media; this should include both standards for short and long-term exposure.

Additional points specific to emissions to air
When considering a baseline (of existing air quality) and in the assessment and future monitoring of impacts these:

- should include consideration of impacts on existing areas of poor air quality e.g. existing or proposed local authority Air Quality Management Areas (AQMAs)
- should include modelling using appropriate meteorological data (i.e. come from the nearest suitable meteorological station and include a range of years and worst case conditions)
- should include modelling taking into account local topography

Additional points specific to emissions to water
When considering a baseline (of existing water quality) and in the assessment and future monitoring of impacts these:

- should include assessment of potential impacts on human health and not focus solely on ecological impacts
- should identify and consider all routes by which emissions may lead to population exposure (e.g. surface watercourses; recreational waters; sewers; geological routes etc.)
- should assess the potential off-site effects of emissions to groundwater (e.g. on aquifers used for drinking water) and surface water (used for drinking water abstraction) in terms of the potential for population exposure
- should include consideration of potential impacts on recreational users (e.g. from fishing, canoeing etc) alongside assessment of potential exposure via drinking water

Land quality
We would expect the promoter to provide details of any hazardous contamination present on site (including ground gas) as part of the site condition report.

Emissions to and from the ground should be considered in terms of the previous history of the site and the potential of the site, once operational, to give rise to issues. Public health impacts associated with ground contamination and/or the

migration of material off-site should be assessed[3] and the potential impact on nearby receptors and control and mitigation measures should be outlined.
Relevant areas outlined in the Government's Good Practice Guide for EIA include:

- effects associated with ground contamination that may already exist
- effects associated with the potential for polluting substances that are used (during construction / operation) to cause new ground contamination issues on a site, for example introducing / changing the source of contamination
- impacts associated with re-use of soils and waste soils, for example, re-use of site-sourced materials on-site or offsite, disposal of site-sourced materials offsite, importation of materials to the site, etc.

Waste

The EIA should demonstrate compliance with the waste hierarchy (e.g. with respect to re-use, recycling or recovery and disposal).
For wastes arising from the installation the EIA should consider:

- the implications and wider environmental and public health impacts of different waste disposal options
- disposal route(s) and transport method(s) and how potential impacts on public health will be mitigated

Other aspects

Within the EIA PHE would expect to see information about how the promoter would respond to accidents with potential off-site emissions e.g. flooding or fires, spills, leaks or releases off-site. Assessment of accidents should: identify all potential hazards in relation to construction, operation and decommissioning; include an assessment of the risks posed; and identify risk management measures and contingency actions that will be employed in the event of an accident in order to mitigate off-site effects.

The EIA should include consideration of the COMAH Regulations (Control of Major Accident Hazards) and the Major Accident Off-Site Emergency Plan (Management of Waste from Extractive Industries) (England and Wales) Regulations 2009: both in terms of their applicability to the installation itself, and the installation's potential to impact on, or be impacted by, any nearby installations themselves subject to the these Regulations.

There is evidence that, in some cases, perception of risk may have a greater impact on health than the hazard itself. A 2009 report[4], jointly published by Liverpool John Moores University and the HPA, examined health risk perception and environmental problems using a number of case studies. As a point to consider, the report suggested: "Estimation of community anxiety and stress should be included as part of every risk or impact assessment of proposed plans that involve a potential environmental hazard. This is true even when the physical health risks may be negligible." PHE supports the inclusion of this information within EIAs as good practice.

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[3] Following the approach outlined in the section above dealing with emissions to air and water i.e. comparing predicted environmental concentrations to the applicable standard or guideline value for the affected medium (such as Soil Guideline Values)

[4] Available from: http://www.cph.org.uk/wp-content/uploads/2012/08/health-risk-perception-and-environmental-problems--summary-report.pdf

Electromagnetic fields (EMF)

This statement is intended to support planning proposals involving electrical installations such as substations and connecting underground cables or overhead lines. PHE advice on the health effects of power frequency electric and magnetic fields is available in the following link:

https://www.gov.uk/government/collections/electromagnetic-fields#low-frequency-electric-and-magnetic-fields

There is a potential health impact associated with the electric and magnetic fields around substations, and power lines and cables. The field strength tends to reduce with distance from such equipment.

The following information provides a framework for considering the health impact associated with the electric and magnetic fields produced by the proposed development, including the direct and indirect effects of the electric and magnetic fields as indicated above.

Policy Measures for the Electricity Industry

The Department of Energy and Climate Change has published a voluntary code of practice which sets out key principles for complying with the ICNIRP guidelines:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/37447/1256-code-practice-emf-public-exp-guidelines.pdf

Companion codes of practice dealing with optimum phasing of high voltage power lines and aspects of the guidelines that relate to indirect effects are also available:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48309/1255-code-practice-optimum-phasing-power-lines.pdf

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224766/powerlines_vcop_microshocks.pdf

Exposure Guidelines

PHE recommends the adoption in the UK of the EMF exposure guidelines published by the International Commission on Non-ionizing Radiation Protection (ICNIRP). Formal advice to this effect was published by one of PHE's predecessor organisations (NRPB) in 2004 based on an accompanying comprehensive review of the scientific evidence:-

http://webarchive.nationalarchives.gov.uk/20140629102627/http://www.hpa.org.uk/Publications/Radiation/NPRBArchive/DocumentsOfTheNRPB/Absd1502/

Updates to the ICNIRP guidelines for static fields have been issued in 2009 and for low frequency fields in 2010. However, Government policy is that the ICNIRP guidelines are implemented in line with the terms of the 1999 EU Council Recommendation on limiting exposure of the general public (1999/519/EC):

http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/Publichealth/Healthprotection/DH_4089500

Static magnetic fields

For static magnetic fields, the ICNIRP guidelines published in 2009 recommend that acute exposure of the general public should not exceed 400 mT (millitesla), for any part of the body, although the previously recommended value of 40 mT is the value used in the Council Recommendation. However, because of potential indirect adverse effects, ICNIRP recognises that practical policies need to be implemented to prevent inadvertent harmful exposure of people with implanted electronic medical devices and implants containing ferromagnetic materials, and injuries due to flying ferromagnetic objects, and these considerations can lead to much lower restrictions, such as 0.5 mT.

Power frequency electric and magnetic fields

At 50 Hz, the known direct effects include those of induced currents in the body on the central nervous system (CNS) and indirect effects include the risk of painful spark discharge on contact with metal objects exposed to the field. The ICNIRP guidelines published in 1998 give reference levels for public exposure to 50 Hz electric and magnetic fields, and these are respectively 5 kV m^{-1} (kilovolts per metre) and 100 μT (microtesla). The reference level for magnetic fields changes to 200 μT in the revised (ICNIRP 2010) guidelines because of new basic restrictions based on induced electric fields inside the body, rather than induced current density. If people are not exposed to field strengths above these levels, direct effects on the CNS should be avoided and indirect effects such as the risk of painful spark discharge will be small. The reference levels are not in themselves limits but provide guidance for assessing compliance with the basic restrictions and reducing the risk of indirect effects.

Long term effects

There is concern about the possible effects of long-term exposure to electromagnetic fields, including possible carcinogenic effects at levels much lower than those given in the ICNIRP guidelines. In the NRPB advice issued in 2004, it was concluded that the studies that suggest health effects, including those concerning childhood leukaemia, could not be used to derive quantitative guidance on restricting exposure. However, the results of these studies represented uncertainty in the underlying evidence base, and taken together with people's concerns, provided a basis for providing an additional recommendation for Government to consider the need for further precautionary measures, particularly with respect to the exposure of children to power frequency magnetic fields.

The Stakeholder Advisory Group on ELF EMFs (SAGE)

SAGE was set up to explore the implications for a precautionary approach to extremely low frequency electric and magnetic fields (ELF EMFs), and to make practical recommendations to Government:

http://www.emfs.info/policy/sage/

SAGE issued its First Interim Assessment in 2007, making several recommendations concerning high voltage power lines. Government supported the implantation of low cost options such as optimal phasing to reduce exposure; however it did not support not support the option of creating corridors around power lines on health grounds, which was considered to be a disproportionate measure given the evidence base on the potential long term health risks arising from exposure. The Government response to SAGE's First Interim Assessment is available here:

http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_107124

The Government also supported calls for providing more information on power frequency electric and magnetic fields, which is available on the PHE web pages (see first link above).

Ionising radiation

Particular considerations apply when an application involves the possibility of exposure to ionising radiation. In such cases it is important that the basic principles of radiation protection recommended by the International Commission on Radiological Protection[5] (ICRP) are followed. PHE provides advice on the application of these recommendations in the UK. The ICRP recommendations are implemented in the Euratom Basic Safety Standards[6] (BSS) and these form the basis for UK legislation, including the Ionising Radiation Regulations 1999, the Radioactive Substances Act 1993, and the Environmental Permitting Regulations 2016.

PHE expects promoters to carry out the necessary radiological impact assessments to demonstrate compliance with UK legislation and the principles of radiation protection. This should be set out clearly in a separate section or report and should not require any further analysis by PHE. In particular, the important principles of justification, optimisation and radiation dose limitation should be addressed. In addition compliance with the Euratom BSS and UK legislation should be clear.

When considering the radiological impact of routine discharges of radionuclides to the environment PHE would expect to see a full radiation dose assessment considering both individual and collective (population) doses for the public and, where necessary, workers. For individual doses, consideration should be given to

[5] These recommendations are given in publications of the ICRP notably publications 90 and 103 see the website at http://www.icrp.org/

[6] Council Directive 96/29/EURATOM laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation.

those members of the public who are likely to receive the highest exposures (referred to as the representative person, which is equivalent to the previous term, critical group). Different age groups should be considered as appropriate and should normally include adults, 1 year old and 10 year old children. In particular situations doses to the fetus should also be calculated[7]. The estimated doses to the representative person should be compared to the appropriate radiation dose criteria (dose constraints and dose limits), taking account of other releases of radionuclides from nearby locations as appropriate. Collective doses should also be considered for the UK, European and world populations where appropriate. The methods for assessing individual and collective radiation doses should follow the guidance given in 'Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment August 2012 [8].It is important that the methods used in any radiological dose assessment are clear and that key parameter values and assumptions are given (for example, the location of the representative persons, habit data and models used in the assessment).

Any radiological impact assessment should also consider the possibility of short-term planned releases and the potential for accidental releases of radionuclides to the environment. This can be done by referring to compliance with the Ionising Radiation Regulations and other relevant legislation and guidance.

The radiological impact of any solid waste storage and disposal should also be addressed in the assessment to ensure that this complies with UK practice and legislation; information should be provided on the category of waste involved (e.g. very low level waste, VLLW). It is also important that the radiological impact associated with the decommissioning of the site is addressed. Of relevance here is PHE advice on radiological criteria and assessments for land-based solid waste disposal facilities[9]. PHE advises that assessments of radiological impact during the operational phase should be performed in the same way as for any site authorised to discharge radioactive waste. PHE also advises that assessments of radiological impact during the post operational phase of the facility should consider long timescales (possibly in excess of 10,000 years) that are appropriate to the long-lived nature of the radionuclides in the waste, some of which may have half-lives of millions of years. The radiological assessment should consider exposure of members of hypothetical representative groups for a number of scenarios including the expected migration of radionuclides from the facility, and inadvertent intrusion into the facility once institutional control has ceased. For scenarios where the probability of occurrence can be estimated, both doses and health risks should be presented, where the health risk is the product of the probability that the scenario occurs, the dose if the scenario occurs and the health risk corresponding to unit dose. For inadvertent intrusion, the dose if the intrusion occurs should be presented.

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[7] HPA (2008) Guidance on the application of dose coefficients for the embryo, fetus and breastfed infant in dose assessments for members of the public. Doc HPA, RCE-5, 1-78, available at https://www.gov.uk/government/publications/embryo-fetus-and-breastfed-infant-application-of-dose-coefficients

[8] The Environment Agency (EA), Scottish Environment Protection Agency (SEPA), Northern Ireland Environment Agency, Health Protection Agency and the Food Standards Agency (FSA). Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment August 2012. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296390/geho1202bklh-e-e.pdf

[9] HPA RCE-8, Radiological Protection Objectives for the Land-based Disposal of Solid Radioactive Wastes, February 2009

It is recommended that the post-closure phase be considered as a series of timescales, with the approach changing from more quantitative to more qualitative as times further in the future are considered. The level of detail and sophistication in the modelling should also reflect the level of hazard presented by the waste. The uncertainty due to the long timescales means that the concept of collective dose has very limited use, although estimates of collective dose from the ‘expected’ migration scenario can be used to compare the relatively early impacts from some disposal options if required.

Annex 1

Human health risk assessment (chemical pollutants)

The points below are cross-cutting and should be considered when undertaking a human health risk assessment:

- The promoter should consider including Chemical Abstract Service (CAS) numbers alongside chemical names, where referenced in the ES
- Where available, the most recent United Kingdom standards for the appropriate media (e.g. air, water, and/or soil) and health-based guideline values should be used when quantifying the risk to human health from chemical pollutants. Where UK standards or guideline values are not available, those recommended by the European Union or World Health Organisation can be used
- When assessing the human health risk of a chemical emitted from a facility or operation, the background exposure to the chemical from other sources should be taken into account
- When quantitatively assessing the health risk of genotoxic and carcinogenic chemical pollutants PHE does not favour the use of mathematical models to extrapolate from high dose levels used in animal carcinogenicity studies to well below the observed region of a dose-response relationship. When only animal data are available, we recommend that the 'Margin of Exposure' (MOE) approach[10] is used

[10] Benford D et al. 2010. Application of the margin of exposure approach to substances in food that are genotoxic and carcinogenic. Food Chem Toxicol 48 Suppl 1: S2-24

East Anglia TWO Offshore Windfarm

Royal Mail Group Limited comments on information to be provided in applicant's Environmental Statement

Introduction

Reference the letter from PINS to Royal Mail dated 11 November 2017 requesting Royal Mail's comments on the information that should be provided in Scottish Power Renewables' Environmental Statement (ES) for the proposed East Anglia TWO Windfarm.

Royal Mail's consultants BNP Paribas Real Estate have reviewed the applicant's Scoping Report as submitted to PINS on 10 November 2017.

Royal Mail– relevant information

Royal Mail is responsible for providing efficient mail sorting and delivery nationally. As the Universal Service Provider under the Postal Services Act 2011, Royal Mail has a statutory duty to deliver mail to every residential and business address in the country as well as collecting mail from all Post Offices and post boxes six days a week.

Royal Mail's postal sorting and delivery operations rely heavily on road communications. Royal Mail's ability to provide efficient mail collection, sorting and delivery to the public is sensitive to changes in the capacity of the highway network.

Royal Mail is a major road user nationally. Disruption to the highway network and traffic delays can have direct consequences on Royal Mail's operations, its ability to meet the Universal Service Obligation and comply with the regulatory regime for postal services thereby presenting a significant risk to Royal Mail's business.

Royal Mail therefore wishes to ensure the protection of its future ability to provide an efficient mail sorting and delivery service to the public in accordance with its statutory obligations which may potentially be adversely affected by the construction and operation of this proposed road scheme.

Royal Mail's has two operational properties located less than 2 miles from the onshore study area plus three other nearby operational premises, as listed and shown on plan below:

Leiston Delivery Office	14 Sizewell Road, Leiston IP16 4AA	0.3 miles
Saxmundham Delivery Office	48 High Street, Saxmundham IP17 1AA	1.6 miles
Ipswich Vehicle Park	Charnwood Compound, Woodbridge IP13 9HE	9 miles
Wickham Market Vehicle Park	36 High Street, Woodbridge IP13 0QS	10 miles
Stowmarket Delivery Office	62 Ipswich Street, Stowmarket IP14 1AA	27 miles

In exercising its statutory duties Royal Mail vehicles use on a daily basis all of the local roads that may potentially be affected by additional traffic arising from the construction of the proposed onshore infrastructure. Therefore, Royal Mail is concerned about the potential for disruption to its operations during the construction phase.

Royal Mail's comments on information that should be provided in Scottish Power Renewables' Environmental Statement

In view of the above, Royal Mail has the following comments / requests:

1. The ES should include information on the needs of major road users (such as Royal Mail) and acknowledge the requirement to ensure that major road users are not disrupted though full advance consultation by the applicant at the appropriate time in the DCO and development processes.

2. The ES and DCO application should include detailed information on the construction traffic mitigation measures that are proposed to be implemented by Scottish Power Renewables / its contractor, including a draft Construction Traffic Management Plan (CTMP).

3. Royal Mail is fully pre-consulted by Scottish Power Renewables / its contractor on any proposed road closures / diversions/ alternative access arrangements, hours of working and the content of the CTMP. The ES should acknowledge the need for this consultation with Royal Mail and other relevant major road users.

Royal Mail is able to supply Scottish Power Renewables with information on its road usage / trips if required.

Should PINS or Scottish Power Renewables have any queries in relation to the above then in the first instance please contact Holly Trotman ***(holly.trotman@royalmail.com)*** of Royal Mail's Legal Services Team or Daniel Parry-Jones ***(daniel.parry-jones@bnpparibas.com)*** of BNP Paribas Real Estate.

Date: 8 December 2017

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Dear Sir/Madam

Planning Act 2008 (as amended) and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) Regulations 10 and 11
Application by Scottish Power Renewables (UK) Limited for an Order granting Development Consent for the East Anglia TWO Offshore Windfarm
Response of Suffolk County Council (SCC) and Suffolk Coastal District Council (SCDC) to the Scoping Opinion submitted to the Secretary of State.

1 Thank you for the opportunity to comment on the East Anglia One North and Two offshore wind farm Scoping Reports dated November 2017. This is a joint response of the two local authorities relevant under Section 43(1) of the Planning Act 2008.

2 The project includes: wind turbines, offshore electrical platforms, buried offshore export cable, transition bays, onshore substation, National Grid substation, and possible upgrades to the existing UK electrical network. Temporary works and ancillary infrastructure necessary for construction and operation of the project – on and off-shore.

3 The relevant National Policy Statement's are: EN-1, EN-3 and EN-5 and the Marine Policy Statement.

4 It is noted that HRA screening is to be undertaken in early 2018.

5 Para. 15 in both scoping reports fail to acknowledge that the point of landfall for the offshore cables is within the nationally designated Suffolk Coast and Heaths Area of Outstanding Natural Beauty (AONB). Para. 26 (in both reports) do not include reference to the National Parks and Access to the Countryside Act 1949 with reference to designation of AONB.

6 It is also noted that the grid connection point at Sizewell has dictated the search area for the landfall and substation requirements. Previous advice from National Grid had been that there is not capacity to connect at Sizewell so further clarification as to how the additional capacity has been achieved is requested.

7 At this point, the two local authorities would like the existing and other proposed energy infrastructure in the vicinity of Sizewell to be considered as there is a concern to the Local

Planning Authority that the cumulative and in-combination impact of these proposals combined is adequately and appropriately assessed and mitigated. This stretch of the coastline and inward is a nationally and internationally designated site and this must be given the required weight in proposing and justifying development in this locality. The restrictive search area proposed for the onshore elements is a concern due to the number of constraints within the area identified already. It is suggested that this area is extended to enable avoidance of designated areas where possible.

8 Para. 49 (EA1N Scoping report) and para. 51 (EA2 scoping report) refers to Sizewell as the most economical solution following a review by National Grid. There is no reference to the environmental or social impacts arising from determining that Sizewell is the best location and this is a concern and an omission to the process.

9 Para. 53 (EA1N scoping report) and para. 55 (EA2 scoping report) identifies the constraints likely to apply to both schemes. However not all other potential infrastructure projects are referred to in para 171 (both reports) that deals with cumulative impacts. In particular, intercontinental connectors (Nautilus) have not been referred to. This is likely to be of a similar scale to the East Anglia onshore infrastructure and coming ashore in the same broad area. Although the interconnector project is likely to be dealt with through a different regulatory regime (Town and Country Planning Act) and no application has yet been submitted, the National Grid's Technical Register shows this scheme connecting in 2024, one year ahead of EA2. Clearly, to achieve this, it will be necessary for details to be available in parallel with that for the schemes currently the subject of this Scoping and certainly before the submission of this scheme's Environmental Impact Assessment. In an area very constrained by national and international landscape and ecological designations, it will be important that the in-combination effects of all of these schemes are considered. Additionally there are constraints in relation to the changing coastline, the eroding coastline and the unstable coastline (in areas).

10 The Horlock Rules (paras.62 – 64 EA1N scoping report, paras. 63-66 EA2 scoping report)) demonstrate that the majority of the coastline in the Sizewell – Thorpeness area would not be compliant therefore consideration should be given to moving the search area inshore away from the protected areas.

11 SCDC and SCC support the principle in para. 72 (EA1N scoping report) and para. 73 (EA2 scoping report) of installing ducting for the EA1 North project at the same time as the EA2 project to minimise future environmental impacts of trenching a second time.

12 The maximum turbine tip height is proposed to be 300 metres high – the biggest in the East Anglian Array to date and this will need to be reflected in assessments of the project undertaken, in particular on the visibility of the project from the coastline.

13 Coastal Processes

14 From its specific role as a coastal defence authority for areas of the coastline in the vicinity of the search area and within the search area, SCDC has the following comments:

15 1.5.3.1.1 Landfall Installation Methods (both scoping reports). Consider in-life operational (50 years?) maintenance of cables when assessing preferred method of cable landfall. For example the risk of uncovering by erosion is greater with the beach buried option than HDD to lower level and offshore break out point. Consider the need to monitor beach levels and impact of vehicles on

beach required to re-bury cables if/ when uncovered. Will shallow cables impose constraints on use of beach by other vehicles if cables are uncovered or depth of coverage reduces? Shallow cables would also require the operator to monitor.

16 1.6.3.9 Decommissioning Impacts (both scoping reports). Include consideration of potential decommissioning actions when assessing landfall installation methods.

17 Having regard to potential closures to the beach and the Suffolk Coast Path, this must be minimised as Sizewell beach is well used by fishermen and dog walkers and recreationally. Any closures would be resisted unless temporary and for essential health and safety justification. Diversions may be required.

18 Seascape, Landscape and Visual Impact Assessment (SLVIA)

19 The scoping report takes a mixed approach to this issue. Details of the offshore methodology are set out in considerable detail in an appendix, whilst the onshore methodology is dealt with much more briefly in the main body of the document.

20 The environmental statement will need to take a clearer, fuller and more joined up approach to SLVIA methodology both onshore and offshore. Furthermore there are significant technical issues to be resolved in respect of:

a) The details of the approach to visualisations, including the representation of aviation and marine navigation lighting; the visualisations provided of the seascape to date (in Public Information Displays) have been 'selective' and should include night impacts. Along this stretch of coastline the Greater Gabbard / Galloper fields are often clearly visible. There was no in combination visualisations and it was very difficult to tell the comparative size and density of turbines from the different fields to date;

b) The definitions of duration of landscape and visual effects; and

c) Sequential visual effects on users of the Suffolk Coast path. It is particularly important to resolve this satisfactorily, especially given the relationship of this route to the designated landscape and the likely significance of long duration of impacts, like those identified during the consideration of the Navitus Bay application.

21 In addition in order to avoid issues identified in relation to the Navitus Bay Assessment the following are essential:

i. A realistic worst case scenario to be used which takes full account of all onshore constructions;

ii. A clear definition of the range of susceptibility of seascape and landscape types which should not be too narrow and selective;

iii. That coast path users to be accorded the highest level of sensitivity throughout the length of the route and not just for the best panoramic views or designated viewpoints;

iv. A clear understanding that an ongoing series of even less than moderate effects for coast path walkers can nonetheless still be significant because of the continuous experience; and

v. That the thresholds of Significance need to be fully understood and agreed as part of the detailed methodology, prior to submission of the Environmental Statement.

23 The applicant should review the approach to clarifying methodologies previously used in the East Anglia THREE application as this is likely to be the most effective way to reach common ground on these technical matters.

24 It is recommended that these technical issues are resolved through discussion and by review of draft documentation by consultees prior to submission of the Environmental Statement in order to ensure that common ground is reached.

25 *Assessment of impacts on Seascape Character:* The effects of the proposals on seascape character will be evaluated using the seascape character assessment. This document is in preparation, an initial version will be available to inform the Preliminary Environmental Report. The final document will be available to inform the Environmental Statement.

26 *Assessment of impacts on Landscape Character:* The Scoping reports propose to assess the impact of the proposals on the landscape/seascape and visual amenity using the Suffolk Landscape Character (LCA) types as key receptors. In respect of the impacts of the offshore elements it is suggested that *only* those Landscape Character Types in which the sea is specifically stated to be pertinent to character will be dealt with.

27 This approach *is not reasonable or acceptable,* given the sensitivity and status of the receiving environment. It is also not reasonable given the scale and level of detail and terrestrial focus of the Suffolk LCA, for this to be used as the only source from which to define the contribution of the sea to the character of the landscape, particularly given the other information identified by the applicant in the scoping report.

28 Therefore, in order to reach common ground it is expected that the applicant's landscape consultant will *assess the contribution of the seascape to the character of all the receiving landscape/s* and on that basis the likely impacts of the proposal.

29 Given the size and extent of the study area, the contribution of the sea to character of terrestrial landscapes is likely to vary, not only between landscape types but also between locations, the assessment will need to take account of this.

30 It is recommended that these issues are resolved by discussion and through review of draft documentation by consultees prior to submission of the Environmental Statement in order to ensure that common ground is reached.

31 *Assessment of Impacts on the Character and Special Qualities of the AONB and Heritage Coast:* The evaluation of the impacts of the proposal on the landscape types identified in the Suffolk Landscape Charter Assessment *is not sufficient for this project*, as the applicant themselves identifies in appendix 4.1 para 27 (both scoping reports). A full understanding of the Suffolk Coast and Heaths AONB Special Qualities Document is necessary to meet the requirements of EN3 (2.6.203) where assessment is required of people's perception and interaction with the seascape. Para. 649 needs to acknowledge the defined Natural Beauty and Special Qualities document signed off by the AONB Partnership that can be seen at:

http://www.suffolkcoastandheaths.org/assets/About-Us/V1.8Natural-Beauty-and-Special-Qualities-of-the-Suffolk-Coast-and-Heath....pdf.

The AONB and Heritage Coast continues beyond the study area. SPR needs to address the matter of assessing the potential impact of the development on the setting of the AONB as well as the AONB itself, the attached offers further explanation and policy context in relation to the setting issue. Guidance on this is in the documents attached to our letter.

32 The SLVIA will need to *specifically and systematically* assess the impacts of the proposal on the Character and Special Qualities of the AONB as this information captures the significance and value of the AONB as a Nationally Designated Landscape.

33 Such an assessment is required in order that the potential effects of both the offshore and onshore elements of the proposal can be properly understood by both consultees and decision makers (EN3 para 2.6.207-9)

34 The approach to this element of the assessment requires further discussion in order to be clarified.

35 It is recommended that this issue is resolved by discussion and through review of draft documentation by consultees prior to submission of the Environmental Statement in order to ensure that common ground is reached

36 Cumulative and in-combination effects with other projects and combined effects between project elements:

37 Full assessment of combined onshore and offshore effects is critical where combined effects are experienced, either simultaneously or in near immediate sequence. All other relevant projects also need to be assessed under cumulative impacts.

38 The scale of the turbines, their proximity to the coast and the expected location of the on shore infrastructure, mean that combined landscape and visual effects between project components are likely to occur. As currently set out the scoping report tends to separate the offshore and onshore elements of the project and their effects on the receiving environment. This should not be the case in the final assessment and the agreed methodology should allow evaluation of these combined effects.

39 The scoping document identifies a range of potential or consented projects. Future projects include the Nautilus interconnector to be connected at an existing substation between Leiston and Sizewell.

40 Para. 167 of both scoping reports should not be used as a reason to exclude this project from the assessment. *"Only projects which are reasonably well described and sufficiently advanced to provide information on which to base a meaningful and robust assessment will be included in the CIA."* Despite the fact that available information on this project only exists on the National Grid Technical Register and no further details are currently available, the applicant should not exclude the project from the CIA at this stage.

41This is because of the expected location of Nautilus and likely interaction with the windfarm proposals in terms of *both* the onshore cable corridor and connection infrastructure location close to the Sizewell to Bramford 400kv line. Furthermore it is reasonable to anticipate, even at this

stage based on similar projects, that substantial infrastructure for a converter station will be required for Nautilus as well as modifications and or additions to NGET infrastructure.

42 Published details relating to the onshore elements of the Viking Link are very helpful in this regard. http://viking-link.com/the-project/onshore-work/ .

43 At present it appears that all three projects will be located in and or adjacent to the Suffolk Coast and Heaths AONB and close to the existing baseline energy infrastructure at Sizewell for nuclear power and offshore wind.

44 It is recommended that these issues are resolved by discussion and through review of draft documentation by consultees prior to submission of the Environmental Statement in order to ensure that common ground is reached.

45 Detailed comments on the scoping report:

46 Appendix 4.1:

> Para. 11 (both scoping reports) – In addition to the information cited here the applicant should be particularly mindful of the definition of seascape as set out in the NPS EN3 (2.6.198 – 210). In particular the applicant should have regard to paragraphs 2.6.203 and 2.6.205 of EN3.
>
> *"Where necessary, assessment of the seascape should include an assessment of three principal considerations on the likely effect of offshore wind farms on the coast:*

- *limit of visual perception from the coast;*
- *individual characteristics of the coast which affect its capacity to absorb a development; and*
- *how people perceive and interact with the seascape."*

> *"Magnitude of change to both the identified seascape receptors (such as seascape units and designated landscapes) and visual receptors (such as viewpoints) should be assessed in accordance with the standard methodology for SVIA."*

47 Para. 25 (both scoping reports) needs to acknowledge the defined Natural Beauty and Special Qualities document signed off by AONB Partnership that can be seen at http://www.suffolkcoastandheaths.org/assets/About-Us/V1.8Natural-Beauty-and-Special-Qualities-of-the-Suffolk-Coast-and-Heath....pdf .

48 Para. 26 (both scoping reports) the applicant seeks to pre judge the findings of the evaluation of the effects of the offshore elements, and furthermore does not recognise here potential impacts of the onshore elements of this project.

49 Para. 29 (both scoping reports) the applicant should note that a new and updated LCA for the Broads National Park has been published in November 2017.

50 Para. 34 (both scoping reports) It is not clear if the applicant is proposing to reduce the number of turbines in the event that 19MW generators are used, clearly fewer turbines would be required to produce the same output in that case. The reduction in turbine numbers would be likely to reduce the environmental impacts of the scheme.

51 Para. 41 (both scoping reports) the agreed approach to viewpoint selection and timing of baseline photography is an attempt by all parties to properly evaluate the impacts. However the CAA/MoD lighting requirements remain unknown; given the unprecedented size of the proposed turbines it is difficult for all involved to make reasonable assumptions regarding lighting at this point. Clarification from the regulators is required.

52 Para. 45 (both scoping reports) unfortunately visibility data for the Suffolk coastline does not appear to be available. The proposed use of Weybourne and Shoeburyness data is not very satisfactory. It has yet to be established if this data is in practice a reasonable proxy for the Suffolk and south Norfolk coastline. It is hoped that there is some correspondence between the two sets of data so that a reasonable inference may be drawn as to visibility through the year on the affected coastline.

53 It is important that the visibility data is refined as much as possible so that the expected conditions month by month or even week by week can be understood. It will also be necessary to understand how the visibility of aviation and navigation lighting will vary depending on the conditions.

54 Para. 50 (both scoping reports) It is important to be clear as to where and to what extent offshore windfarms form a characteristic element in *different parts* of the study area. It is likely that the magnitude of change and sensitivity of receptors will vary considerably in different locations and the assessment of cumulative impacts and the magnitude of change must not generalise in this respect. Further detailed discussion is required to resolve this issue.

55 Ecology

56 It would appear that there are some glaring omissions in the Ornithology sections. Although Seabirds (Gulls and their Allies) are discussed, there is no reference to anything relating to migrating birds.

57 Of particularly concern is the lack of information in relation to Wildfowl and Waders (75% of Europe's population of wildfowl migrate North-South and South-North) and other birds such as Woodcock and Waxwings coming from East to West then returning West-East. No doubt, the RSPB and Natural England will pick this up but it is essential that it is included in the Assessment.

58 At this stage with limited information available it is difficult to fully identify and assess or address any problems that may arise. Once appropriate data and reports have been made available a more detailed assessment of the impact of the proposals and potential mitigation requirements will be forthcoming. The various headings of the chapters dealing with survey effort seem appropriate for this matter and we look forward to seeing the evidence as it emerges.

59 There is an element of a "safety net" with the involvement of Natural England in a project such as this but the continued involvement of SCC's Natural and Historic Environment Team is of major importance to the conservation of, inter alia, habitats and species.

60 Our final comment on ecology is on the importance of ensuring that Suffolk Biodiversity Information Service is both consulted and kept up-to-date with respect to biological data. This is most important to enable appropriate records to be kept across the County.

61 Rights of Way

62 Para. 525 (EA1N scoping report) and para. 521 (EA2 scoping report) refers to other land uses including the Suffolk Coast Path and inland – numerous Public Rights of Way. This paragraph needs to include reference to open access land of which there is considerable in this area and show and label open access land in Figure 3.3. Public Rights of Ways include byways open to all traffic and restricted byways as well as bridleways and public footpaths.

63 Para. 531 (EA1N scoping report) and para. 527 (EA2 scoping report) - it is disingenuous to suggest that land users 'may potentially experience disruption'. Based on the current EA One project, it is clear that there will be an impact on users of the PRoW and access network and this impact needs to be considered from the first stage to the last stage in the installation process, i.e. from pre-construction activities such as ecological work and archaeology surveys to the installation of the cables, the whole process as described in para. 111 (both scoping reports). This includes the physical disruption to the network of activities such as the preparation of the working width - topsoil stripping, as well as the potential for obstacles such as newt fencing, gates, fencing of the corridor and unnecessary or unsuitable alternative routes.

64 It is unacceptable to install unnecessary obstacles such as fences and gates across the network. These have now been kept to a bare minimum on EA One (2 only) and this message needs to be clear for both EA1North and EA2.

65 Para. 540 (EA1N scoping report) and para. 536 (EA2 scoping report) states that '*The requirement for permanent closures would be kept to a minimum*' it is unacceptable for any PRoW to be permanently closed as a result of this project. This area has a well used and coherent access network visited by local residents and visitors alike and this must not be put at risk. In addition, the impact on the amenity value of this network must be assessed with respect to the positioning and visual impact of the substations.

66 Transport

67 The onshore study area does not include the necessary parts of the highway network that will need study. For example as a minimum we would expect to see the transport impact modelled as far westward as and including the A12. Information is limited regarding the length of any ducting or location of onshore structures. This creates uncertainty in estimating the impact of construction traffic on the highway.

68 Abnormal Indivisible Load (AIL) delivery will need to be on agreed construction routes and timed to minimise disruption given the rural nature of the area around Sizewell.

69 Construction of the wind farm could be concurrent with other energy infrastructure – cumulative and in-combination impacts will be required to be assessed and if necessary mitigated or compensated. Assessing the onshore study area only is inadequate.

70 Flood and Water

71 From a flood/water management and water quality point of view the main points to make relate to the on-land construction phase: the construction / installation of cables in ducts underground requires the stripping back and stockpiling of overlying topsoil over a 50m wide strip along the length of the undergrounding before the 4 trenches (2 for EA1N and 2 for EA2) are dug for the ducts. There is potential for surface water runoff to be created in significant rain events and become concentrated flow (depending on gradient directions) along the windrow topsoil stock

piles. There is likely to be suspended solids in the runoff which needs to be managed so as not to 'pollute' watercourses. In areas of springs or high-water table, the duct trenches could fill with water and the ground needs to be dewatered. Suitable settlement processes will be required for the pumped water to remove suspended solids.

72 Having regard to the location of substations and other infrastructure associated with the offshore wind farm onshore. The scoping reports identify that the substation areas have the potential to increase flood risk caused by the replacement of permeable greenfield agricultural land with impermeable surfaces forming the substation. Mitigation by surface water infiltration methods are identified and where these are not feasible then run off rates are to be attenuated to the existing greenfield rate. This is an acceptable standard approach. However, it will be important to identify to a degree of accuracy, the required land area / space required for either of these approaches at a very early stage so that the correct substation compound dimensions are established and become part of the formal development approval process.

73Archaeology

74 Suffolk County Council Archaeological Service (SCCAS) are pleased that both onshore and offshore archaeology and heritage have been included in the list of impacts to be considered as part of the EIA for the EA1N and EA2 schemes. As is made clear within the two scoping documents, Historic England and the Marine Management Organisation (MMO) are advising on the offshore elements of the proposal; SCCAS comments will therefore focus upon the onshore impacts solely.

75 SCCAS welcome that the scoping documents recognise, at a high level, the potential impacts of the proposed scheme upon above and below ground archaeology and heritage. From the information provided in the EIA scoping reports, all onshore elements of the scheme (the cable route, substation sites, and haul roads, compounds jointing bays, link boxes and HDD pits) will damage or destroy any surviving archaeological remains. However, the current onshore study area has in most parts never been subject to systematic archaeological investigation and, therefore, the character, extent and significance of surviving above and below ground heritage assets across this area has yet to be defined.

76 As such without further assessment to fully characterise the heritage resource, the impacts of the development upon above and below ground heritage assets cannot be fully understood.

77 We are pleased that the scoping documents recognise the need for archaeological assessment and mitigation work in association with the EA1N and EA2 schemes and also that provision has been made to assess the impact of the proposals upon the setting of above ground heritage assets.

78 As has been shown by the EA1 scheme, time will again be a critical factor for the EA1N and EA2 schemes. Archaeological and heritage assessments and mitigation phases must be programmed into the project at the earliest opportunity, with sufficient time allowed to enable fieldwork to be completed prior to the start of construction works, so as to avoid any delays to the development schedule.

79 We would strongly advise that a dedicated archaeological consultant is appointed to the project at this stage in project planning to try to ensure the smooth delivery of the archaeological requirements for the project alongside other elements of the scheme.

80 Baseline Information

81 Data regarding known above and below ground heritage assets present within the onshore study area comes from information recorded within the County HER and from designated heritage assets.

82 The EIA scoping documents have only identified designated heritage assets recorded within the onshore study area so far (Para. 53 EA1N scoping report and Para 55. EA2 scoping report). We are pleased that provision has been made to consult the County Historic Environment Record to identify known undesignated heritage assets within this area. The majority of sites currently recorded on the County HER within the study area have been identified through finds scatters and aerial photography.

83 The Hundred River flows throughout the study area, the majority of which is situated on light soils, meaning that this is a favourable location for archaeological activity from all periods. This is attested to by the multi-period finds scatters which have recorded throughout the study area.

84 Current recorded sites within the onshore study area include, but are not limited to:

- KND 004 A Roman villa site to the north-west of Knodishall, identified through large scatters of Roman finds and building material
- FRS 013 Friston Moor a former medieval common which is associated medieval occupation remains including a moated site, an enclosure and finds scatters (FRS 003 and KND 011, 014 and 015)
- KND 007 A ring ditch cropmark situated south of Grove Wood which is likely to be the remains of a prehistoric burial mound
- KND 003 A group of 9 upstanding tumuli on Coldfair Green
- ARG 019 and 073 Cropmarks and scatters of medieval finds, likely to relate to an area of medieval settlement to the south-east of Aldringham
- LCS 175 and 218 Prehistoric occupation and a number of cremation burials identified during archaeological investigations at Red House Lane, Leiston, partly extending into the study area
- LCS 214 and ARG 018 Cropmarks and earthworks of enclosures west of Sizewell common
- LCS 215 The site of a possible Bronze Age round barrow or medieval to post medieval mill mound surviving as a cropmark, to the east of Halfway Cottages
- ARG 017 A well preserved extensive group of Second World War anti glider ditch earthworks at The Walks
- LCS 148 and 150 Medieval settlement and industrial activity and the remains of a post medieval boat recorded during archaeological investigations immediately north of the study area
- LCS 161 Iron Age and Roman field systems identified during archaeological investigations to the north of the study area, which are situated within a wider area of recorded cropmarks
- Multiple prehistoric, Anglo Saxon and medieval sites have also been recorded to the north of the onshore study area during archaeological evaluations as part of the Sizewell C development

85 However, as the majority of the onshore study area has never been subject to systematic archaeological investigation, there is high potential for additional, and as yet unknown, important

heritage assets to survive across much of this area. Some of these may be of national significance and worthy of preservation in situ. This has been clearly demonstrated by the EA1 scheme, where a significant number of archaeological sites have been defined, the majority of which were not previously recorded on the County Historic Environment record, or associated with finds scatter or cropmark evidence which indicated the likely presence of surviving below ground remains.

86 Archaeological investigations immediately adjacent to the study area have yielded extensive multi-period archaeological remains. This highlights that similar archaeology is likely to continue into the study area, particularly given the comparative soils and topography.

87 As such, thorough desk top assessment and field evaluation is needed to allow the archaeological potential of the different parts of the study area and therefore the likely impacts of the proposed development, to be fully assessed. Evaluation will provide sufficient baseline information to enable design decisions to be made and to inform planning decisions.

88 Methodology

89 We would advise that the impact of this development upon archaeology and heritage cannot be assessed until a full archaeological evaluation has been undertaken. The results of this work will enable an accurate review of the nature, quality and extent of the archaeological resource across the onshore study area. Archaeology and heritage should be factored into the decision-making process regarding the final sub-station-site and onshore cable route (plus associated infrastructure locations); therefore, the information generated through archaeological evaluation must be available at an early stage.

90 As identified in the scoping documents, a desk based assessment would be appropriate in the first instance for the entire study area. This should include a historic map regression, a study of aerial photography (including historical imagery), an assessment of LIDAR data, and predictive modelling of potential based upon topographic and geological evidence. Datasets held by the County Records office and other archive sources may also need to be consulted where features merit more detailed research.

91 A settings impact assessment for above ground heritage assets should be undertaken and the impact of the proposals upon historic hedgerows, boundaries and other historic landscape elements should also be considered through the use of historic mapping and Historic Landscape Characterisation data.

92 SCCAS would advise that all areas which will be impacted upon by the different elements of the EA1N and EA2 schemes, or which form possible option sites, should be subject to archaeological field assessment at this stage in considering the location, layout and design of the substation site and cable route, to allow for preservation in situ where appropriate of any sites of importance that might be defined (and which are currently unknown) and to provide information to contribute to the site selection process.

93 The approach to evaluation can be refined following desk-based assessment.

94 Geophysical survey (a combination of magnetometry and resistivity as appropriate), also accompanied by fieldwalking and a metal detecting survey, and should form a first phase of field evaluation.

95 The results of these assessments should be used to then inform a programme of trial trenched evaluation, combined with palaeo-environmental assessment in river valley areas.

96 The scoping documents currently refer to trenching of the sub-station site, however, we would advise that all sites which will be impacted on by any element of the onshore works should be subject to trial trenching at EIA stage. Undertaking full archaeological evaluation at this stage will enable the results of the surveys to be used to assist with project programming and also to contribute to risk management. Upfront work will ensure all options can be properly considered (including giving proper thought to preservation in situ and alternative solutions), avoiding unexpected costs and delays post-consent. Evaluation at this stage will test the suitability of sites for development, given the reduced flexibility for mitigation through design once a sub-station location and cable route have been selected.

97 The combined results of the above assessments should then be used to develop a mitigation strategy for the selected sub-station site, cable route and all associated infrastructure. Some areas (as yet unidentified) may require localised preservation in situ where appropriate. For surviving below ground archaeological heritage assets, where (1) development impacts are proposed that will damage or destroy remains and (2) where mitigation through recording is considered acceptable, the resultant mitigation included should include proposals to record and advance understanding of the significance of heritage assets before they are damaged or destroyed. Appropriate mitigation techniques, such as excavation prior to development, will be based upon the results of the suite of evaluation and assessment work undertaken. Proposals for outreach and enhanced public understanding as part of this mitigation work should also be included.

99 All phases of archaeological evaluation and mitigation must be subject to detailed Written Scheme of Investigations, which must be agreed with SCCAS. All stages of the work will be monitored by SCCAS on behalf of the Local Planning Authority and Planning Inspectorate to ensure the written schemes are satisfactorily fulfilled. The reference to the role of SCCAS/HE is welcome within the scoping documents (Para. 584 EA1N scoping report and Para. 581 EA2 scoping report).

100 Specific comments

101 Para. 575 (EA1N scoping report) and para. 571 (EA2 scoping report): At EIA it should be ensured that comprehensive and clear assessment is given to the potential impacts of all elements of the scheme upon above and below ground heritage assets.

102 Para. 576 (EA1N scoping report) and para. 572 (EA2 scoping report): Any ongoing works during site operation must not take place within any areas where archaeological remains have been preserved in situ as part of archaeological mitigation strategies. If any areas of archaeology are to be preserved in situ, then a strategy for ongoing protection of these remains throughout operation must be agreed and included within the mitigation strategy for the development.

103 Para. 582 (EA1N scoping report) and para. 578/579 (EA2 scoping report): Cumulative impacts are considered and we would support synergies to minimise construction impacts. However, it is worth noting that, potentially, the two schemes may have significant cumulative impact, depending on the heritage assets affected and the final layout. In addition, depending upon site selection, whilst the footprint may not overlap with any other schemes, if adjacent to any other large development sites, this may contribute to cumulative impacts, particularly in terms of historic landscape and setting impacts.

104 Para. 583/584 (EA1N scoping report) and para. 569/570 (EA2 scoping report): Greater clarity should be given as to the nature, timing and extent of the evaluation work to be undertaken for this project. At present only trenching of the substation site is mentioned, without reference to evaluation of the other elements of the scheme such as the cable routes and other associated infrastructure. As outlined above, we advocate that all evaluation work should be undertaken up front, however at the very least, if there is, after discussion, post-consent evaluation required, the EIA and outline WSI should make clear what still needs to be done.

105 Para. 587 (EA1N scoping report) and para. 584 (EA2 scoping report) David Gurney's 'Standards for Field Archaeology in the East of England' (East Anglian Archaeology: Occasional Papers 14 2003) and SCCAS' own standard fieldwork requirement documents (2017) must also be followed throughout.

106 (There are a number of references to Appendix 2.7 throughout the document which we assume should read Appendix 2.6- Table 1.7 (both documents), Paras. 422 and 436 (EA1N scoping document) and Paras. 421 and 435 (EA2 scoping document)?)

107 Environmental Protection

108 The scoping report submitted lays out many basic principles and the main components of the project but is currently unclear in selecting an onshore route or a location for the transmission works. Much greater clarity will be needed with regard to: landfall for the cables, an onshore cable route, specific site location of the onshore substation and national grid connection point, before any specific implications can be identified. However, the following should be included within an Environmental Impact Assessment:

109 Site Construction
1. Noise Implications from Constructional Works

1.1. Detailed information as to the timing and duration of each phase of the development, indicating the programme of constructional works both offshore and onshore, should be provided.
1.2. A method statement of the specific type of constructional work, including named plant for boring, drilling, piling and other potentially noisy operations, should be provided.
1.3. Attenuation measures so as to achieve 'best environmental practice' should be specified for all such plant.
1.4. All operations, which may adversely affect nearby properties, should be identified by source, location and either a sound power level or sound pressure level at a given distance should be calculated.
1.5. The projected noise levels for all site construction works should then be calculated at all nearby noise sensitive properties. Noise Levels should be represented as LAeq(1hour) values during daytime hours (07:00 to 19:00 hours) and LAeq(5 min.) values for evening and night time hours (19:00 to 07:00 hours)
1.6. The hours of work and all anticipated transportation movements to and from the onshore cabling route and substation site should be indicated.
1.7. A proposed 'complaints procedure', detailing who will undertake investigations on behalf of the construction company and the scope of amelioration in the event that complaints are justified, should be provided.
1.8. The Scoping document indicates that noise disturbance from the constructional piling works of the offshore turbines and platforms are unlikely to impact on any residents. However, in the event

that constructional noise complaints are received in respect to offshore work from local residents and be considered justified by the Environmental Protection Section at Suffolk Coastal District Council, then mitigation measures may be deemed necessary for night time piling operations.

110 2. Lighting Implications

2.1. Details of the location, height, design, sensors and luminance of all floodlighting used during construction should be indicated and proposed measures to:
2.1.1 Limit obtrusive glare to nearby properties; and
2.1.2 Minimise sky-glow;
should be stated.
2.2 An assessment of any reflected light and any artificial lighting, which is required on the completed offshore structures or onshore facilities, should be presented.

111 3. Air Quality Assessment

3.1. Details of all potential construction site works which may give rise to dust (e.g. excavation, demolition, movement of vehicles, loading and stockpiling of soil and rubble, crushing of material etc.) shall be specified together with the location and the particular methods of dust suppression to be used for each specific activity.
3.2. Atmospheric concentrations of particulate matter (PM10) arising from all potential construction works, which may give rise to airborne dust shall also be predicted at the nearest relevant receptor locations and submitted for the purposes of the Local Air Quality Management Regime. The predicted concentrations for each receptor shall be formatted for comparison with the objectives included in the Air Quality (England) Regulations 2000 (SI928) and Air Quality (England) Amendment Regulations 2002 (SI3043).
3.3. If any of the Air Quality Standards or Objectives in the Air Quality (England) Regulations 2000 (SI928) and Air Quality (England) Amendment Regulations 2002 (SI3043), set for Local Air Quality Management, are predicted to be exceeded by the above mentioned activities, further assessment will be required. This may include monitoring at relevant receptor locations, detailed computer modelling and investigations of solutions to reduce pollutant concentrations.

112 4. Contaminated Land Implications

4.1. A full site survey indicating historical records and analytical reports for the presence of contaminated land should be undertaken for the study area, including; the landfall location, onshore cable corridor, onshore substation and National Grid infrastructure/connection locations. Where investigation indicates the presence of contaminants, a remediation plan detailing the safe handling, removal or encapsulation of material, should be provided.

113 5. Movement and Storage of Waste

5.1. Detailed information in respect to;-
- All licensed contractors and disposal facilities used for the movement of waste materials during the construction of this development,
- The storage of waste materials (both liquid and solid) produced during the construction phase of the development,
Should be provided in addition to the requirements of the Environment Agency.

114 6. Health and Safety Implications

6.1. A health and safety risk analysis for site workers and members of the public should be provided for the constructional phase of the works.

115 7. Other Environmental Issues

7.1. Details of any site worker accommodation indicating; extent of use, number of workers accommodated, amenities and drainage, should be provided.

116 Operational Impacts

8. Implications from Wind Turbine Operation

8.1. The Scoping Report indicates that the normal operational turbine noise will be imperceptible from the offshore windfarm site at distance of 36km. Hence, assessment against ETSU-R-97 criteria is not deemed necessary for this EIA. Similarly offshore; air quality and shadowing from the turbine
blades are not considered necessary for this EIA.
8.2. A detailed health and safety risk assessment should be provided to cover public safety for all onshore facilities once the wind farm is operational.
8.3. The cabling route and all power lines connections which may generate an Electro-magnetic radiation field and potentially impact on members of the public shall be comprehensively assessed and the details should be provided.
8.4. Any telecommunication or television interference which may arise at nearby residential properties due to the installation of the cabling route or new power lines should be assessed and provided.
8.5. A decommissioning plan, detailing all site reinstatements and removal of commercial waste, should be presented.

117 General

118 It is noted that there is potential to upgrade or relocate two National Grid pylons (para. 124). SCDC would resist any increase in the number or height of pylons in this sensitive location.

119 Decommissioning – the potential impacts / effects of leaving ducts / cables in situ will need to be assessed.

120 Restoration will be key to a successful decommissioning plan.

121 SCC will need to ensure that a planning requirement is applied that requires the promotor to agree appropriate emergency arrangements with the Authority in relation to the statutory Sizewell Off Site Emergency Plan for any activity that takes place within the DEPZ (Detailed Emergency Planning Zone). Such emergency arrangements must be agreed and put into place before work can take place within the DEPZ. This requirement is essential to ensure that SCC can remain compliant with nuclear emergency preparedness legislation and avoid regulatory interest.

122 Onshore topics (Table 1.7):

123 Add socio-economic

- Skills / training
- Education
- Construction workers
- Impact on local residents
- Cumulative impacts with other projects

124 Having regard to para. 184 (EA1N scoping report) and para. 183 (EA2 scoping report)– suggest an additional document having regard to skills is required as well as a proper assessment in relation to tourism impacts of the project during construction and operational phases.

125 Offshore impacts – The local authorities will rely predominantly on others having regard to this area except in the matter of seascape, landscape and visual impact analysis and assessment with particular reference to lighting of the structures offshore.

126 Having regard to para. 584 (EA1N scoping report) and para. 581 (EA2 scoping report) – SCDC as local planning authority have responsibility in relation to Grade II listed buildings so should be involved in consultation in relation to mitigation if listed buildings are involved.

127 Para. 595 (EA1N scoping report) and para. 592 (EA2 scoping report) – error please amend, SCDC not SCWC.

128 It should be re-iterated that cumulative and in-combination impacts having regard to noise could be critical in relation to both wind farm projects proposed.

129 SCC Archaeology concerns with regards to wider discussions concerning the current selected study area and the benefit of linking this project in with other forthcoming schemes, from an archaeological point view, we would fully support the possibility of locating substations from different schemes together on a single site in order to reduce the overall impact on both above and below ground archaeology and the historic landscape as a whole. Cumulatively, multiple different substation sites throughout this landscape have the potential to have a significant impact upon heritage and the historic environment. Again there is potential to link up with sites which have already been developed for similar uses, but also if there was a possibility to utilise previously developed and therefore disturbed land, this is likely to reduce below ground archaeological impacts. The land to the north of the current onshore study area certainly has more scope for screening of substations through the presence of existing woodland and therefore may also help to limit some of the historic landscape impacts of the proposal. The advice regarding archaeological assessment and mitigation provided in the scoping response would however continue to apply for any areas or sites selected.

130 Wider scheme aspects

131 Table 4.2 (page 211 both scoping reports):

132 We would suggest that cumulative and in-combination impacts will require further assessment than that proposed.

133 Socio-economic – there is potential to need more mitigation than just the skills strategy from EA1 being updated – there will be other developments running concurrently with this development, putting pressure on the existing (low) workforce) and the impact on tourism from the two offshore windfarm projects proposed is likely to be significant and require mitigation / compensation.

134 Tourism: the mitigation hierarchy should be implemented – compensation may well be required if mitigation of adverse effects is not possible. Para. 653 (EA1N scoping document) and para. 650 (EA2 scoping document) should include and consider impacts of offshore windfarms on the typical AONB visitor experience – knowledge of the construction work could be damaging for those many visitors who value the unique Suffolk experience.

135 Para. 677 (EA1N scoping report) and Para. 674. (EA2 scoping report) refer to the 3km buffer beyond the onshore study area, having regard to tourism impacts this may not be large enough. Given the size of the substations proposed in the sensitive landscape this may well need to be extended in order to assess fully impacts in relation to tourism in the vicinity.

136 Para. 711 (EA1N scoping report) and paras. 709 (EA2 scoping report), the timing of the construction period and the potential for any crossover / in combination impacts with the construction of Sizewell C will be critical from a tourism perspective and in relation to availability of skills and construction / workforce capacity – this is a risk that needs to be investigated and mitigated.

137 Para. 724 (EA1N scoping report) and para. 722 (EA2 scoping report) do not indicate or make reference to what SPR are planning to do about impacts on national and regional supply chains – the scoping study needs to be more specific.

138 Para. 740 (EA1N scoping report) and Para. 738 (EA2 scoping report) refer to potential impacts during operation, it appears that impacts on tourism generally are effectively dismissed in one sentence – this is not acceptable. There needs to be properly researched, evidence and analysis of the current visitor economy and the potential impacts of disruptive construction projects in the area.

139 Having regard to para. 746 (EA1N scoping report) and para. 744 (EA2 scoping report) desk based research and consultation with stakeholders is not sufficient to properly analyse the impacts on tourism and recreation of the proposed project. There needs to be current research, local visitor surveys and a proper understanding of the importance of tourism to the local economy via up to date data collection and analysis in addition to that proposed.

140 The Crown Estate report “Understanding the impacts of offshore wind farms on wellbeing” 2015 (p.26) identified in a review of studies on tourism that the loss in tourist number and expenditure can be estimated. The 2008 study from Glasgow Caledonian University found the displacement effect for the *whole of Scotland* to be 0.1%. The localised effects of such displacement would clearly be a more significant percentage of visitors to specific resorts or locations. Further research seems to demonstrate that sensitivity of viewers seems to be related to age – Suffolk Coastal has a high proportion of older residents. It is not reasonable for the dismissive approach taken by Scottish Power in both scoping reports submitted for opinion.

141 A haul road is proposed with a 50 metre working width. Is a constructed haul road necessary or could temporary tracking be used? This is queried as there is a massive length of haul road being installed for EA One, which could be replaced for the most part with the use of temporary tracking and tracked vehicles (depending on soil conditions). Positioning jointing bays near to road access would enable any haul road to be kept to a minimum. Installing a haul road results in additional vehicles and importation of materials and takes time and has a cost involved that could be minimised and possible environmental impacts avoided.

142 Conclusion

143 In conclusion there are several areas where there is not considered to be enough work / assessment proposed within the scoping reports submitted for both offshore wind farms. It is suggested that additional work in the identified areas – including skills and tourism, be identified and taken forward to ensure that any future environmental statement is significantly robust.

Yours faithfully

John Pitchford
Head of Planning
Suffolk County Council

Philip Ridley BSc (Hons) MRTPI
Head of Planning & Coastal Management
Suffolk Coastal and Waveney District Councils

APPENDIX A
Policy guidance on the consideration of development proposals within the setting of protected landscapes

National legislation and guidance

1. Section 85 of the Countryside and Rights of Way Act 2000 places a statutory duty on all relevant authorities requiring them to have regard to the statutory purpose of AONBs when coming to decisions or carrying out their activities relating to, or affecting land within these areas.

2. Guidance on how the implication of this duty and how it may be discharged was issued by Defra in 2005[1]. This includes the statement "Additionally, it may sometimes be the case that the activities of certain authorities operating outside the boundaries of these areas may have an impact within them. In such cases, relevant authorities will also be expected to have regard to the purposes of these areas". The Guidance includes a list of relevant authorities, although this is not definitive.

3. Natural England has published more detailed guidance in 2010[2], including case studies. It includes a case study from the Northumberland National Park regarding "Working to ensure policies include the impact on National Parks from development beyond their boundaries."

4. Planning Policy Statement 22 "Renewable Energy" paragraph 14 states that with respect to renewable energy developments "Regional planning bodies and local planning authorities should not create "buffer zones" around international or nationally designated areas and apply policies to these zones that prevent the development of renewable energy projects. However, the potential impact on designated areas of renewable energy projects close to their boundaries will be a material consideration to be taken into account in determining planning applications."

5. This concept of the significance of setting has to be recognised with respect to protected landscapes (AONBs and National Parks). NE's published spatial planning position[3] considers in Position 5 the protection and enhancement of protected landscapes: "*Spatial planning policies and decisions should ensure the highest levels of protection and enhancement for England's protected landscapes, habitats, sites and species*." The explanatory text states "*Natural England interprets the protection and enhancement of all sites, habitats and landscapes widely. This includes safeguarding their character, qualities and features, including where appropriate, their settings...*"

[1] Duties on relevant authorities to have regard to the purposes of National Parks, Areas of Outstanding Natural Beauty (AONBs) and the Norfolk and Sufflok Broads. Defra (2005)
[2] "England's statutory designations: A practical guide to your duty of regard" Natural England NE243 (2010)
[3] Natural England's Spatial Planning Position (2009) (http://www.naturalengland.org.uk/Images/PlanningPosition_tcm6-16604.pdf

6. Natural England has published "Making Space for Renewable Energy" – Natural England's approach to assessing on-shore wind energy development".[4] This includes the statement:

"Natural England regards the setting of protected landscapes as being potentially influential on the conservation of the special qualities of the National Park or AONB concerned"

7. This guidance continues "Spatial plans should include policies that take into account the sensitivity of the setting of protected landscapes." "The potential for developments to dominate the setting of protected landscapes requires careful consideration."

8. The consultation draft Overarching Energy National Planning Statement (NPS) EN-1 includes in the background section[5] the statement:

> **Landscape and visual impacts**
> The Government proposes to retain and clarify the important protection that PPS 7 provides for nationally designated areas. The PPS does not refer to developments outside such areas but visible from them. In these cases outside the remit of PPS 7, the IPC [Infrastructure Planning Commission] will, as now, have to take account of the impact on the landscape but we propose that specifically, the IPC will need to be satisfied that the application will not compromise the objectives which were the basis for designation of the designated site."

9. The concept of "setting" is set out in the legislation[6] and guidance[7] relating to Designated historic assets. Setting is defined in Annex 2 of Planning Policy Statement 5 "Planning for the Historic Environment" as "The surroundings in which a historic asset is appreciated"

10. Helpful guidance on the consideration of the setting of heritage assets is given in the "Historic Environment Planning Practice Guide" published by English Heritage in March 2010.[8]. Setting is said to be "the surroundings in which an asset is experienced. All heritage assets have a setting, irrespective of the form in which they survive and whether they are designated or not." The guidance goes on to say that " For the purposes of spatial planning, any development of change capable of affecting the significance of a heritage asset or peoples experience of it can be considered as falling within its setting, " and "Transport proposals can affect the setting of heritage assets".

11. A "Heritage asset" is defined in PPS5 as "a building, monument, site, place, area, or landscape positively identified as having a degree of significance meriting consideration in planning decisions". In view of the number, scale, quality and distribution of designated and non-designated historic features in the Suffolk Coast & Heaths AONB, the AONB is a landscape which can be considered a heritage asset under this definition.

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[4] http://www.naturalengland.org.uk/Images/NEBPU1805Annex2_tcm6-15152.pdf
[5] http://data.energynpsconsultation.decc.gov.uk/documents/condoc.pdf
[6] Sections 16 and 66, Planning (Listed Buildings and Conservation Areas) Act 1990
[7] Planning Policy Statement 5 "Planning for the historic Environment" (PPS5) Policy HE.10.
[8] http://www.english-heritage.org.uk/upload/pdf/Historic_Environment_Planning_Practice_Guide.pdf?1269365073

APPENDIX B
AONB appeal decision examples relating to "the setting"

1. The potential for development to impact on the setting of the Dorset AONB, and hence being a material matter in the consideration of the acceptability of that development, has been affirmed by the Planning Inspectorate In respect to an appeal against the refusal of permission for the "creation of a new static caravan community of 30 bases and a reduction of 30 bases elsewhere on the park". [APP/P1235/A/06/2012807, 2007] the Inspector wrote:

> *"I consider that the area immediately abutting an AONB will be relevant where the appreciation of the natural beauty of the designated area may be affected by what lies outside it. In my view, this is analogous to development outside of a Green Belt, where Planning Policy Guidance Green Belts (PPG2) advises, at paragraph 3.15, that the visual amenities of the Green Belt should not be injured by proposals for development conspicuous from the Green Belt which, although they would not prejudice the purposes of including land in Green Belts, might be visually detrimental by reason of their siting, materials or design. I therefore agree with the Council that the effect on the AONB is a material consideration."*

2. Further consideration was given to the issue of "setting" of the Dorset AONB by the Inspector in appeal ref APP/P1235/A/08/2072794, 2008 where he stated with respect to a proposal for the "change of use of land from existing touring caravan site to site for 45 static holiday caravans":

> *"However, given that the Secretary of State has now published the Proposed Changes to the Draft South West Regional Spatial Strategy (RSS), I attach significant weight to RSS Policy ENV3, which requires particular care to be taken to ensure that no development is permitted outside AONBs which would damage their natural beauty, special character and special qualities – in other words to their setting"*

3. Detailed consideration of the adverse impact of the "Construction and operation of a four 100m turbine wind farm for electricity generation, including ancillary buildings and activities. The proposed wind farm will have a maximum rated output of 12MW*."* on the special qualities of Exmoor National Park was given by the Inspector in appeal ref APP/Y1138/A/08/2084526, 2008:

> *"I turn now to views south from Exmoor, and the setting on the National Park. Although it was suggested that the evidence presented in opposition to the proposal was tantamount to the creation of a buffer zone to the south of Exmoor, I accept that this is not the case. The special qualities of Exmoor include the description of "a landscape that provides inspiration and enjoyment to visitors and residents alike". In my judgment part of the enjoyment stems from the appreciation of Exmoor in its rural setting, and the land to the south is a significant element in that. The National Park clearly has a setting framed by the land to the south, and proposals must be considered individually or cumulatively in respect of the setting. The definition of setting is difficult to pin down in many instances. For a particular building it might involve hard boundaries such as walls, but for a landscape it involves concepts such as topography, land use, character, vegetation and more."*
>
> *"So the effect on the character and appearance of the area, and the setting of Exmoor, can be summarised thus. The visual experience will vary from location to location, and will be of a major and substantial intrusion in places. There would be serious harm to landscape character. But from some places there would be levels of*

visibility and intrusion which would not, in my judgment, be so harmful as to weigh against the proposal. I consider that the skyline views and movement of blades would, notwithstanding the separation from Exmoor, impinge upon the appreciation of the special qualities of Exmoor to a material degree."

4. An Inspector, in dismissing appeal ref: APP/H1840/A/06/2023564, addressed the issue of the proposed development of a haulage depot and storage buildings outside the AONB that impacted adversely on views out from the Cotswolds AONB:

> *"From the elevated vantage point of the Cotswold Way [within the AONB] the greater density of the development would be readily apparent, as although the site forms part of a vast panorama, it would be towards the front of that view."*

And towards the Cotswolds AONB:

> *"From lower viewpoints … the breach of the AONB skyline would not be mitigated"*

5. The Secretary of State, in dismissing appeal ref: APP/U2235/A/09/2096565 addressed the "setting" issue regarding a proposed freight transport depot adjoining the Kent Downs AONB:

> *"The Countryside, the Special Landscape Area and the AONB*
>
> *The Secretary of State agrees with the Inspector's reasoning and conclusions, as set out at IR18.29 – 18.52, regarding the impact of the proposed development on the countryside, Special Landscape Area and the AONB. He agrees that the majority of the appeal site is attractive open countryside and that, whilst the noise of the M20 / HS1 is a negative feature of the area, the site nonetheless has a strongly rural character and atmosphere (IR18.31). He further agrees that, overall, the proposal would cause substantial harm to the open countryside character and appearance of the site and would be in conflict with relevant development plan policies (IR18.34). The Secretary of State agrees with the Inspector's conclusion that the appearance and scale of the development would be alien and out of character with the countryside and the existing built-form of neighbouring settlements, and that it would cause substantial harm to the setting of the AONB (IR18.45). Given the importance and value of the open countryside which currently forms the appeal site and of the AONB which adjoins it, and given the harm the proposal would cause to them, the Secretary of State agrees that substantial weight should be given to these matters in the determination of the appeal (IR18.52)."*

Suffolk Coast & Heaths Area of Outstanding Natural Beauty (AONB)
Partnership Position Statement
(Endorsed December 2015)

Development in the setting of the Suffolk Coast & Heaths Area of Outstanding Natural Beauty (AONB)

Introduction

Areas of Outstanding Natural Beauty (AONBs) are designated by the Government for the purpose of ensuring that the natural beauty of the finest landscapes in England and Wales is conserved and enhanced. The AONB Partnership produces occasional position statements outlining its position on specific issues.

Purpose

This Position Statement, endorsed by the Suffolk Coast & Heaths AONB Partnership[1], provides the view of the Partnership to local planning authorities, landowners, residents, developers and others interested in the Suffolk Coast & Heaths AONB.

Background

The Partnership considers the setting, including the views into and out of the AONB, to be the area within which development and land management proposals, by virtue of their nature; size; scale; siting, materials or design can be considered to have an impact, positive or negative, on the natural beauty and special qualities of the nationally designated landscape.

The Suffolk Coast & Heaths AONB Management Plan 2013-18 identifies the following objectives:

> *2.7 There is a consistently high standard of development control decision making. This will prevent significant adverse impact on the landscape and scenic beauty of the AONB as set out in the National Planning Policy Framework*
> *2.8 The special qualities of the AONB are consistently taken into account and enhanced by the planning process*
> *2.9 Avoid, mitigate and offset impacts from major infrastructure developments within or adjacent to the AONB*

Position

The Partnership considers that development in the setting of the AONB that would have a significant adverse impact on the natural beauty and special qualities of the area should not be supported.
The Partnership takes this position as:

[1] Suffolk Coast & Heaths AONB is made up of public, private and third sector organisations with an interest in the area. Details at: http://www.suffolkcoastandheaths.org/about-us/

1. Paragraph 115 of the National Planning Policy Framework (NPPF) provides specific planning guidance for plan makers and decision takers in relation to AONBs and confirms that great weight should be given to conserving landscape and scenic beauty in National Parks and AONBs, which have the highest status of protection in relation to landscape and scenic beauty.
2. Paragraph 113 of the NPPF states that local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. The phrase “or affecting” landscape areas supports the need for setting as a consideration in policy making.
3. Paragraph 116 of the NPPF notes that applications for major development should be refused in designated areas except in exceptional circumstances and applications should include an assessment of any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.
4. Within Section 85 (1) of the Countryside and Rights of Way Act 2000 there is a duty on all relevant authorities to have regard to the purpose of conserving and enhancing the natural beauty of the AONB in exercising or performing any functions in relation to, or so as to affect land in AONBs. This Duty of Regard requires all public bodies, down to parish council level, to consider the AONBs nationally protected status in any land use related decisions. This includes planning applications and the formulation of Local and Neighbourhood Plans.

Context

The setting of the Suffolk Coast & Heaths AONB does not have a geographical border. The character, location, scale, materials or design of a proposed development or land management activity will determine whether it affects the natural beauty and special qualities of the AONB.

A very large development may have an impact even if some considerable distance from the AONB boundary. As such, each proposal should be assessed on its own merits and where there is potential to adversely affect the protected landscape, this impact should be assessed.

Examples of adverse impacts will include:

- Development not appropriate to the landscape setting of the AONB
- Blocking or interference of views out of the AONB particularly from public viewpoints
- Blocking or interference of views of the AONB from public viewpoints outside the AONB
- Loss of tranquillity through the introduction of lighting, noise, or traffic movement
- Introduction of an abrupt change of landscape character
- Where development may be classified as temporary but would have long term (10-25 years) or medium term impact as defined by Guidelines for Landscape and Visual Impact Assessment 3[2]
- Loss of biodiversity, particularly species of importance within the AONB
- Loss of features of historic interest, particularly if these are contiguous with features within the AONB
- Reduction in public access to or within the AONB
- Increase in air or water pollution

For further information

Contact the Suffolk Coast & Heaths AONB office on 01394 445225 or schaonb@suffolk.gov.uk

[2] Guidelines for Landscape and Visual Impact Assessment 3 at: http://landscapeinstitute.co.uk/knowledge/GLVIA.php

From: Angela Kempen [mailto:Angela.Kempen@suffolk.gov.uk]
Sent: 28 November 2017 13:29
To: East Anglia Two
Subject: YOUR REF EN010078-000060 AND EN010077-000031

Good afternoon.

On behalf of the Suffolk Fire and Rescue Service

1. The Suffolk Fire and Rescue Service requests that early consideration is given during the design stage of the development for both access for fire vehicles and the provision of water for fire-fighting which will allow us to make final consultation at the planning stage'

Kind regards

Angela Kempen
Water officer
Suffolk Fire and Rescue Service
Public Health and Protection
Endeavour House
Russell Road
Ipswich
IP1 2BX

01473-260588

Water.hydrants@suffolk.co.uk

From: Stephen Vanstone [mailto:Stephen.Vanstone@thls.org]
Sent: 05 December 2017 12:38
To: East Anglia Two
Cc: Trevor Harris; 'Helen.Croxson@mcga.gov.uk'; Thomas Arculus; Nicholas Saunders
Subject: RE: EN010078 - East Anglia TWO Offshore Windfarm - EIA Scoping and Consultation

Good afternoon Gail,

Trinity House would expect the following to form part of the Environmental Statement:

Navigation Risk Assessment

- Comprehensive vessel traffic analysis in accordance with MGN 543.

- The possible cumulative and in-combination effects on shipping routes and patterns should be fully assessed, with particular reference to the navigable sea room between this project and East Anglia One (under construction), East Anglia One North (Pre-planning) and Galloper (under construction) offshore wind farms.

- Any proposed layouts should conform with MGN 543.

- If any structures, such as offshore platforms or met masts, lie outwith the actual wind farm turbine layout, then additional risk assessment should be undertaken.

Risk Mitigation Measures

- We consider that this development 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 and the reporting thereof.

- Any monitoring equipment, including met masts and LIDAR or wave buoys must also be marked as required by Trinity House.

- 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.

Kind regards,

Steve Vanstone
Navigation Services Officer
Trinity House