



SCOPING OPINION:

Proposed Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions

Case Reference: EN010109

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

November 2019

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1. INTRODUCTION

1.1 Background

- 1.1.1 On 09 October 2019, the Planning Inspectorate (the Inspectorate) on behalf of the Secretary of State (SoS) received a scoping request from Equinor New Energy Limited (the Applicant) under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) for the proposed Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions (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 Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions Scoping Report (dated October 2019) (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 Scoping Report encompasses the relevant aspects 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 and The Conservation of Offshore Marine Habitats and Species Regulations 2017 (the Habitats Regulations). This assessment must be co-ordinated with the EIA in accordance with Regulation 26 of the EIA Regulations. The Applicant's ES should therefore be co-ordinated with any assessment made under the Habitats Regulations.

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 preparing their ES.
- 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 preparing their ES.

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 period of negotiations regarding the UK's exit from the EU. On 26 June 2018 The European Union (Withdrawal) Act 2018 received Royal Assent and work to prepare the UK statute book for Brexit has begun. The European Union (Withdrawal) Act 2018 will make sure that UK laws continue to operate following the UK's exit. 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 is provided in section 1.5 of the Scoping Report.

2.2.2 The Proposed Development comprises extensions to the existing Dudgeon Offshore Wind Farm and the existing Sheringham Shoal Offshore Wind farm which are located off the North Norfolk Coast. The Dudgeon Extension Project (DEP) component covers 92.6km² and would comprise up to 34 turbines and the Sheringham Extension Project (SEP) component covers 103.5km² and would comprise up to 27 turbines. Each turbine would have a maximum rotor diameter of up to 300m and a maximum tip height of 326m.

2.2.3 There are three potential development options:

- (i) DEP and SEP together;
- (ii) DEP only; or
- (iii) SEP only.

2.2.4 The offshore elements of the Proposed Development would comprise turbines, array cables, one or two offshore substation(s) and potentially interlink cables, cable protection and scour protection. Offshore export cables would connect an offshore substation to the landfall, of which there are currently two alternative options (Weybourne and Bacton). The offshore scoping area is shown on Figure 1.1.1 of the Scoping Report.

2.2.5 From the landfall, onshore export cables would connect to a new onshore substation which would be located as close as practicable to the existing National Grid substation at Norwich Main located south of Norwich. The new onshore substation would be connected to the Norwich Main substation via a grid connection. Energy balancing infrastructure may also be incorporated in the form of a battery storage solution. The onshore scoping area is shown on Figure 1.1.1 of the Scoping Report.

2.2.6 Paragraph 45 of the Scoping Report states that once the landfall has been selected, only one cable route will be taken forward into the DCO application. The offshore cable corridor would be refined in the inshore area to align with the final landfall location, with the export of electricity to shore from DEP and SEP following the same cable route option.

2.2.7 There are two options for the electrical infrastructure depending on the ownership and phasing of the Proposed Development. There would either be an integrated solution with the transmission infrastructure serving both DEP and SEP together, or two standalone connections (within the same overall corridors), as described in paragraphs 14 to 16 of the Scoping Report. However, the export of electricity to shore from DEP and SEP would follow the same cable route option; therefore the final offshore and onshore cable corridors would accommodate the infrastructure for both DEP and SEP.

2.3 The Planning Inspectorate's Comments

Description of the Proposed Development

2.3.1 The ES should include the following:

- a description of the Proposed Development comprising at least the information on the site, design, size and other relevant features of the development; and
- a description of the location of the development and description of the physical characteristics of the whole development, including any requisite demolition works and the land-use requirements during construction and operation phases.

2.3.2 The anticipated generating capacity of the Proposed Development is not stated in the Scoping Report, although paragraph 5 explains that DEP and SEP would each have an expected capacity greater than 100MW. The maximum technical capacity (ie electrical output) of the individual wind turbines and of the Proposed Development as a whole should be confirmed within the ES.

2.3.3 The Inspectorate welcomes that the onshore and offshore footprints of the Proposed Development will be refined to the areas required for the proposed infrastructure. However, the broad description provided, which includes the broad offshore scoping area, two alternative landfalls and cable options and the 3km search area of the onshore project substation, reduces certainty and limits the Inspectorate's ability to provide meaningful comments on the project description and the resultant likely significant effects at this stage. The Inspectorate notes that timely refinement of options will support a more robust assessment of likely significant effects and increase certainty for those likely to be affected.

2.3.4 The construction programme for the 'separated' grid option, as depicted on Figure 1.5-6 of the Scoping Report, does not identify the timeframes for installation of the offshore export cable and array cables of Project 2. The Inspectorate assumes this is an error and advises this is corrected in any similar figures to be included in the ES.

2.3.5 The ES should also specify the anticipated working hours for construction. Any need for unsocial hours of working should be detailed.

2.3.6 The Scoping Report provides limited detail on operation and maintenance activities. The ES should provide a full description of the nature and scope of

these activities, including the types of activity, their frequency, and how works will be carried out for both the onshore and offshore elements of the Proposed Development.

- 2.3.7 The anticipated operational lifespan of the Proposed Development is inconsistently reported throughout the Scoping Report; this should be clearly and consistently defined within the ES to provide a clear indication of the likely duration of operational impacts.
- 2.3.8 The information regarding decommissioning in paragraph 160 of the Scoping Report is noted. The ES should include the rationale in support of the assessment of potential significant effects during the decommissioning phase, including a description of anticipated decommissioning activities. Where there is uncertainty around the impacts of decommissioning this should be clearly explained along with the implications for the assessment of significant effects.

Offshore

- 2.3.9 The ES should clearly describe the different permutations of the Proposed Development that would arise should both, or just one of DEP/SEP, be constructed. This should include a clear description of the electrical infrastructure that would be installed in each circumstance. Figures to depict the arrangements for these alternative options would aid in this understanding.
- 2.3.10 Section 1.5.6.2 of the Scoping Report identifies the need for seabed preparation for foundations. Any requisite seabed preparation for the array cables, the interlink cables and the export cable route should also be described and any resultant likely significant effects assessed within the ES. Should seabed preparation involve dredging, the ES should identify the quantities of dredged material and identify the likely location for disposal.
- 2.3.11 The ES should identify the worst-case footprint of seabed disturbance that would arise from all offshore construction activities, for example seabed clearance/preparation, and vessel jack up and anchoring. The maximum footprints of all permanent components should also be identified.
- 2.3.12 Table 1-3 of the Scoping Report identifies the potential need for both cable and scour protection. No quantities (ie volume or footprint) have been specified at this stage and cable protection has only been identified for array cables. The ES should quantify the anticipated worst-case amount of scour and cable protection (including for cable crossings) that would be utilised for the Proposed Development, including for the export cables.
- 2.3.13 The Scoping Report identifies a number of wind turbine foundation options which could be used for the Proposed Development. The different foundation types could result in different impacts to the seabed, for example the area of seabed to be disturbed, volumes of spoil arisings and noise levels from installation. The Inspectorate acknowledges the foundation type will not be known by time of application, therefore the Applicant should ensure that the ES clearly identifies and assesses the

worst-case scenario for the different environmental aspects and matters that could be significantly affected.

- 2.3.14 Table 1-7 of the Scoping Report states that the length of array cables will be dependent upon the final distance between turbines. The Inspectorate expects the ES to confirm the maximum length of both array and interlink cables so that the likely significant effects of these elements can be understood.
- 2.3.15 Paragraph 141 of the Scoping Report states that the maximum hammer size for pile driving would be 4500kJ. The ES should also describe the maximum diameter of piles should they be used.

Onshore

- 2.3.16 The Scoping Report states that the cable corridor is 500m wide, however the scale on the figures indicates a greater width than this. The Inspectorate acknowledges that the final cable corridor will be refined for the application. The Applicant should ensure that the project description within the ES and any figures reflect one another appropriately.
- 2.3.17 The Scoping Report identifies the need for jointing bays and link boxes up to every 300m. The Scoping Report does not state whether their locations will be determined by the time of the application, however, from experience gained in other offshore wind farms the Inspectorate anticipates this may not be the case. Assuming this outcome, the ES should identify a worst case scenario for the number of jointing pits and link boxes. Where commitments are made at specific locations to mitigate any potential effects, these should be secured for example through a detailed construction method statement or Code of Construction Practice (CoCP)/Construction Environmental Management Plan (CEMP).
- 2.3.18 The Scoping Report states that the Proposed Development may incorporate balancing equipment/storage infrastructure, such as a battery which would be housed within the footprint of the onshore substation. The Scoping Report states that a range of technologies are under development and will be assessed with the ES. The ES should include sufficient detail (perhaps in the form of parameters) to describe such equipment in order to provide confidence that any potential effects have been assessed in the ES.
- 2.3.19 The Scoping Report has identified the need for access roads to the onshore substation. The ES should identify whether new routes, either temporary or permanent, are required to access the onshore cable corridor and/or the temporary compounds. The likely significant effects of all temporary and permanent accesses should be included in the assessment scope.
- 2.3.20 Given the length of the onshore cable, there is the potential for numerous points at which the cable will need to cross roads, railways, watercourses, gas, water and electrical infrastructure. The ES should identify the locations and type of all such crossings. Where commitments are made

within the ES to use a specific method as mitigation (e.g. trenchless techniques at sensitive locations), the Applicant should ensure that such commitments are adequately secured.

- 2.3.21 The Scoping Report states that the onshore substation may connect to the existing Norwich Main substation through either an overhead connection or an underground connection, depending on their proximity to one another. The Inspectorate expects the ES to provide greater clarity as to the necessary connection works in order to inform a meaningful assessment of likely significant effects.

Alternatives

- 2.3.22 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'.
- 2.3.23 The Scoping Report provides an overview on the main site selection activities undertaken to develop the scoping areas and a summary of the alternatives considered to date. References are made to environmental receptors which the Applicant has considered, although these are described at a very high level in relation to onshore site selection (section 1.4.4).
- 2.3.24 The Inspectorate acknowledges the Applicant's intention to consider alternatives within the ES (paragraph 199). The Inspectorate would expect to see a discrete section in the ES that provides details of the reasonable alternatives studied and the reasoning for the selection of the chosen option(s), including a comparison of the environmental effects.

Flexibility

- 2.3.25 The Inspectorate notes the Applicant's desire to incorporate flexibility into their draft DCO (dDCO) and its intention to apply a Rochdale Envelope approach for this purpose. Where the details of the Proposed Development cannot be defined precisely, the Applicant will apply a worst case scenario. The Inspectorate welcomes the reference to Planning Inspectorate Advice Note nine 'Using the 'Rochdale Envelope' in this regard.
- 2.3.26 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 clearly defined in the 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.

- 2.3.27 It should be noted that if the Proposed Development materially changes prior to submission of the DCO application, the Applicant may wish to consider requesting a new scoping opinion.
- 2.3.28 The Inspectorate understands that flexibility is being sought in a number of areas, for example:
- the option to develop either SEP or DEP alone, or both together (either consecutively or phased); and
 - an integrated electrical infrastructure approach or separate grid connections (including the number of offshore substations).
- 2.3.29 The Applicant should ensure that the project description in the ES clearly identifies the differences for each permutation. The ES should define and assess the worst case scenario for which development consent is being sought.
- 2.3.30 The ES should describe and assess the impacts resulting from staggered construction and the potential for one extension project to be operational whilst the other is constructed.

3. ES 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 Seven 'Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements'¹ and associated appendices.
- 3.1.2 Aspects/ matters (as defined in Advice Note Seven) 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.
- 3.1.3 The Inspectorate has set out in this Opinion where it has/ has not agreed to scope out certain aspects/ matters on the basis of the information available at this time. The Inspectorate is content that the receipt of a Scoping Opinion should not prevent the Applicant from subsequently agreeing with the relevant consultation bodies 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.
- 3.1.4 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 consultation bodies 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.
- 3.2.2 The designated NPSs relevant to the Proposed Development are the:
- Overarching NPS For Energy (NPS EN-1);

¹ Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements and annex. Available from: <https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/>

- NPS on Renewable Energy Infrastructure (NPS EN-3); and
- NPS for Electricity Networks Infrastructure (NPS EN-5).

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 are contained in the Habitats Regulations Assessment (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.

Baseline Scenario

3.3.2 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.

3.3.3 In relation to the offshore environment, the Scoping Report states that it will draw on data from the ES's for, and post-construction monitoring of, the existing Dudgeon and Sheringham Offshore Wind Farms. The Inspectorate agrees that this data will provide a useful starting point to inform the environmental baseline. The Inspectorate advises the Applicant seeks to agree with relevant consultation bodies the degree to which this existing information is applicable for the Proposed Development and can be used to inform the baseline; particular consideration should be given to the methods and the spatial and temporal scope of previous surveys.

3.3.4 Paragraph 190 of the Scoping Report states that projects which are sufficiently implemented during the site characterisation for DEP and SEP will be considered as part of the baseline for EIA. The ES should clearly define what is meant by 'sufficiently implemented'.

3.3.5 Although the majority of onshore aspect chapters have identified a study area for the purposes of scoping, the Inspectorate assumes that given the onshore route will be refined and the onshore substation location determined prior to

application, this is unlikely to be the same study area for the assessments in the ES. The Inspectorate notes that where surveys are proposed, the aspect chapters of the Scoping Report have identified (at a high level), the spatial coverage of baseline surveys. The extent of study areas should relate to the zone of influence of potential effects and should be clearly defined and justified within the ES. Reference should be made to recognised professional guidance, where relevant. Figures depicting the extent of study areas should be provided where relevant.

- 3.3.6 Some aspect chapters of the Scoping Report have identified specific receptors, but the majority of the Scoping Report identifies broad categories of receptors only. Specific receptors should be clearly identified within the ES, alongside a categorisation of their sensitivity and value. Section 1.6.4.1 of the Scoping Report explains that receptor sensitivity would be identified in order to assess the potential impacts upon each receptor and discusses considerations that will be taken into account in doing so. The Inspectorate expects a transparent and reasoned approach to be applied to assigning receptor sensitivity and that this will be clearly set out in the ES.

Forecasting Methods or Evidence

- 3.3.7 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.
- 3.3.8 The Inspectorate expects the ES to include a chapter setting out the overarching methodology for the assessment, which clearly distinguishes effects that are 'significant' from 'non-significant' effects. Any departure from that methodology should be described in individual aspect assessment chapters.
- 3.3.9 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.
- 3.3.10 The Scoping Report explains that SEP/DEP would have separate offshore export cables which would be installed in separate trenches in separate installation campaigns. The ES should identify the spatial separation between the two cables and assess any likely significant effects that could arise from repetitive disruption/disturbance to receptors within the export cable corridor.
- 3.3.11 The onshore export system would comprise either a common trench for the two circuits or two separate trenches. The ES should identify a worst case scenario for the assessment, which considers the implications of constructing two separate trenches over temporally distinct time periods and the maximum land take required. The potential for repeat disruption/disturbance should be assessed.

- 3.3.12 Tables 1-11 and 1-12 of the Scoping Report provide significance matrix and impact significance definitions, respectively. The ES should clearly distinguish between significant and non-significant residual effects.
- 3.3.13 The approach to assessing and interpreting significance levels should be consistent across aspect chapters. Where matrices are used, they too should be consistent so that a given magnitude/ sensitivity combination results in the same level of overall significance. The terminology used to define magnitude and sensitivity should also be consistent, where possible, and the ES should clearly explain where and how professional judgement has been applied in assessing the significance of effects.
- 3.3.14 The aspect chapters of the Scoping Report confirm that cumulative effects will be assessed within the ES and that the scope (in terms of relevant issues and projects) will be established with consultation bodies (including other developers). The Scoping Report states that the full list of plans and projects to be included in the assessment will be developed as part of on-going consultation with technical consultation bodies. Section 1.6.4.7 of the Scoping Report states that that *“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”*. The tiered approach set out in Advice Note Seventeen enables Applicant’s to group plans and projects according to the level of information available; the Inspectorate recommends that this approach is adopted.
- 3.3.15 The Inspectorate notes the proximity of the Proposed Development to other proposed NSIPs, including Norfolk Vanguard, Norfolk Boreas and Hornsea Project Three offshore wind farms. Whilst there is the possibility that these projects may not overlap temporally, the assessment should take into account the effects of repetitive impacts over a prolonged duration.
- 3.3.16 The Scoping Report explains that an Evidence Plan Process with specialist stakeholders has commenced in effort to agree the approach and information required to support the assessment of certain environmental aspects. A large number of aspect chapters, state that the assessment methodology will be agreed through this process or through the production of method statements. As a result, there is little detail regarding the proposed assessment methodologies for a number of the aspect chapters. This approach to agreeing the finer details of the assessment is welcomed. The Applicant should ensure that any agreements reached during this process are evidenced within the ES.

Residues and Emissions

- 3.3.17 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 and Monitoring

- 3.3.18 Although the Scoping Report states that mitigation will be developed for the Proposed Development if required, no specific examples have been provided at this stage. 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, with reference to specific DCO requirements or other legally binding agreements.
- 3.3.19 The ES should clearly demonstrate how the Applicant has had regard to the mitigation hierarchy, for example by giving consideration to the avoidance of key receptors.
- 3.3.20 Paragraph 13 of the Scoping Report confirms that each project will be assessed individually so that mitigation is project specific (where appropriate). Where mitigation is proposed for one of SEP or DEP, this should be clearly explained and delineated within the ES.
- 3.3.21 The ES should also identify and describe any proposed monitoring of significant adverse effects and how the results of such monitoring would be utilised to inform any necessary remedial actions.

Risks of Major Accidents and/or Disasters

- 3.3.22 The Scoping Report does not address the risk of major accidents and/or disasters. The ES should include a description and assessment (where relevant) of the likely significant effects resulting from accidents and disasters applicable to the Proposed Development. The Applicant should make use of appropriate guidance (e.g. that referenced in the Health and Safety Executives (HSE) Annex to Advice Note 11) to better understand the likelihood of an occurrence and the Proposed Development's susceptibility to potential major accidents and hazards. The description and assessment should consider the vulnerability of the Proposed Development to a potential accident or disaster and also the Proposed Development's potential to cause an accident or disaster. The assessment should specifically assess significant effects resulting from the risks to human health, cultural heritage or the environment. Any measures that will be employed to prevent and control significant effects should be presented in the ES.
- 3.3.23 HSE's consultation response identifies a number of major accident hazard sites and major accident hazard pipelines within the scoping study areas presented in the Scoping Report; any likely significant effects to, or that could result from, these features should be assessed in the ES.
- 3.3.24 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.

Climate and Climate Change

3.3.25 The Scoping Report recognises climate change policy and UK commitments. However, it does not address the likely significant effects the Proposed Development would have on climate (for example having regard to the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change. The ES should include a description and assessment of these matters (where relevant). Where relevant, the ES should describe and assess the adaptive capacity that has been incorporated into the design of the Proposed Development. This may include, for example, alternative measures such as changes in the use of materials or construction and design techniques that will be more resilient to risks from climate change.

Transboundary Effects

3.3.26 Schedule 4 Part 5 of the EIA Regulations requires a description of the likely significant transboundary effects to be provided in an ES.

3.3.27 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. The Inspectorate considers that where Regulation 32 applies, this is likely to have implications for the examination of a DCO application.

3.3.28 The Scoping Report states that transboundary impacts will be assessed for the following aspects:

- Fish and shellfish ecology;
- Marine mammals;
- Offshore ornithology;
- Commercial fisheries;
- Shipping and navigation;
- Offshore archaeology and cultural heritage; and
- Ecology and Ornithology (including Sites of Nature Conservation Interest); and
- Onshore archaeology and cultural heritage.

3.3.29 The Inspectorate recommends that the ES should identify 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

- 3.3.30 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 2004.

4. ASPECT BASED SCOPING TABLES - OFFSHORE

4.1 Marine Geology, Oceanography and Physical Processes

(Scoping Report section 2.1)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.1.1	Para 208 & Table 2-1	Effects on hydrodynamic regime (waves and tidal currents) - construction	The Inspectorate agrees that the potential for the presence of construction plant and offshore infrastructure to impact upon the hydrodynamic regime during the construction phase is unlikely to result in significant effects and can therefore be scoped out of the ES.
4.1.2	Para 209	Effects on seabed features	The Scoping Report states that " <i>Due to the localised nature of these effects, it is not anticipated that such changes would give rise to significant impacts on sea bed features</i> ". The Inspectorate disagrees with this assertion, particularly in relation to the Cromer Shoal Beds Marine Conservation Zone (MCZ) as the geological features cannot reform once damaged. Natural England's consultation response also demonstrates concern in this regard. The Inspectorate considers that the ES should include an assessment of likely significant effects to seabed features resultant from the Proposed Development.
4.1.3	Table 2-1	Transboundary impacts - construction, operation and decommissioning	The Scoping Report considers that hydrodynamic and sedimentary impacts would be restricted to near-field change. The Applicant has not provided references to studies to back up this claim, nor has it identified a study area for this aspect chapter within which it considers effects are likely (see below). Nevertheless, having regard to the location of the Proposed

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			Development (a minimum of 100km from any international territory boundary), the nature of the likely potential hydrodynamic and sedimentary impacts, the Inspectorate considers that transboundary impacts associated with this matter are unlikely to result in significant effects and can therefore be scoped out of the ES.

ID	Ref	Other points	Inspectorate's comments
4.1.4	Para 205	Coastal erosion	The Scoping Report states "the coast is exposed and dynamic with rapid cliff erosion occurring in places". The potential impacts of landfall works on coastal processes, including erosion and deposition, should be assessed with appropriate cross reference to other technical reports including landscape and visual impacts. The assessment should assess potential impacts associated with climate change during the Proposed Development's operational life and any decommissioning period, as well as the relevant Shoreline Management Plan.
4.1.5	Paras 209, 211, 213, 214 & 225	Conceptual methods	The Scoping Report refers to the use of conceptual methods to assess impacts. No details are provided as to what conceptual methods would be utilised. The ES should provide details of all methods used along with any assumptions and limitations and an explanation of how these have been factored in to the assessment.
4.1.6	Section 2.1.2.2	Potential impacts during operation	The ES should assess any likely significant effects from changes in current and wave action resulting from introduced scour protection measures.

ID	Ref	Other points	Inspectorate's comments
4.1.7	Para 212	Evidence	The Scoping Report refers to 'previous studies' however does not reference these. The ES should provide clear references to any studies used to inform the approach and support its conclusions.
4.1.8	Table 2-2	Existing data sources	A number of desk-based data sources relating to the existing Sheringham Shoal and Dudgeon offshore wind farms are proposed be used to inform the characterisation of the existing environment. The Inspectorate considers that these will provide useful baseline information, however their limitations in terms of age of data and spatial coverage should be acknowledged within the ES. The Applicant should make efforts to agree with relevant consultation bodies what is an appropriate level of information to inform the baseline characterisation.
4.1.9	Para 219 & Tables 2-2 and 2-3	Suspended sediment baseline	It is unclear how the existing suspended sediment concentrations within the application site will be determined based on the existing data sources available (which do not cover the spatial extent of the SEP/DEP) and the proposed baseline surveys (which are for multibeam bathymetry, side-scan sonar and sub-bottom profiling). The ES should clearly identify the data sources used to inform the suspended sediment baseline.
4.1.10	Para 224	Guidance	The Inspectorate is unclear as to the relevance of the 'Guidance on Environmental Impact Assessment in Relation to Dredging Applications (Office of the Deputy Prime Minister, 2001)', as no dredging has been proposed within the Scoping Report. The Applicant should ensure that all guidance utilised to inform the assessment is relevant and its relationship to the assessment is clearly explained.

ID	Ref	Other points	Inspectorate's comments
4.1.11	n/a	Receptors	<p>The Inspectorate notes that irrespective of the chosen landfall, the offshore cable route would pass through Cromer Shoal Chalk Beds MCZ and the Greater Wash Special Protection Area (SPA). The ES should assess the likely significant effects of changes to hydrodynamic and sedimentary processes on these receptors.</p> <p>This comment also applies to the Marine Water and Sediment Quality assessment.</p>
4.1.12	n/a	Climate change	<p>The assessment should take into the effects of climate change. Information from UKCP18 on waves, winds, storm surge and sea level rise, should be incorporated into the future baseline.</p>

4.2 Marine Water and Sediment Quality

(Scoping Report section 2.2)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.2.1	Para 239 & Table 2-4	Increases in suspended sediment - operation	<p>The Scoping Report acknowledges the potential for scour of the seabed to result in increased suspended sediments in the water column; however, it considers these would be localised and short lived (ie only during storm conditions). The proposal to scope out impacts from this aspect chapter is inconsistent with the proposal to scope in effects on suspended sediment concentrations during operation in the Marine Geology, Oceanography and Physical Processes chapter (paragraph 214). Given the acknowledgement within the Scoping Report that there is potential for the resuspension of sediment during the operational phase, the Inspectorate is unable to rule out potential significant effects to Marine Water and Sediment Quality and therefore does not agree this matter can be scoped out.</p>
4.2.2	Para 239 & Table 2-4	Release of contamination - operation	<p>The Scoping Report states that any sediment contamination within suspended sediment resulting from scour of the seabed is unlikely to give rise to changes in marine water quality. The Scoping Report does not justify this statement. It states that contamination in the existing Sheringham Shoal and Dudgeon wind farm sites are considered to be low, however no site specific data for SEP/DEP has been provided at this stage.</p> <p>The Inspectorate acknowledges that the majority of contaminant disturbance would likely be during the construction phase. However, in the absence of site specific data on contaminant levels, the Inspectorate does not consider it has sufficient</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			information to rule out a likely significant effect resulting from re-suspension of contaminants from scouring effects. As such, the Inspectorate does not agree this can be scoped out of the ES.
4.2.3	Paras 238, 240, 241 & Table 2-4	Accidental spills and leaks - construction, operation and decommissioning	<p>The Scoping Report states that all construction vessels would be required to comply with the International Convention for the Prevention of Pollution from Ships (MARPOL 73/38) and notes that a Project Environmental Management and Monitoring Plan (or similar) would be put in place to ensure works are undertaken in line with best practice for working in the marine environment. For operation, the Scoping Report states best practice measures would be put in place to reduce risks as far as possible.</p> <p>The Inspectorate agrees that, with the implementation of such measures, any potential impacts on water and sediment quality are unlikely to result in significant effects and therefore further assessment is not required. However, the Inspectorate seeks assurances that such measures would be employed and therefore considers the matter should still be covered within the ES, along with details of the measures to be employed and how they are secured by the DCO (or through the Marine Licence or other suitable mechanism). The ES should include a draft version (with sufficient detail) of any plans containing such measures.</p>
4.2.4	Para 243 & Table 2-4	Transboundary impacts - construction, operation and decommissioning	The Scoping Report states that effects on Marine Water and Sediment Quality are likely to be restricted to the project boundary and the immediate surrounding area. As with the Marine Geology, Oceanography and Physical Processes chapter, the Applicant has not provided references to studies to back up this claim, nor has it identified a study area for this aspect chapter

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>within which it considers effects are likely.</p> <p>Nevertheless, having regard to the location of the Proposed Development (a minimum of 100km from any international territory boundary), the nature of potential impacts to water and sediment quality, the Inspectorate considers that transboundary impacts associated with this matter are unlikely to result in significant effects and can therefore can be scoped out of the ES.</p>

ID	Ref	Other points	Inspectorate's comments
4.2.5	Table 2-5	Data sources to be used	<p>Table 2-5 of the Scoping Report refers to information in the Marine Geology, Oceanography and Physical Processes chapter to be collected in 2020. It states that this will provide baseline information on sediment type and suspended solid concentrations. As noted in Table 4.1 of this Opinion, it is currently unclear how suspended baseline sediment concentrations will be established.</p> <p>The ES should clearly identify the data sources used to inform the suspended sediment baseline.</p>
4.2.6	Table 2-6	Proposed baseline surveys	<p>It is unclear at this stage what site-specific information will be obtained to inform the baseline. The Scoping Report states that the analysis of the grab samples proposed in Table 2-5 (which would be conducted as part of the Benthic Ecology survey) will be agreed with stakeholders including the MMO, Cefas and Natural England.</p> <p>For the avoidance of doubt, the Inspectorate expects the contaminant levels from grab samples to be analysed to inform</p>

ID	Ref	Other points	Inspectorate's comments
			the baseline contaminant levels across the site.
4.2.7	Para 248	Cefas Action Levels	The Scoping Report states that where high levels of contamination are identified (ie close to or above Cefas Action Level 2), consideration against Water Framework Directive Environmental Quality Standards will be undertaken. The Inspectorate understands that Cefas Action Levels between Level 1 and 2 generally trigger further investigation of the material proposed for disposal at sea, and contaminants in dredged material above chemical Action Level 2 (cAL2) are generally considered unsuitable for sea disposal ² . The ES should explain the approach taken in order to characterise the receiving environment for cALs, including how they relate to the assessment of likely significant effects and any measures necessary to mitigate any such effects.

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/485576/High_level_review_of_current_UK_action_level_guidance_report_1053.pdf

4.3 Benthic and Intertidal Ecology

(Scoping Report section 2.3)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.3.1	Para 270 & Table 2-8	Invasive species - construction and decommissioning	<p>Paragraph 270 of the Scoping Report states that the introduction of artificial hard substrates and the use of vessels during construction could encourage the influx of invasive species, the effect of which will be assessed during operation. It is unclear why the potential for the introduction of invasive species from construction vessels is not proposed to be assessed during construction stage, as construction vessels could carry and spread invasive species. As such, the Inspectorate considers the effects of invasive species should be assessed throughout the lifetime of the Proposed Development.</p> <p>The ES should identify and assess any likely significant effects associated with the potential introduction and spread of INNS, including the colonisation of hard substrates, in the marine environment from offshore works. Any measures to prevent or reduce these effects should be described in the ES.</p>
4.3.2	Para 273 & Table 2-8	Permanent habitat loss - construction	<p>The Scoping Report proposes to assess permanent habitat loss during operation and decommissioning only.</p> <p>A number of construction activities have the potential to result in a degree of habitat loss during construction. The Inspectorate considers that 'temporary habitat loss' should be scoped in for all phases of the Proposed Development as any interaction with the seabed may cause loss of habitat for some species. This should include as assessment of likely significant effects from cable protection. The consultation responses from the MMO and NE</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			support this position. The Inspectorate therefore does not agree that construction phase effects can be scoped out of the assessment.
4.3.3	Para 275 & Table 2-8	Underwater noise and vibration - operation	<p>The Scoping Report proposes to scope out underwater noise and vibration during the operational phase. This is on the basis that monitoring studies of operational turbines (North Hoyle, Scroby Sands, Kentish Flats and Barrow wind farms) have shown noise levels from wind farms to be only marginally above ambient noise levels and there is no evidence to suggest that this low level of noise and vibration has a significant effect on benthic ecology.</p> <p>The Inspectorate is concerned that the evidence presented within the Scoping Report to support the proposed scope of works may not be comparable to conditions likely to prevail for the SEP and DEP. The Inspectorate is also aware of current evidence gaps supporting the proposed approach in relation to vibration. The consultation responses from the MMO and NE both point to concerns in this regard. The Inspectorate does not, therefore, agree that sufficient evidence has been provided to clearly demonstrate there would be no likely significant effect. The Inspectorate considers that an assessment of the likely significant effects associated with these matters should be included in the ES. The Applicant is encouraged to make effort to agree the extent of any such assessment with relevant statutory consultation bodies including the MMO and NE.</p>
4.3.4	Para 276 & Table 2-8	Impact of electromagnetic fields (EMF) - construction, operation and decommissioning	The Scoping Report proposes to scope out the assessment of effects from EMF on benthic species as any impacts are likely to be highly localised and impacts from EMFs are strongly attenuated decreasing as an inverse square of distance from the cable. The Scoping Report references studies which show EMFs do not impact

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			benthic species and habitats. The Inspectorate considers that the evidence presented by in the Scoping Report is sufficient to demonstrate no likely significant effects in this regard and this matter can be scoped out of the ES.
4.3.5	Para 279 & Table 2-8	Transboundary impacts - construction, operation and decommissioning	The Scoping Report states that effects on Benthic and Intertidal Ecology are likely to be restricted to the Proposed Development boundary and the immediate surrounding area. Having regard to the location of the Proposed Development (a minimum of 100km from any international territory boundary), the nature of potential impacts to benthic and intertidal ecology, the Inspectorate considers that transboundary impacts are unlikely to result in significant effects and therefore can be scoped out of the ES.
4.3.6	Table 2-8	Re-mobilisation of contaminated sediments - operation	Table 2-8 of the Scoping Report proposes to scope out re-mobilisation of contaminated sediments during operation, however there is no text within the chapter to support this approach. For the reasons given above in Table 4.2 of this Opinion, and as the Scoping Report scopes in this matter for effects to fish and shellfish, the Inspectorate does not consider it has sufficient information to scope this matter out. Any likely significant effects should be assessed within the ES.
4.3.7	Table 2-8	Colonisation of foundations and cable protection - construction and decommissioning	The Inspectorate agrees that effects are unlikely to be significant during construction and that this matter can therefore be scoped out. However, any likely significant effects to colonisers of artificial substrates from decommissioning activities should be assessed.

ID	Ref	Other points	Inspectorate's comments
4.3.8	Para 257	<i>Sabellaria spinulosa</i>	The Scoping Report identifies the potential for <i>S. spinulosa</i> reef to be present in the application site. The ES should assess any impacts occurring during construction and also any potential impacts occurring during maintenance activities on reef that may colonise the cables during the operational phase.
4.3.9	Para 270	Temporary disturbance – construction	The ES should assess the significant effects associated with temporary habitat loss which could arise from construction activities that extend beyond the permanent footprint of the infrastructure, for example from construction vessels' extendible legs and anchors.
4.3.10	Para 271	Underwater noise	<p>The Inspectorate welcomes the intent to assess effects from underwater noise and vibration during the construction and decommissioning phases. The Applicant should make effort to agree the methodology with the relevant consultation bodies and it should be clearly explained within the ES.</p> <p>The baseline environment should be established and potential noise and vibration impacts assessed against this baseline. The criteria/thresholds used to determine the likely significance of effect should be clearly explained and justified, based on scientific publications, where available.</p> <p>The modelling software should be detailed within the ES; along with the project specific detail that it utilises.</p> <p>This comment equally applies to the assessment of underwater noise impacts to Fish and Shellfish Ecology and Marine Mammals.</p>
4.3.11	Para 273	Scour and scour protection - operation	The ES should assess any likely significant effects resulting from the loss of habitat due to scour, scour protection and altered

ID	Ref	Other points	Inspectorate's comments
			sedimentary processes.
4.3.12	Para 274	Habitat creation - operation	The Scoping Report states that there may be beneficial impacts such as habitat creation during operation. Any increase and/or change in biodiversity and species abundance as a result of the Proposed Development may not necessarily be beneficial if it is not representative of seabed/designated site features. This should be taken into account in the Applicant's assessment.
4.3.13	Para 278	Cumulative effects	The cumulative effects assessment should assess impacts on fisheries management areas that could potentially interact with the Proposed Development and where significant effects are likely to occur.

4.4 Fish and Shellfish Ecology

(Scoping Report section 2.4)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.4.1	Table 2-13	Physical disturbance and temporary loss of seabed habitat, spawning or nursery grounds during intrusive works - operation	The Inspectorate is content that intrusive works during operation are not likely to occur on a scale that would result in significant effects and this matter can be scoped out of the assessment.
4.4.2	Table 2-13	Permanent habitat loss - construction and decommissioning	<p>The Scoping Report proposes to assess permanent habitat loss during operation and decommissioning only.</p> <p>A number of construction activities have the potential to result in a degree of habitat loss during construction. The Inspectorate considers that 'temporary habitat loss' should be scoped in for all phases of the Proposed Development as any interaction with the seabed may cause loss of habitat for some species. This should include as assessment of likely significant effects from cable protection. The consultation responses from the MMO and NE support this position. The Inspectorate therefore does not agree that construction and decommissioning phase effects can be scoped out of the assessment.</p>
4.4.3	Table 2-13	Introduction of wind turbine foundations, scour protection and hard substrate - construction and decommissioning	During construction/decommissioning, turbines would be incrementally constructed/removed, with turbine foundations and scour protection also being installed/removed. As such, there is potential for effects to occur after installation of the first turbines (during construction) and until removal of the last (during decommissioning). Based on the information provided at this

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			stage, the Inspectorate is unable to rule out a significant effect and does not agree that this matter can be scoped out of the ES. The ES should explain the assumptions that have been used to inform the assessment.
4.4.4	Table 2-13	Underwater noise during foundation piling - operation and decommissioning	The Inspectorate is content that this matter is only relevant to the construction phase with no significant effects anticipated during operation and decommissioning and therefore can be scoped out of the assessment for operation and decommissioning.
4.4.5	Table 2-13	Impacts from EMF - construction and decommissioning	The Inspectorate is content that this matter is only relevant to the operational phase with no significant effects anticipated during operation and decommissioning and therefore can be scoped out of the assessment for construction and decommissioning.
4.4.6	Para 316	Site specific surveys	<p>The Scoping Report concludes that the existing data described in Table 2-14 is sufficient to undertake a robust assessment and therefore the Applicant does not propose to undertake further site specific surveys. Table 2-14 refers to characterisation surveys for the existing Dudgeon and Sheringham Shoal Offshore wind farm ES's (undertaken in 2008 and 2005 respectively) and post-construction surveys at Sheringham Shoal (2012 and 2013). The table also identifies numerous other sources, including MMO landings data.</p> <p>The Inspectorate agrees that new fish characterisation surveys are not necessary as the sources of data proposed to inform the desk-based assessment will be adequate.</p> <p>The Applicant must ensure that the ES presents a robust baseline upon which to base its assessment and should acknowledge any</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			limitations associated with the data sources. The Applicant should make effort to agree the baseline used in the assessment with the relevant consultation bodies.

ID	Ref	Other points	Inspectorate's comments
4.4.7	Section 2.4.1	Existing environment	<p>The Scoping Report identifies species of commercial importance and spawning and nursery areas. In accordance with NPS EN-3, the ES should also identify any feeding grounds, over-wintering areas for crustaceans and migration routes that could be significantly affected by the Proposed Development.</p> <p>The location of these areas, in relation to the Proposed Development, should be depicted in the ES using appropriate figures.</p>
4.4.8	Para 285	Cromer Shoal MCZ	<p>Cromer Shoal MCZ is predominantly designated for subtidal chalk habitat with a thin veneer of gravelly sand on top of the bedrock. The Inspectorate recommends the Applicant makes efforts to agree necessary pre-application surveys with NE in order to provide confidence that cable installation will be feasible within the site.</p>
4.4.9	Para 286	Benthic surveys	<p>The Applicant should ensure that benthic surveys are undertaken at appropriate times of year, taking into account weather conditions and the ability to collect satisfactory datasets.</p>
4.4.10	Para 300	Herring	<p>The most recently published International Herring Larvae Survey 2019 should be used to inform the baseline.</p> <p>The assessment of herring potential spawning habitat should be</p>

ID	Ref	Other points	Inspectorate's comments
			undertaken using the method described in MarineSpace (2013) and informed by Particle Size Analysis data from the geophysical and benthic sampling surveys. Any likely significant effects on these areas should be assessed in the ES.
4.4.11	Para 302	Potential impacts during construction	The potential for impacts from suspended sediment during cable and foundation installation works has been scoped into the assessment. The ES should assess the likely significant smothering effects this could have on fish populations, including spawning and nursery areas, present within the zone of influence.
4.4.12			The Inspectorate considers that increased underwater noise during construction has the potential to result in temporary threshold shift, recoverable injury and mortality to sensitive species. Significant effects associated with these impacts should be assessed in the ES. The Applicant is encouraged to make effort to discuss and agree the approach to this assessment with relevant consultation bodies including the MMO.
4.4.13	Para 302	Underwater noise	<p>The Scoping Report proposes to assess the effects of disturbance and displacement of acoustically sensitive fish species and spawning and nursery areas from underwater noise. The effects of mortality, injury, behavioural changes and auditory masking should also be assessed, where significant effects are likely.</p> <p>The Scoping Report provides little information on how the assessment will be undertaken. The assessment should explain how the characteristics of the receptors have been taken into account eg fish species and their capability to flee from noise sources. The Applicant should make efforts to agree the approach with the MMO.</p>

ID	Ref	Other points	Inspectorate's comments
4.4.14	n/a	Inter-relationships – fishing pressure	Reduced fishing pressure within the array has the potential to result in positive effects to commercially targeted species. The ES should assess any benefits associated with the reduced pressure, where significant effects are likely.
4.4.15	n/a	Sandeel	<p>The MMO notes that sandeel are of ecological importance as prey species for marine mammals and birds. It highlights that sand eel has a spatial dependency on a specific substrate and show site fidelity.</p> <p>The Inspectorate considers that the ES should include information to characterise the sandeel habitat in the array and export cable corridor and assess any likely significant effects to the species from the project alone and cumulatively with other plans or projects.</p>
4.4.16	n/a	Migratory fish species	The ES should assess any likely significant effects to migratory fish transiting the area eg to/from the Wash and River Humber.

4.5 Marine Mammal Ecology

(Scoping Report section 2.5)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.5.1	Para 350 & Table 2-15	Barrier effects from underwater noise - operation	The Scoping Report proposes to assess barrier effects from construction and decommissioning activities only. No justification has been provided for excluding an assessment in the operational stage and paragraph 741 acknowledges the potential for disturbance from underwater noises during operation and maintenance. In the absence of a suitable justification, the Inspectorate does not agree to scope out barrier effects from underwater noise during operation.
4.5.2	Paras 345 to 350 & Table 2-15	Barrier effects from physical presence of wind farm during construction, operation and decommissioning	The Scoping Report states that the DEP and SEP are not located on any known marine mammal migration routes and that data from operational wind farms show no evidence of exclusion of marine mammals. The Inspectorate agrees that barrier effects from the physical presence of the wind farm are unlikely to be significant and can therefore be scoped out of the ES.
4.5.3	Paras 351 to 355 & Table 2-15	EMF direct effects during construction, operation and decommissioning	The Inspectorate agrees that given the referenced literature in the Scoping Report, significant effects on marine mammals due to direct effects of EMF are unlikely. The Inspectorate is also content that indirect effects from changes to prey availability resulting from EMF during operation will be assessed, therefore, the Inspectorate agrees that direct effects from EMF can be scoped out of the ES.
4.5.4	Table 2-15	Underwater noise during unexploded ordnance (UXO)	The Inspectorate agrees that these matters are only relevant to the construction phase with no significant effects anticipated

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		clearance and piling - operation and decommissioning	during operation and decommissioning and therefore can be scoped out of the assessment for operation and decommissioning.
4.5.5	Table 2-15	Underwater noise from wind turbines - operation	The Inspectorate agrees that this matter is only relevant to the operational phase with no significant effects anticipated during operation and decommissioning and therefore can be scoped out of the assessment for construction and decommissioning.
4.5.6	Table 2-15	Cumulative barrier effects during construction, operation and decommissioning	The Scoping Report does not scope out barrier effects during operation from the project alone. Therefore, the Inspectorate considers that likely significant cumulative effects may also occur and should be assessed in the ES.
4.5.7	Para 361	Cumulative assessment – commercial fisheries	The Scoping Report states that the impact from commercial fisheries will not be addressed directly in the cumulative assessment as these are ongoing activities that are factored into the baseline conditions. The Inspectorate is content that the assessment of cumulative impacts from commercial fisheries will be informed with reference to ongoing activities in the baseline conditions. The Applicant is advised to have regard to the advice contained in the Inspectorate's Advice Note Seventeen when preparing their assessment of cumulative impacts.

ID	Ref	Other points	Inspectorate's comments
4.5.8	Section 2.5.1	Existing environment	The ES should provide details of likely feeding areas; known birthing areas/haul out sites; nursery grounds; and known migration or commuting routes.

ID	Ref	Other points	Inspectorate's comments
4.5.9	Para 325	Potential area of effects	Paragraph 325 of the Scoping Report states that all of the potential impacts screened in for further assessment will be related to the potential area of effect. The ES should clearly explain and justify the potential area of effect.
4.5.10	Para 325	Reference populations	The Applicant should make efforts to agree with NE the relevant reference populations to be used in the assessment.
4.5.11	Para 327	Impacts from underwater noise	The Scoping Report identifies a number of potential impacts from underwater noise on marine mammals, including physical injury, death, permanent/temporary auditory injury, disturbance and behavioural effects and barrier effects. The Scoping Report provides limited detail regarding the extent to which these impacts are anticipated to affect the marine mammals. The assessment should explain and assess the consequences of the indirect effects that would result from these impacts, for example the inability to forage.
4.5.12	Para 328	Underwater noise from UXO clearance	Paragraph 138 of the Scoping Report explains that consent for UXO removal will be sought in a future Marine Licence application, when geophysical survey data of suitable spatial resolution is available to identify and quantify UXO risk. The Inspectorate welcomes that despite this, the Scoping Report proposes to assess the potential impacts of underwater noise that could result from UXO clearance.
4.5.13	Para 337	Water quality	Where significant effects are likely to occur, the ES should assess the extent to which changes in water quality, including increases in suspended sediment, may affect foraging for relevant marine mammal species.

ID	Ref	Other points	Inspectorate's comments
4.5.14	Para 372	Species density estimates	The methodology used to determine species density estimates should be clearly explained within the ES.
4.5.15	Para 375	Guidance	The Applicant should ensure that guidance relied upon in the assessment is sufficiently up to date and robust for its purpose. The Inspectorate is aware that the Chartered Institute of Ecology and Environmental Management: Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal were updated in 2019. The ES should describe the guidance used and (where necessary) explain how it differs from more up to date guidance. This comment also applies to the Ecology and Ornithology aspect chapter.
4.5.16	n/a	European Protected Species (EPS) licences	The ES should set out in full the potential risk to EPS and confirm if any EPS licences will be required for example, for harbour porpoises and grey seals.

4.6 Offshore Ornithology

(Scoping Report section 2.6)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.6.1	Table 2-18	Collision risk with, and barrier effects due to the presence of, turbines – construction and decommissioning	<p>The Inspectorate has considered the advice on NE regarding this matter. During construction/decommissioning, turbines would be incrementally constructed/removed. As such, there is the potential for barrier effects to occur after the construction of the first turbines and until removal of the last. Based on the information provided at this stage, the Inspectorate is unable to rule out a significant effect and does not agree that this matter can be scoped out of the ES.</p> <p>For clarity, the Inspectorate agrees that effects of collision risk are unlikely to be significant during construction and decommissioning and can therefore be scoped out of the ES.</p>

ID	Ref	Other points	Inspectorate's comments
4.6.2	Para 379	Species for assessment	The ES should identify the nature conservation value of each species to be considered in the assessment, for example with reference to the Birds of Conservation Concern (BoCC) list, the Birds Directive and/or the International Union for Conservation of Nature (IUCN) list.
4.6.3	Para 380	Migratory species	The Applicant should describe the potential for the Proposed Development to interact with migratory species. NE has recommended the work of the Strategic Ornithological Support Services (SOSS) programme to identify which bird species are

ID	Ref	Other points	Inspectorate's comments
			likely to have a migratory pathway that encompass the Proposed Development. Any likely significant effects to these species should be assessed in the ES.
4.6.4	Para 384	Potential impacts during operation	The Scoping Report has referred to both disturbance and displacement. The ES should make a clear distinction between these two potential impacts.
4.6.5	Section 2.6.3.1	Data gathering	<p>It is unclear whether the aerial surveys referred to in Section 2.6.3.1 of the Scoping Report encompass the offshore cable corridors or just the turbine array areas.</p> <p>The ES should include a sufficiently robust baseline established for the offshore cable corridor in order to inform the assessment of disturbance, displacement and indirect effects that could arise in this area.</p> <p>NE has made some comments about discrepancies between the proposed survey methodology in the Scoping Report and a method statement it received separately. The Applicant is advised to make efforts to agree the approach to establishing the baseline with relevant consultation bodies.</p>
4.6.6	Para 395	Assessment methodology	The Applicant should make efforts to agree the confidence intervals and the definitions of the biological seasons to be applied to the assessment with relevant consultation bodies, including NE.
4.6.7	Para 396	Sandwich tern	The Scoping Report acknowledges collision risk to Sandwich tern will be a key issue as this led to refusal of consent for Docking Shoal. It states that investigation are already underway to review the work underpinning the Appropriate Assessment undertaken for Docking Shoal project, <i>"with a view to updating it using as-</i>

ID	Ref	Other points	Inspectorate's comments
			<p><i>built project parameters and more recent information collected from operational offshore wind farms and breeding colonies."</i></p> <p>The Inspectorate considers that any assessment of collision risk using 'as built' scenarios should also be accompanied with equivalent information for the 'as consented' and as 'as proposed' scenarios since there is no apparent legal mechanism in place which secures a reduction in turbine numbers from the consented, and proposed development. If such a mechanism is known or established, the ES should include a justification to support the approach taken in the assessment.</p>
4.6.8	Para 398	Collision risk modelling	<p>The Applicant is advised to make efforts to agree the collision risk model to be used and input parameters with relevant consultation bodies, including NE. The ES should clearly explain the relevant parameters, including avoidance rates.</p>
4.6.9	n/a	Assessment methodology	<p>Section 2.6.3.2 of the Scoping Report explains the methods that will be used to predict collision mortality. There is no detail as to how displacement would be predicted. The Inspectorate notes that normal practice is to present displacement matrices which consider a range of displacement and mortality rates. The Applicant should seek to agree the displacement and mortality rates that should be applied for individual species with relevant consultation bodies, including NE.</p> <p>The ES should assess the consequences of any mortality from collision risk or displacement, to a relevant population scale for example through population viability analysis.</p>
4.6.10	n/a	Underwater noise from UXO clearance, piling, the presence of	<p>Any likely significant effects to waterbirds that forage underwater should be assessed in the ES.</p>

ID	Ref	Other points	Inspectorate's comments
		vessels and operational wind turbines	

4.7 Commercial Fisheries

(Scoping Report section 2.7)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.7.1	Table 2-19	Increased collision risk	The Inspectorate is content that this matter can be scoped out from this aspect chapter on the basis that an assessment of collision risk will be included in the Shipping and Navigation aspect chapter.

ID	Ref	Other points	Inspectorate's comments
4.7.2	Table 2-19	Displacement of fishing activity	Exclusion of certain types of fishing may make an area more productive for other types of fishing. The ES should assess any likely significant effects on fish stocks of commercial interest that could result from the presence of the wind farm development and any safety or buffer zones.
4.7.3	Para 409	Safety zones	The ES should identify the size of safety zones to be implemented. Where the precise extents are unknown, a worst-case scenario should be assessed. This comment applies equally to Shipping and Navigation.
4.7.4	Para 416	Local fishing fleet	The Scoping Report does not define what will constitute the 'local fishing fleet'. The Applicant should ensure that the baseline covers a sufficiently broad spatial scope in order to identify any receptors that could be significantly affected by the Proposed Development.

4.8 Shipping and Navigation

(Scoping Report section 2.8)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.8.1	n/a	n/a	No matters have been proposed to be scoped out of the assessment.

ID	Ref	Other points	Inspectorate's comments
4.8.2	Figure 2.8.1	Shipping and navigation activities	Figure 2.8.1 is entitled 'Shipping and Navigation activities', however the key does not appear to relate to this aspect and it is not possible to understand the baseline from the figure and the key provided. The ES should include a figure which clearly identifies the existing activities to inform the baseline assessment.
4.8.3	Section 2.8.2.2	Modelling of potential operational impacts	<p>As the layout of the array will not be fixed at the point of the application, the ES should identify, justify and assess a worst case scenario in relation to impacts on navigation. The ES should set out how such a worst case scenario has been determined including any assumptions made.</p> <p>Paragraphs 431 and 434 of the Scoping Report state that the Navigational Risk Assessment modelling for operational collision and allision risk will assume a 10% increase in future traffic. The ES should provide justification in support of the use of the 10% future case increase.</p>
4.8.4	Para 450	Significance of effects	The Inspectorate notes the proposal to determine the 'overall severity of consequence' within the ES. The Applicant is reminded of the need within the EIA Regulations 2017 to assess the

			significance of effects in the ES. The ES should therefore clearly identify whether or not an effect is considered to be significant.
4.8.5	n/a	Interference with marine navigational equipment	The ES should identify and assess any likely significant effects to existing marine navigational equipment that could arise from the Proposed Development, for example from impacts to radar or compass interference.
4.8.6	n/a	Impacts from changes to physical processes	Any likely significant effects to marine vessels and navigation channels arising from scour and sediment transport should be assessed in the ES.
4.8.7	n/a	Adverse weather conditions	Consideration should be given to routing during adverse weather conditions and any likely significant effects to navigation during these times.

4.9 Offshore Archaeology and Cultural Heritage

(Scoping Report section 2.9)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.9.1	Section 2.9.22	Direct impacts - operation	Section 2.9.2.2 of the Scoping Report notes the potential for direct impacts to occur if archaeological material is present within the footprint of works required for routine maintenance activities which disturb the seabed. However, it notes that many areas would have been disturbed during construction therefore there would be limited scope for further impact. It is unclear whether the Applicant intends to assess this matter, particularly as Table 2-23 proposes to scope this in, however Table 6-1 proposes to scope this out. The Applicant should ensure that the ES assesses this matter where significant effects are likely.

ID	Ref	Other points	Inspectorate's comments
4.9.2	Section 2.9.2.1	Potential impacts during construction – unknown assets	The ES should describe how impacts to unknown assets that may be discovered during pre-construction or construction activity would be mitigated.
4.9.3	Table 2-25	Proposed baseline surveys	The Inspectorate recommends that the Applicant makes effort to agree the survey methodology with relevant consultation bodies including Historic England. The Applicant should produce a preliminary deposit model as part of the desk-based assessment to identify areas of archaeology potential and identify gaps in knowledge. The approach to developing this model should be discussed with Historic England

ID	Ref	Other points	Inspectorate's comments
			and other relevant consultation bodies in effort to agree the approach.
4.9.4	Figure 2.9.1	Seabed features	Figure 2.9.1 identifies four different seabed features, however does not provide an explanation as to what these are. The Applicant should ensure that any features identified on figures within the ES are clearly identifiable.
4.9.5	n/a	Archaeological Exclusions Zones	The ES should confirm whether any Archaeological Exclusion Zones would be required, and if so identify their anticipated location and explain the mechanism through which they would be secured.

4.10 Aviation and MoD

(Scoping Report section 2.10)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.10.1	Para 485	Flight safety	<p>The Scoping Report explains that Royal HaskoningDHV (2013) assessed that the distance to the nearest airfield to the Dudgeon Offshore Wind Farm was too great for an unacceptable hazard to flight safety to occur. It concludes that although the extension projects weren't assessed and are located closer to the airfield, it is reasonable to conclude that the same applies to the DEP and SEP sites. It explains that, aircraft taking-off and landing will be at an altitude significantly greater than the tallest infrastructure related to any phase of the Proposed Development.</p> <p>The Inspectorate agrees that significant effects to flight safety are unlikely and that this matter can be scoped out of the ES.</p>
4.10.2	Para 509 & Table 2-26	Effects on military training areas – construction, operation and decommissioning	<p>The Inspectorate agrees that effects on military training areas are only likely to be significant during the operational phase since they occur as a result of impacts to radar and therefore can be scoped out of the assessment for construction and decommissioning.</p> <p>With regards to the operational phase, paragraph 509 of the Scoping Report explains that potential effects are related to radar rather than physical obstruction as the training area flight level is between 5,000 and 17,500ft which is well above the proposed turbine height. The Inspectorate is content with this approach.</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.10.3	Para 514 & Table 2-26	Transboundary impacts - construction, operation and decommissioning	The Inspectorate agrees that given the distance of the Proposed Development from international boundaries, transboundary effects are unlikely to be significant and this matter can be scoped out of the ES.

ID	Ref	Other points	Inspectorate's comments
4.10.4	Para 516	Significance of effects	The Applicant is reminded of the need within the EIA Regulations 2017 to consider the significance of effects. The ES should therefore clearly identify whether or not an effect is considered to be significant.
4.10.5	n/a	Receptors	The ES should assess any significant effects associated with impacts to known Ministry of Defence (MOD) receptor locations. The Ministry of Defence (MOD) consultation response highlights that turbines on the western edge of the SEP would be detectable to the Primary Surveillance Radar at RAF Coningsby. It also note that part of the cable route corridor at the Weybourne landfall site occupies the eastern extent of the statutory technical safeguarding zone surrounding the RAF Weybourne transmitter site; and that the Bacton landfall site occupies the statutory safeguarding zone encompassing the Air Defence Radar at RRH Trimmingham.

4.11 Offshore Designated Sites

(Scoping Report section 2.11)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.11.1	Table 6-1	All potential impacts	<p>Table 6-2 proposes to scope out all potential impacts to offshore designated sites. The Inspectorate assumes that this is a typographic error within the summary table.</p> <p>For the avoidance of doubt, all of the attributes listed within the Supplementary Advice on Conservation Objectives for each qualifying feature of each designated site (where available) which could be significantly affected should be assessed.</p>

ID	Ref	Other points	Inspectorate's comments
4.11.2	Section 2.11.3	Approach to assessment	<p>Section 2.11.3 of the Scoping Report explains that the impact assessment will be supported by a Water Framework Directive assessment, a Marine Conservation Zone assessment and the Habitats Regulations Assessment.</p> <p>The Inspectorate considers that this proposed chapter of the ES should provide a summary of these assessments.</p>

4.12 Offshore Air Quality

(Scoping Report section 2.12)

ID	Ref	Applicant's proposed aspect to scope out	Inspectorate's comments
4.12.1	Section 2.12	Offshore air quality	<p>The Scoping Report notes that marine exhaust emissions are limited in line with the provisions of International Convention for the Prevention of Pollution from Ships (MARPOL). It considers that the number of vessels and the associated atmospheric emissions would be small in comparison to the total shipping activity in this region of the North Sea, and that there are no offshore human receptors sensitive to air quality, and marine-based ecological designations are unlikely to be sensitive to air pollution impacts or are dominated by other sources of inputs.</p> <p>On this basis, the Inspectorate agrees that effects are unlikely to be significant and that this aspect can be scoped out of the ES.</p>

4.13 Other Marine Users

(Scoping Report section 2.13)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.13.1	Paras 548, 557 & Table 2-31	Telecommunication cables and interconnectors	<p>Paragraph 548 of the Scoping Report notes that the Weybourne export cable corridor option may cross a disused Stratos telecommunications cable and that there are no other telecommunications cables or interconnectors in the vicinity of the Proposed Development. Paragraph 557 therefore proposes to scope this matter out of the ES. However, summary Table 2-31 proposes to scope in potential impacts on subsea cables and pipelines.</p> <p>Further consultation is proposed to identify potential sensitive receptors; therefore, the Inspectorate considers that the ES should assess potential impacts to telecommunication cables and interconnectors where significant effects are likely.</p>
4.13.2	Para 554 & Table 2-31	Potential interference with other wind farms – construction, operation and decommissioning	<p>Table 2-31 of the Scoping Report proposes to scope out potential interference with other wind farms. Paragraph 554 confirms that the extension areas do not overlap with any other wind farm infrastructure but explains that the proposed export cable corridor options are likely cross over the existing Dudgeon export cables and the Hornsea Project Three offshore wind farm (if consented).</p> <p>The Inspectorate welcomes that crossing agreements will be sought with cable owners and operators and appropriate installation and protection measures developed. However, the Scoping Report has not provided assurance that there would be no likely significant effects resulting from such crossings and as such the Inspectorate considers that any likely significant effects</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			should be assessed in the ES.
4.13.3	Para 558 & Table 2-31	Impacts on aggregate dredging activities – construction, operation and decommissioning	<p>On the basis that there is no overlap of known aggregate licence areas or disposal sites with the extension areas or export cable corridors, the Scoping Report scopes out an assessment of effects. However, section 2.13.3 of the Scoping Report proposes that the ES will identify aggregate sites and disposal sites in the baseline environment. It notes that further desk-based sources will be accessed to inform the characterisation of the existing environment, including Cefas disposal sites shapefiles and the Crown Estate marine minerals data. Should the desk based assessment identify any previously unknown disposal sites or aggregate sites, the ES should assess any likely significant effects to these receptors that could arise from the Proposed Development.</p> <p>The Inspectorate welcomes that any impacts from proposed dredger transit activities will be assessed as part of the Shipping and Navigation aspect.</p>
4.13.4	Para 559 & Table 2-31	Impacts on disposal sites – construction, operation and decommissioning	
4.13.5	Para 560 & Table 2-31	Detonation of UXO – construction, operation and decommissioning	<p>The Scoping Report states that detailed geophysical survey and investigations would identify any UXO and measures would be taken to mitigate risks of detonation. The Scoping Report considers this is a health and safety risk rather than being an environmental issue and notes that potential impacts to other receptors will be assessed where relevant (eg fish and marine mammal ecology).</p> <p>The EIA Regulations 2017 require an assessment of the likely significant effects to population and health, and resulting from the vulnerability of the Proposed Development to risks of major</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			accidents and/or disasters. The Inspectorate considers that any likely significant effects from UXO detonation should therefore be assessed in the ES.
4.13.6	Para 566 & Table 2-31	Transboundary impacts – construction, operation and decommissioning	The Inspectorate considers that given the location of the Proposed Development, significant transboundary effects to other marine users are unlikely and that this matter can be scoped out of the ES. This is on the basis that transboundary impacts on commercial fishing and shipping and navigation are assessed in their respective aspect chapters.

5. ASPECT BASED SCOPING TABLES - ONSHORE

5.1 Onshore Ground Conditions and Contamination

(Scoping Report section 3.1)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
5.1.1	Table 3-2 & Section 3.1.2.2	Impacts to human health - operation	Table 3-2 of the Scoping Report has scoped out all operational impacts on ground conditions and contamination, although the potential for operational impacts is identified in terms of resource extraction and Mineral Safeguarding Areas in section 3.1.2.2. Paragraph 585 explains that operation and maintenance activities would follow standard procedures to minimise potential impacts, although this does not identify what these procedures would be. Despite the limited justification provided, given the operational nature of the Proposed Development, the Inspectorate does not consider that significant effects to human health are likely during the operational stage and therefore agrees these matters can be scoped out of the ES.
5.1.2	Table 3-2 & Section 3.1.2.2	Impacts to controlled waters - operation	<p>With regard to operational impacts to controlled waters, the Water Resources and Flood Risk chapter to the Scoping Report acknowledges the potential for supply of contaminants during the operational phase (paragraph 604). Accordingly, the Inspectorate does not agree that operational impacts to controlled waters from the alterations to exposure pathways and the introduction of new contaminant sources can be scoped out of this aspect chapter.</p> <p>The Inspectorate does, however, agree that impacts to controlled waters due to the disturbance and mobilisation of contaminants from existing sources are unlikely to result in significant effects</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			and can be scoped out of the ES.
5.1.3	Table 3-2	Impacts to geologically significant areas and designated geological sites – operation	Paragraph 578 identifies geological Sites of Special Scientific Interest (SSSIs) at both landfall search areas and at the edge of the substation search area. No justification has been provided to demonstrate that there would be no significant effects to these sites during operation. As such, the Inspectorate is unable to agree that this matter can be scoped out at this stage. For the same reason, the Inspectorate also does not agree that cumulative impacts during operation can be scoped out.
5.1.4	Table 3-2	Impacts to human health - decommissioning	Paragraph 587 states that the decommissioning impacts would be similar in nature to those for construction, although the magnitude of effect is likely to be lower. There is no specific justification for not including impacts to human health or controlled waters during decommissioning within the scope of the assessment.
5.1.5	Table 3-2	Impacts to controlled waters - decommissioning	As such, the Planning Inspectorate cannot agree to removing these matters from the scope of the assessment.
5.1.6	Table 3-2	Transboundary impacts	Table 3-2 proposes to scope out transboundary impacts to ground conditions and contamination, although no justification is provided within the aspect chapter. Nevertheless, given the nature of the Proposed Development in this regard the Inspectorate agrees that significant transboundary effects are unlikely and therefore this matter can be scoped out of the ES.

ID	Ref	Other points	Inspectorate's comments
5.1.7	Para 574	Study Area	Paragraph 574 of the Scoping Report explains that the onshore ground conditions and contamination study area is the same as the onshore scoping area described in section 1.4 of the Scoping Report. The ES should justify the extent of the study areas used in the assessment in relation to the general 500m and 3km buffer zones around the cable corridor and onshore substation respectively used to define the onshore scoping area.
5.1.8	Paras 582 & 586	Mineral Safeguarding Areas	<p>Paragraphs 582 and 586 of the Scoping Report identify potential construction and operational impacts on Mineral Safeguarding Areas; these areas are not identified in Section 3.1.1 'Existing Environment'. The Inspectorate expects these to be identified and mapped in the ES.</p> <p>Table 3-2 does not present any impacts to these receptors. For the avoidance of doubt, the Inspectorate considers that any likely significant effects occurring as a result of resource extraction including in Mineral Safeguarding Areas should be assessed within the ES.</p>

5.2 Water Resources and Flood Risk

(Scoping Report section 3.2)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
5.2.1	Table 3-4	Direct disturbance of surface water bodies - operation	The Scoping Report does not justify the decision to scope out direct disturbance to surface water bodies during operation. However, the Inspectorate considers that given the operational nature of the Proposed Development, there are unlikely to be any significant effects from potential direct in this regard disturbance to surface water bodies once construction is complete. The Inspectorate agrees that this matter can be scoped out of the assessment in the ES.
5.2.2	Table 3-4	Transboundary impacts	Table 3-4 proposes to scope out transboundary impacts water resources and flood risk, although no justification is provided within the aspect chapter. Nevertheless, given the nature of the Proposed Development in this regard the Inspectorate agrees that significant transboundary effects are unlikely and therefore this matter can be scoped out of the ES.
5.2.3	Table 3-4	Increased sediment supply – operation	Table 3-4 of the Scoping Report scopes in an assessment of increased sediment supply during operation, however this is not considered as a potential impact in Section 3.2.2.2. Despite this inconsistency, the Inspectorate has given consideration to the operational nature of the Proposed Development, and does not consider that significant effects are likely to occur and considers this matter does not need to be assessed in the ES.

ID	Ref	Other points	Inspectorate's comments
5.2.4	Para 615	Supporting assessments	The Inspectorate welcomes the proposal for a Flood Risk Assessment (FRA) and a Water Framework Directive (WFD) Compliance Assessment; these assessments should form an appendix to the ES. The Applicant should make effort to discuss and agree the scope of these assessments with relevant consultation bodies including the Environment Agency (EA), the relevant internal drainage boards and the lead local flood authorities.
5.2.5	Para 603 & 604	Flood risk	The Inspectorate welcomes that changes to surface water runoff and flood risk from construction and operation of the Proposed Development will be assessed. The ES should also assess any likely significant effects resulting from potential flood events to the Proposed Development. The ES should demonstrate that consideration has been given to all potential sources of flooding.
5.2.6	N/A	Permits and licences	The Applicant is advised to consider the necessary responsibilities in relation to working over or crossing of main rivers including any permits or licences that may be required (for example Flood Risk Activity Permits under the Environmental Permitting regulations). References to any water resources licensing that may be required should be outlined as part of the ES, particularly where the residual effects reported in the ES are wholly or partly reliant on the grant of such licenses.

5.3 Land Use and Agriculture

(Scoping Report section 3.3)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
5.3.1	Table 3-7	Temporary closure/diversion of Public Rights of Way (PRoW)/cycle paths – operation Permanent closure/diversion of PROWs – construction and operation	The Inspectorate agrees with the Applicant's proposal to assess the impact of temporary closure/diversions of PRoW during construction and decommissioning and the impact of permanent closures/diversions during operation. The Planning Inspectorate recognises that this is scoped in as part of section 4.4 of the Scoping Report (tourism). Cross referencing should be made between these topics as appropriate.
5.3.2	Table 3-7	Impacts on existing utilities - operation	The Scoping Report does not justify the decision to scope out the impact on existing utilities during operation. However, the Inspectorate considers that given the operational nature of the Proposed Development, there are unlikely to be any significant effects on existing utilities once construction is complete. The Inspectorate agrees that this matter can be scoped out of the assessment.
5.3.3	Table 3-7	Permanent loss of land - construction and decommissioning	The Inspectorate is content that this matter is only relevant to the operational phase with no significant effects anticipated during construction and decommissioning and therefore can be scoped out of the assessment for construction and decommissioning.
5.3.4	Table 3-7	Soil heating - construction and decommissioning	The Inspectorate is content that this matter is only relevant to the operational phase with no significant effects anticipated during construction and decommissioning and therefore can be scoped out of the assessment for construction and decommissioning.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
5.3.5	Table 3-7	Transboundary impacts	Table 3-7 proposes to scope out transboundary impacts to land use and agriculture, although no clear justification is provided within the aspect chapter. Nevertheless, given the nature of the Proposed Development the Inspectorate agrees that significant transboundary effects are unlikely and therefore this matter can be scoped out of the ES.

ID	Ref	Other points	Inspectorate's comments
5.3.6	Para 634	Permanent loss of land	The ES should confirm the worst case scenario for permanent land take from the presence of link boxes along the cable route. Any likely significant effects should be assessed in the ES.
5.3.7	Para 639	Drainage	The ES should explain how land drainage would be reinstated following the completion of construction activities.

5.4 Ecology and Ornithology

(Scoping Report section 3.4)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
5.4.1	Para 664	Permanent loss or fragmentation of habitats - operation	Paragraph 664 of the Scoping Report states that " <i>Areas above the buried cable systems would return to their previous land use and would not represent permanent loss or fragment of habitats</i> ". Although not specifically identified in Table 3-11, the Inspectorate assumes the Applicant intends to scope this matter out of the assessment. However, in the absence of survey results confirming the locations of species population and of details of any vegetation clearance which could impact upon sensitive receptors, the Inspectorate considers there is insufficient information to scope out this matter at this stage.
5.4.2	Table 3-11	Spread of invasive non-native species - operation	The Scoping Report does not justify the decision to scope out the effects from non-invasive species during operation. However, given that there will be minimal activities (such as groundworks or plant movement) that may spread invasive species during the operational phase of the Proposed Development, the Inspectorate considers that effects are unlikely to be significant and that this matter can be scoped out of the ES.

ID	Ref	Other points	Inspectorate's comments
5.4.3	N/A	Stakeholder engagement	The Applicant is strongly encouraged to agree the methods used to collect baseline data, the likely effects of the project and to determine significance of effect with NE, representatives of the

ID	Ref	Other points	Inspectorate's comments
			local authorities and any other relevant stakeholders.
5.4.4	Section 3.4.1	Study area	The Scoping Report states that European designated sites within 20km of the scoping area and nationally designated sites within 3km will be considered. However it is not clear why these distances have been used. The ES should make it clear how the zone of influence for the project has been defined and how this has been used to identify the ecological receptors likely to be affected by the proposals.
5.4.5	Table 3-9	Proximity of designated sites	Table 3-9 of the Scoping Report specifies the distances of designated sites from the study area. The ES should define the distance of designated sites from the application site itself and assess any likely significant effects to all designated sites, including County Wildlife Sites and local sites.
5.4.6	Table 3-9	North Norfolk Coast SPA and Ramsar site	Page 153 of the Scoping Report states that North Norfolk Coast SPA is located 1.6km from the study area, whereas page 154 states that it is 'within the study area'. Similarly, the Ramsar is stated to be located 0.7km from the study area although it has the same area and footprint as the SPA. The Applicant should take care to ensure that the ES is accurate and consistent.
5.4.7	Table 3-12	Data sources	The Applicant is advised to contact local wildlife groups for local records which could be used to inform the baseline.
5.4.8	Section 3.4.3.1	Potential impacts during construction	Any likely significant effects associated with the potential for breakout of bentonite drilling fluid should be assessed in the ES.
5.4.9	Section 3.4.3.2	Potential impacts during operation	The ES should assess any likely significant effects to non-seabird migrants from the construction and operation of the offshore

ID	Ref	Other points	Inspectorate's comments
			elements of the Proposed Development.
5.4.10	N/A	Mitigation	The Applicant should ensure that all mitigation measures proposed within the ES are secured. The Inspectorate welcomes the proposal to include drafts of the Landscape and Ecological Management Strategy with the DCO application. The methods to be used to reinstate habitats lost or harmed during the construction of the Proposed Development should be set out in the ES.
5.4.11	n/a	Aquatic species	Whilst aquatic invertebrate surveys have been proposed in Table 3-13, it is unclear whether consideration has been given to potential impacts on other aquatic species such as fish, for example from watercourse crossings. Any likely significant effects to protected species should be assessed in the ES.
5.4.12	n/a	Biosecurity	In addition to the potential risk of invasive species during construction, any likely significant effects from the spread of disease carried by invasive species that endanger protected species should be assessed, with appropriate control measures set out in the ES.
5.4.13	n/a	EMF	Soil heating is acknowledged to have a potential impact on land use and agriculture during operation in section 3.3 of the Scoping Report. The Applicant should also assess any likely significant effects to wildlife through altered thermal and EMF from buried cables.

5.5 Onshore Archaeology and Cultural Heritage

(Scoping Report section 3.5)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
5.5.1	Para 693 & Table 3-14	Direct impacts to designated and non-designated heritage assets - operation	The Scoping Report explains that the buried cable would have limited potential to further impact the onshore archaeology and cultural heritage resource. The Inspectorate agrees that direct impacts from the onshore works (both the cable and the substation) would have occurred during the construction phase and that significant effects during operation are unlikely. Therefore, this matter can be scoped out of the assessment for operation impacts.

ID	Ref	Other points	Inspectorate's comments
5.5.2	Para 681	Study Area	Paragraph 681 of the Scoping Report explains that the onshore archaeological study area is the same as the onshore scoping area described in section 1.4 of the Scoping Report. The Inspectorate considers the defined areas to be relatively limited in terms of the archaeological assessment, particularly for potential consideration of indirect effects on setting. The Applicant should ensure that the study area around the cable route corridor and substation are sufficiently broad to give consideration to heritage assets that could be indirectly impacted.
5.5.3	Section 3.5.2.1	Potential impacts during construction	Any likely significant effects associated with the potential for breakout of bentonite drilling fluid should be assessed in the ES.

ID	Ref	Other points	Inspectorate's comments
5.5.4	Para 697	Cumulative effects	<p>Paragraph 697 of the Scoping Report states there are potential cumulative impacts from the original Dudgeon and Sheringham Shoal Offshore Wind Farm Projects. The Inspectorate notes that these windfarms are operational and therefore considers that they should be considered in the environmental baseline, rather than the cumulative effects assessment.</p>
5.5.5	Table 3-16	Proposed surveys	<p>Table 3-16 of the Scoping Report states that proposed baseline surveys will be undertaken on targeted areas of the application site and that any targeted trial trenching would be dependent on landowner access permissions being agreed. The Applicant should ensure that the baseline survey coverage is sufficient to inform the assessment of effects. The ES should explain and justify how the 'targeted areas' are selected. The Inspectorate recommends that areas critical for the delivery of the Proposed Development are included within the surveys eg the landfall site.</p> <p>The Inspectorate recommends that the Applicant seeks to agree the scope of surveys with relevant consultation bodies including Historic England and the relevant local planning authorities.</p>
5.5.6	Para 200	Written Scheme of Investigation (WSI)	<p>The Inspectorate welcomes references to the preparation of an outline WSI to be submitted as part of the ES to outline mitigation commitments.</p> <p>The Inspectorate recommends the Applicant prepare the WSI in conjunction with Historic England and the relevant local planning authorities and that agreements as to spatial and temporal coverage (as well as its delivery through DCO requirements) will be sought as part of the EPP.</p>

ID	Ref	Other points	Inspectorate's comments
5.5.7	N/A	Cross-reference	Appropriate cross reference should be made to the Landscape and Visual Impact Assessment (LVIA) section of the ES particularly in terms of viewpoint selection within the LVIA which should incorporate views from cultural heritage assets.

5.6 Air Quality

(Scoping Report section 3.6)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
5.6.1	Table 3-17	Operational impacts	<p>The Scoping Report proposes to scope out operational air quality impacts. It states that operation of the proposed built infrastructure would not give rise to any emissions to air and that maintenance activities would not lead to a significant change in vehicle flows within the study area. However, no vehicle movement figures have been provided in the Scoping Report to support this assertion but the Inspectorate anticipates the numbers of movements are unlikely to lead to significant effects.</p> <p>Nevertheless, the Planning Inspectorate considers that given the nature of the development and as there are no designations for poor air quality within the scoping area (ie Air Quality Management Areas), significant effects to onshore operational air quality are unlikely and that this matter can be scoped out of the assessment.</p>
5.6.2	Table 3-17	Transboundary impacts	<p>Table 3-17 proposes to scope out transboundary impacts to air quality, although no justification is provided within the aspect chapter. Nevertheless, given the nature of the Proposed Development the Inspectorate agrees that significant transboundary effects are unlikely to occur and therefore this matter can be scoped out of the ES.</p>

ID	Ref	Other points	Inspectorate's comments
5.6.3	Para 715	Study area	The Scoping Report states that designated ecological sites within 50m of construction works and 200m of the road network may be affected. The Inspectorate considers that a 200m buffer should also be applied to construction works.
5.6.4	Para 717	Construction phase emissions	The Scoping Report addresses the potential for increases in emissions from road vehicles generated during construction. The ES should also assess impacts from construction plant emissions, where significant effects are likely.
5.6.5	Para 724	No field surveys proposed to inform characterisation of existing environment	As no site specific air quality monitoring surveys are proposed, the ES should include a justification in support of the existing air quality monitoring data used to inform the assessment and its appropriateness to robustly inform the assessment.
5.6.6	Para 728	Air quality modelling	The ES should provide details of the dispersion modelling used to inform the assessment, including the relevant input parameters.
5.6.7	N/A	Stakeholder engagement	The Applicant should make effort to agree the methodology and choice of air quality receptors with relevant consultation bodies including the Environmental Health Officers of the local authorities and the EA as appropriate.
5.6.8	n/a	Statutory air quality limits	The Inspectorate considers that the ES should include an assessment of impacts associated with all relevant pollutants under the EU ambient air quality directive including increases in PM2.5 resulting from the Proposed Development where relevant. In determining significance, the assessment should take into account performance against relevant target/limit values.

5.7 Noise and Vibration

(Scoping Report section 3.7)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
5.7.1	Paras 744, 745 & Table 3-19	Vibration affecting human and ecological receptors - operation	<p>Paragraphs 744 and 745 of the Scoping Report state that there will be no significant sources of vibration associated with the operational substation due to use of vibration isolation pads/mounts to prevent transmission of ground borne vibration according to industry standards.</p> <p>The Scoping Report states that there will be negligible levels of ground-borne vibration, but no details of industry standards have been provided and at this stage the exact location of onshore infrastructure and proximity to receptors has not yet been determined. The Inspectorate therefore does not agree this can be scoped out at this stage.</p>
5.7.2	Table 3-19	Transboundary impacts	<p>Table 3-19 proposes to scope out transboundary impacts from increased noise and vibration, although no justification is provided within the aspect chapter. Nevertheless, given the nature of the Proposed Development the Inspectorate agrees that significant transboundary effects of this type are unlikely and therefore this matter can be scoped out of the ES.</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
5.7.3	Section 3.7.2.3	Offshore airborne noise – construction and decommissioning	<p>The Inspectorate agrees that given the distance between the proposed offshore wind farm arrays and the coast, construction activities in the array area are unlikely to result in significant effects to onshore receptors and that this matter can be scoped out of the ES.</p> <p>With regards to the installation of the export cable, no evidence has been provided to back up the assertion that “<i>noise generated by cable laying vessels is generally low and is unlikely to be significantly elevated above background levels</i>”. In the absence of a defined cable route, it is not possible to determine what receptors could be potentially affected from near-shore . The Inspectorate considers that any likely significant effects should be assessed.</p>
5.7.4	Section 3.7.2.3	Offshore airborne noise – construction and operation	<p>The Inspectorate agrees that given the distance between the proposed offshore wind farm arrays and the coast, operational turbine noise is unlikely to result in significant effects to onshore receptors and that this matter can be scoped out of the ES.</p>

ID	Ref	Other points	Inspectorate's comments
5.7.5	N/A	Description of noise generation	<p>The ES should provide a description of the noise generation aspects of the Proposed Development for both the construction and operation stage. Any distinctive tonal, impulsive or low frequency characteristics of the noise should be described.</p>

ID	Ref	Other points	Inspectorate's comments
5.7.6	Para 739	Piling	The Scoping Report acknowledges the potential for piling of foundations for the substation and infrastructure (including National Grid infrastructure, drilling rigs at the landfall, and along the onshore cable route). The ES should identify the locations of any necessary piling and assess the impacts. Where uncertainty exists, the assessment should be undertaken on the basis of the worst case scenario for noise.
5.7.7	n/a	Noise modelling	The ES should provide details of any noise modelling undertaken to inform the assessment, including the relevant input parameters.

5.8 Traffic and Transport

(Scoping Report section 3.8)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
5.8.1	Section 3.8.2.2 & Table 3-23	Operational impacts	<p>Paragraphs 780 and 781 of the Scoping Report, state that there would be low vehicle demand for operation and maintenance of the substation and cable route. Although the Scoping Report does not provide anticipated operational vehicle movements, taking into account the nature of the Proposed Development, the Inspectorate agrees that significant operational effects from traffic and transport are unlikely and that this matter can be scoped out of the assessment.</p>
5.8.2	Table 3-23	Onshore traffic associated with offshore construction – construction, operation and decommissioning	<p>Paragraph 779 states that the base port (or ports) for offshore construction is unlikely to be known until post-consent. It explains that facilities at the base port for offshore construction would be brought into operation by means of one or more planning applications or as port operations with permitted development rights. As such the Applicant proposes that this matter is scoped out.</p> <p>However, onshore traffic associated with offshore construction is an impact arising from the Proposed Development and the Inspectorate considers that the likely significant effects of the whole scheme should be assessed. Therefore, the transport of elements for the Proposed Development should be assessed where significant effects could occur.</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
5.8.3	Table 3-23	Transboundary impacts	Table 3-23 proposes to scope out transboundary impacts to traffic and transport, although no justification is provided within the aspect chapter. Nevertheless, given the nature of the Proposed Development the Inspectorate agrees that significant transboundary effects from traffic and transport are unlikely and therefore this matter can be scoped out of the ES.

ID	Ref	Other points	Inspectorate's comments
5.8.4	Paras 794 & 799	Proposed traffic demand	The assumptions made in deriving the traffic demand should be clearly explained within the ES and the maximum parameters should be applied in terms of the Rochdale envelope approach to the assessment.
5.8.5	Para 787	Cumulative effects	The Inspectorate agrees with the proposed approach to consultation with Norfolk County Council and Highways England to identify relevant other developments for inclusion in the cumulative impact assessment. The Inspectorate consider that the assessment should assess cumulative impacts with Hornsea Project Three, Norfolk Vanguard and Norfolk Boreas in respect of Oulton airfield and Cawston village.
5.8.6	Table 3-24	Magnitude of effect	Table 3-24 of the Scoping Report provides clear definitions for establishing magnitude of effect for pedestrian amenity and severance (using the categories of very low, low, medium and high). However, it states that the magnitude of effect for highway safety will be informed by a review of existing personal injury collision records and the forecast increase in traffic. Similarly, for driver delay, effect magnitude would be informed by projected

			traffic increases through sensitive junctions. The Inspectorate expects clear definitions of magnitude of effect to be provided within the ES and applied to the assessment of significance of effects.
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6. ASPECT BASED SCOPING TABLES – WIDER SCHEME ASPECTS

6.1 Seascape, Landscape and Visual

(Scoping Report section 4.1)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
6.1.1	Para 809	Impacts of the offshore works on the landscape character of the Norfolk and Suffolk Broads National Park (the Broads) – construction, operation and decommissioning	<p>The Broads is located approximately 34km from the SEP turbine array and 37km from the DEP turbine array it is closest point. Paragraph 809 of the Scoping Report proposes to scope out operational landscape impacts on the Broads on the basis of the distance of the turbine arrays and the low-lying landscape and screening from landforms and intervening vegetation.</p> <p>The largest turbines under consideration would have a tip height of 276m and section 4.4.2.2 of the Scoping Report states that these would be visible along a large stretch of the North Norfolk coast and inland. In the absence of a Zone of Theoretical Visibility (ZTV) to demonstrate that significant effects on the landscape character of the Broads is unlikely from construction, operation and decommissioning in the turbine areas, the Inspectorate cannot agree to scope this matter out.</p> <p>The Inspectorate also considers that the temporary effects to the Broads resulting from the presence of construction vessels close to the coast (ie from cable laying) should be assessed, where significant effects are likely.</p>
6.1.2	Para 818	Onshore cables - operation	Paragraph 818 of the Scoping Report states that potential impacts during operation relate principally to the presence of the onshore substation, since the onshore cables will be buried. The Scoping

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			<p>Report has not explicitly requested to scope this matter out, however for the avoidance of doubt, the Inspectorate considers visual effects from the onshore cable route (including the landfall) during operation are unlikely to be significant and can be scoped out of the assessment.</p> <p>However, the ES should assess any likely significant long-term landscape effects that could persist from landfall and cable construction activities; for example as a result of any vegetation clearance. This should take into account the effectiveness of any proposed mitigation measures.</p>

ID	Ref	Other points	Inspectorate's comments
6.1.3	Section 4.1.1.2	Visual receptors	<p>The Scoping Report broadly categorises potential visual receptors for which a detailed assessment of effects will be undertaken. The Inspectorate recommends that the Applicant makes efforts to agree representative receptors with relevant consultation bodies, including the local planning authorities. The locations of representative receptors should be depicted on a figure within the ES.</p>
6.1.4	Section 4.1.2.2	Potential impacts during operation	<p>The ES should assess any significant effects of the apparent joining together of the DEP and SEP with existing offshore wind farms (Dudgeon, Sheringham Shoal and Race Bank) when viewed from onshore.</p> <p>The ES should explain and assess any significant effects resulting from the use of taller turbines when viewed in conjunction with shorter turbines of existing offshore wind farms.</p>

ID	Ref	Other points	Inspectorate's comments
6.1.5	Para 825	Duration of effects	The ES should provide clear definitions of the terminology used in the assessment, for example 'short-term', 'long-term' and 'temporary'.
6.1.6	Table 4-2	Data sources	The Applicant's attention is drawn to the 'Seascape character area assessment: East Inshore and East Offshore marine plan areas' produced by the Marine Management Organisation, to inform the seascape element of the assessment.
6.1.7	n/a	ZTV	<p>As with other aspect chapters, the Scoping Report does not identify a study area for the assessment. Whilst the Onshore Archaeology and Cultural Heritage aspect chapter of the Scoping Report refers to the production of a ZTV by the LVIA consultations (see para 702), the Seascape, Landscape and Visual aspect chapter does not. The Inspectorate recommends that a ZTV is developed in order to inform the study area(s). The study area should be sufficiently broad to allow long distance views to be assessed, taking into account the low-lying topography of the area which allows broad views across large expanses of landscape and seascape.</p> <p>The ES should define the spatial extent of effects close to the coast i.e. at what distance from the coast they become indiscernible.</p> <p>The study areas should be clearly explained and justified within the ES.</p>
6.1.8	n/a	Photomontages	The Inspectorate recommends that the ES should make use of photomontages to illustrate the offshore turbines and substation(s), and the onshore substation. Views should be verified and visualisations should accord with industry standards.

ID	Ref	Other points	Inspectorate's comments
6.1.9	n/a	Vegetation clearance and subsequent planting/ reinstatement	<p>The ES should identify any vegetation clearance that will be required for the Proposed Development.</p> <p>The assessment of effects should take into account the time taken for any proposed reinstatement or mitigation planting to establish and mature.</p>
6.1.10	n/a	Lighting	<p>The ES should describe any lighting that would be in place throughout the lifetime of the Proposed Development and assess any likely significant effects from light pollution, including on local amenity receptors.</p>

6.2 Socio-Economics

(Scoping Report section 4.2)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
6.2.1	Table 4-3	Change in demographics due to in-migration – construction and decommissioning	There is no text within the Scoping Report to support an assessment of a change in demographics due to in-migration for just the operational phase. The Inspectorate considers that the highest potential for a change in demographics would likely be during construction, when the highest number of workers would be anticipated. Section 4.2.2.1 of the Scoping Report states that offshore workers are likely to be non-UK residents and that some onshore/landfall construction contractors could come from anywhere within the UK. As such, the Inspectorate considers that this matter should be assessed for all phases of the Proposed Development where significant effects are likely to occur.

ID	Ref	Other points	Inspectorate's comments
6.2.2	Sections 4.2.2.1 & 4.2.2.2	Employment	The ES should quantify the anticipated number of onshore and offshore employment opportunities generated for all phases of the Proposed Development.
6.2.3	Para 850	Assessment methodology	The Scoping Report notes that there is no set of recognised standards for assessing socio-economic impacts and that the ES will present a qualitative assessment. The methodology should be set out within the ES.

6.3 Health

(Scoping Report section 4.3)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
6.3.1	Table 4-4	Emissions to air (including dust) – operation	The Health aspect chapter of the Scoping Report has not provided justification to scope out these impacts from the operational phase. However, the Inspectorate has agreed to scope out these operational impacts from the relevant aspect assessments (see Tables 5.1 of this Opinion) and considers that these potential impacts are unlikely to result in significant effects. As such the Inspectorate agrees that their impact on health can also be scoped out of the ES.
6.3.2	Table 4-4	Exposure to contaminated soils – operation	
6.3.3	Table 4-4	Accidental/incidental chemical spills/leaks to surface/ground/coastal waters or soils – operation	The Health aspect chapter of the Scoping Report has not provided justification to scope out these impacts from the operational phase. However, paragraph 604 of the Water Resources and Flood Risk aspect chapter identifies the potential for accidental spillage or leakage of fuel oils or lubricants during operation, which could impact upon surface water quality and connected groundwaters. As such, the Inspectorate does not agree that subsequent impacts to health can be scoped out of the assessment.
6.3.4	Table 4-4	Transboundary impacts – construction, operation and decommissioning	The Scoping Report does not justify scoping out transboundary health impacts. However, given the nature of the Proposed Development, the Inspectorate does not consider that significant effects are likely; therefore it is agreed that this matter can be scoped out of the ES.

ID	Ref	Other points	Inspectorate's comments
6.3.5	Section 4.3.2.2 & Table 4-4	Operational impacts	<p>The operational matters scoped in to summary Table 4-4 do not accord with those detailed in paragraph 864; Table 4-4 generally identifies more potential impacts, although omits impacts from the generation of electromagnetic fields (EMFs). For the avoidance of doubt, the Inspectorate agrees that the matters scoped in to Table 4-4 are relevant to the Proposed Development and should therefore be assessed in the ES, alongside potential impacts of EMF.</p>
6.3.6	Section 4.4.3	Assessment methodology	<p>The Scoping Report notes that there are no statutory guidelines for assessing health impacts. Public Health England's consultation response provides advice for assessing potential impacts and references a number of guides; the Inspectorate advises the Applicant to consider these comments in developing its methodology.</p> <p>The assessment methodology employed should be clearly described within the ES.</p>

6.4 Tourism and Recreation

(Scoping Report section 4.4)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
6.4.1	Table 4-7	Restricted beach access – operation	The Inspectorate notes that there would be no beach access restrictions proposed during the operational phase, therefore it considers significant effects are unlikely and agrees this matter can be scoped out of the assessment.
6.4.2	Table 4-7	Deterioration to Bathing water/ Blue flag beaches and resulting effect on tourism and recreation – operation	The Scoping Report has not provided a justification for scoping this matter out of the assessment. However, given the nature of the Proposed Development when operational, the Inspectorate agrees that effects are unlikely to be significant. As such, this matter can be scoped out of the assessment.
6.4.3	Table 4-7	Loss of and disturbance to local tourism and recreation assets (onshore) – operation	The Scoping Report has not provided a justification for scoping these matters out of the assessment. The Inspectorate considers that significant effects to any recreation/tourism assets along the onshore cable route are unlikely to be significant during the operational phase.
6.4.4	Table 4-7	Disturbance to recreation/ tourism assets from noise, dust and visual impact (onshore) - operation	<p>However, the exact location of the onshore substation has not yet been determined and Figure 4.4.1 shows a number of tourist attractions within the search area for the substation. As such, the Inspectorate considers it would be premature to scope out the potential for loss of, disturbance to and visual impacts to tourism and recreation assets.</p> <p>However, the Inspectorate agrees that significant effects to these receptors from noise and dust during operation are unlikely and</p>

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			that these matters can be scoped out of the assessment.

ID	Ref	Other points	Inspectorate's comments
6.4.5	Para 881	Public Rights of Way (PRoW)	The ES should assess impacts to PRoW where significant effects are likely to occur this should include the several Country Trails and promoted circular walks that could be impacted during construction, in particular Marriott's Way. The Applicant should make effort to agree the approach to this assessment with relevant consultation bodies including Norfolk County Council.
6.4.6	Section 4.4.2.1	Restricted beach access	The potential for restricted beach access during construction has been scoped in to the Tourism and Recreation aspect chapter. The ES should also assess any likely significant effects that beach access restrictions could have on socio-economic matters, for example impacts to fishing and recreation.
6.4.7	Section 4.4.3	Assessment methodology	The Scoping Report notes that there is no statutory guidelines for assessing tourism and recreation impacts. The assessment methodology employed should be clearly described within the ES.
6.4.8	Section 4.4.3	Data gathering	Where there is a risk of a significant effect, the Applicant should undertake relevant site specific surveys to inform their tourism and recreation baseline, for example to inform the assessment of effects on beach users during the landfall works.

7. INFORMATION SOURCES

7.0.1 The 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 prospectus³
- Planning Inspectorate advice notes⁴:
 - 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: Process, Preliminary Environmental Information and Environmental Statements;
 - Advice Note Nine: Using the 'Rochdale Envelope';
 - Advice Note Ten: Habitat 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.

7.0.2 Applicants are also advised to review the list of information required to be submitted within an application for Development as set out in The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009.

³ The Planning Inspectorate's pre-application services for applicants. Available from: <https://infrastructure.planninginspectorate.gov.uk/application-process/pre-application-service-for-applicants/>

⁴ 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 BODIES⁵

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	NHS North Norfolk CCG
	NHS Norwich CCG
	NHS South Norfolk CCG
Natural England	Natural England
The Historic Buildings and Monuments Commission for England	Historic England – East of England
The relevant fire and rescue authority	Norfolk Fire and Rescue Service
The relevant police and crime commissioner	The Police and Crime Commissioner for Norfolk
The relevant parish council(s) or, where the application relates to land [in] Wales or Scotland, the relevant community council	Honingham Parish Council
	Weston Longville Parish Council
	Ringland Parish Council
	Morton on the Hill Parish Council
	Attlebridge Parish Council
	Wymondham Parish Council
	Marlingford and Colton Parish Council
	Shotesham Parish Council

⁵ Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (the 'APFP Regulations')

SCHEDULE 1 DESCRIPTION	ORGANISATION
	Easton Parish Council
	Barford & Wramplingham Parish Council
	East Carleton & Ketteringham Parish Council
	Newton Flotman Parish Council
	Swardeston Parish Council
	Keswick and Intwood Parish Council
	Stoke Holy Cross Parish Council
	Great Melton Parish Council
	Hethersett Parish Council
	Little Melton Parish Council
	Bawburgh Parish Council
	Caistor St. Edmund Parish Council
	Bixley Parish Council
	Mulbarton Parish Council
	Swainsthorpe Parish Council
	Skeyton Parish Council
	Little Barningham Parish Council
	Wickmere Parish Council
	Plumstead Parish Council
	Matlask Parish Council
	Baconsthorpe Parish Council
	Swanton Abbott Parish Council
	Westwick Parish Council
	Worstead Parish Council

SCHEDULE 1 DESCRIPTION	ORGANISATION
	Honing Parish Council
	Paston Parish Council
	Corpusty and Saxthorpe Parish Council
	Itteringham Parish Council
	North Walsham Town Council
	Witton Parish Council
	Bacton Parish Council
	Weybourne Parish Council
	Bodham Parish Council
	Beckham East & West Parish Council
	Upper Sheringham Parish Council
	Felthorpe Parish Council
	Marsham Parish Council
	Cawston Parish Council
	Heydon Parish Council
	Swannington with Alderford & Little Witchingham Parish Council
	Haveringland Parish Council
	Booton Parish Council
	Hevingham Parish Council
	Brampton Parish Council
	Oulton Parish Council
	Burgh and Tuttington Parish Council
	Brandiston Parish Council
The Environment Agency	The Environment Agency

SCHEDULE 1 DESCRIPTION	ORGANISATION
The Joint Nature Conservation Committee	Joint Nature Conservation Committee
The Maritime and Coastguard Agency	Maritime & Coastguard Agency
The Marine Management Organisation	Marine Management Organisation
The Civil Aviation Authority	Civil Aviation Authority
The Relevant Highways Authority	Norfolk County Council Highways Authority
The relevant strategic highways company	Highways England - East
The Coal Authority	The Coal Authority
The relevant internal drainage board	Norfolk Rivers Internal Drainage Board
	Waveney Lower Yare & Lothingland Internal Drainage Board
	Broads Internal Drainage Board
	East Hardling Internal Drainage Board
The Canal and River Trust	The Canal and River Trust
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

TABLE A2: RELEVANT STATUTORY UNDERTAKERS⁶

STATUTORY UNDERTAKER	ORGANISATION
The relevant Clinical Commissioning Group	NHS North Norfolk CCG
	NHS Norwich CCG
	NHS South Norfolk CCG
The National Health Service Commissioning Board	NHS England
The relevant NHS Trust	East of England Ambulance Service NHS Trust
Railways	Network Rail Infrastructure Ltd
	Highways England Historical Railways Estate
Canal Or Inland Navigation Authorities	The Canal and River Trust
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 England
The relevant Environment Agency	The Environment Agency
The relevant water and sewage undertaker	Anglian Water
The relevant public gas transporter	Cadent Gas Limited
	Energetics Gas Limited
	Energy Assets Pipelines Limited
	ES Pipelines Ltd

⁶ 'Statutory Undertaker' is defined in the APFP Regulations as having the same meaning as in Section 127 of the Planning Act 2008 (PA2008)

STATUTORY UNDERTAKER	ORGANISATION
	ESP Connections Ltd
	ESP Networks Ltd
	ESP Pipelines Ltd
	Fulcrum Pipelines Limited
	Harlaxton Gas Networks Limited
	GTC Pipelines Limited
	Independent Pipelines Limited
	Indigo Pipelines Limited
	Murphy Gas Networks limited
	Quadrant Pipelines Limited
	National Grid Gas Plc
	Scotland Gas Networks Plc
	Southern Gas Networks Plc
Electricity Generators With CPO Powers	Scira Offshore Energy Limited
	Dudgeon Offshore Wind Limited
	Vattenfall Wind Power Ltd
	DONG Energy Hornsea Project Three (UK) Limited
The relevant electricity distributor with CPO Powers	Eclipse Power Network Limited
	Energetics Electricity Limited
	Energy Assets Networks Limited
	Energy Assets Power Networks Limited
	ESP Electricity Limited
	Fulcrum Electricity Assets Limited
	Harlaxton Energy Networks Limited

STATUTORY UNDERTAKER	ORGANISATION
	Independent Power Networks Limited
	Leep Electricity Networks Limited
	Murphy Power Distribution Limited
	The Electricity Network Company Limited
	UK Power Distribution Limited
	Utility Assets Limited
	Vattenfall Networks Limited
	UK Power Networks Limited
The relevant electricity transmitter with CPO Powers	Blue Transmission Sheringham Shoal Limited
	National Grid Electricity Transmission Plc

TABLE A3: SECTION 43 CONSULTEES (FOR THE PURPOSES OF SECTION 42(1)(B))⁷

LOCAL AUTHORITY ⁸
South Norfolk Council
Norwich City Council
Broadland District Council
North Norfolk District Council
Great Yarmouth Borough Council
King's Lynn and West Norfolk Borough Council
Breckland Council
Mid Suffolk District Council

⁷ Sections 43 and 42(B) of the PA2008

⁸ As defined in Section 43(3) of the PA2008

LOCAL AUTHORITY⁸
East Suffolk Council
The Broads Authority
Norfolk County Council
Lincolnshire County Council
Cambridgeshire County Council
Suffolk County Council

TABLE A4: NON-PRESCRIBED CONSULTATION BODIES

ORGANISATION
Royal National Lifeboat Institution

APPENDIX 2: RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES

CONSULTATION BODIES WHO REPLIED BY THE STATUTORY DEADLINE:
Anglian Water
Baconsthorpe Parish Council
Barford and Wrampingham Parish Council
Blue Transmission Sheringham Shoal Limited
Borough Council of King's Lynn and West Norfolk
Brampton and Oxnead Parish Council
Brandiston Parish Council
Broadland District Council
The Canal & River Trust
Cawston Parish Council
The Coal Authority
Energy Assets
Environment Agency
ESP Utilities Group Limited
Great Melton Parish Council
Harlaxton Gas Networks Limited
Health and Safety Executive
Hethersett Parish Council
Historical Railways Estate (on behalf of Department for Transport)
Historic England
Itteringham Parish Council
Joint Nature Conservation Committee

Scoping Opinion for
Dudgeon and Sheringham Shoal
Offshore Wind Farm Extensions

Lincolnshire County Council
Marine Management Organisation
Maritime and Coastguard Agency
Ministry of Defence
Mulbarton Parish Council
NATS
Natural England
Norfolk County Council
North Norfolk District Council
Oulton Parish Council
Plumstead Parish Council
Public Health England
Ringland Parish Council
South Norfolk Council
Suffolk County Council
Swannington with Alderford & Little Witchingham Parish Council
Trinity House
Weybourne Parish Council



Hannah Terry
Senior EIA and Land Rights Advisor
The Planning Inspectorate
Major Casework Directorate
Temple Quay House
2 The Square
Bristol, BS1 6PN

Strategic Growth and Public Policy

Anglian Water Services Ltd

Thorpe Wood House,
Thorpe Wood,
Peterborough
PE3 6WT

Tel 07764989051
www.anglianwater.co.uk

Your ref EN010109-000007

6 November 2019

Dear Ms Terry,

**Dudgeon and Sheringham Shoal Offshore Windfarm extensions:
Environmental Statement Scoping Report**

Thank you for the opportunity to comment on the scoping report for the above project. Anglian Water is the water and 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 Equinor New Energy Ltd 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 water and wastewater services.
- **Impact of development on Anglian Water's assets** including water source(s) and the need for mitigation.
- Pre-construction surveys.



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

3.2 Water Resources and Flood Risk

Reference is made to principal risks of flooding from the above project being fluvial and surface water flooding during the construction and operational phases. 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 (FRA). 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 and related Flood Risk Assessment should include reference to the foul sewerage network and sewage treatment.

Reference is made to a number of groundwater Source Protection Zones within the onshore and substation study areas. Figure 3.2.4 of the Scoping report illustrates the cable route and the SPZs in the area. However it is not clear to what extent SPZs 1 and 2 are affected due to the scale of this figure.

We would ask that the Environmental Statement consider all potable water sources which could potentially be affected by the development (including but not limited to Matlaske and Caistor St Edmund sources) and the extent to which mitigation is required.

It is important to ensure that adequate safeguards are put in place to ensure that the proposed onshore cable route and associated infrastructure **do not adversely affect the continued operation of Anglian Water's existing assets**. Anglian Water would welcome further discussion with Equinor New Energy Ltd in relation to groundwater prior to submission of the application to the planning inspectorate.

The Scoping Report refers to the presence of existing utilities within the study area which potentially could be affected by the development. However Figure 3.3.2 does not refer to Anglian Water's existing infrastructure.

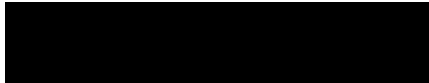
It is therefore suggested that the Environmental Statement should include reference to existing water supply and sewerage networks as well as the potable water sources referenced in the report.

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

A solid black rectangular box used to redact the signature of Stewart Patience.

Stewart Patience

Spatial Planning Manager

Terry, Hannah

From: Baconsthorpe Parish Council <baconsthorpeparishcouncil@gmail.com>
Sent: 06 November 2019 18:50
To: SADEP
Subject: Your Ref: EN010109-000007 Application by Equinor New Energy Ltd. for an Order granting development consent for the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions

Follow Up Flag: Follow up
Flag Status: Completed

Re: Scoping Report consultation

For the attention of Hannah Terry

Dear Ms. Terry

Please delete the last email I sent. I inadvertently named the incorrect parish council in my comment. I will repeat.

I am writing on behalf of Baconsthorpe Parish Council who are a consultee on the above application I would submit their comments as follows.

"Baconsthorpe Parish Council would prefer a ring main option to onshore cables to be investigated. They would prefer that an early proposal of the viability of this could be included in the Environmental Statement. They feel that although they may support wind generated energy, the disruption to the surrounding areas, heritage, wildlife and therefore tourism, of digging up the land for cables is disproportionate and the sensible way forward is for collaboration by all companies proposing further wind turbines, perhaps forming one company to fund investigation and work towards an off-shore ring main"

Apologies for previous error.

Yours sincerely

--

Sarah Hayden CiLCA
Parish Clerk
Baconsthorpe Parish Council
53 Cromer Road
Lower Gresham Norwich NR11 8RB
Tel: 01263 570223

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Terry, Hannah

From: Barford Parish Council <barfordpc@gmail.com>
Sent: 24 October 2019 13:02
To: SADEP
Cc: Barford Parish Council
Subject: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Follow Up Flag: Follow up
Flag Status: Flagged

Barford and Wrampingham Parish Council would like the following information to be provided within the Environmental Statement:

- The depth of the cabling routes, and impact on the subsoil and disruption this causes.
- Consideration to the environmental impact of potentially multiple cable lines on local agriculture and ancient woodlands
- Mitigation for ongoing drainage issues caused by disruption of river and valley beds
- Consideration and avoidance of the numerous archaeological sites within the area
- The Scoping Opinion circulated includes information about wildlife, however there is a lack of consideration about impact on people living in rural communities and isolated areas

The Council would request that no subsequent cables are planned until the first have been laid and environmental impact ascertained.

Kind regards -

Heidi Frary

--

Heidi Frary
Clerk to Barford & Wrampingham Parish Council
92 Norwich Road
Barnham Broom
Norwich
NR9 4BU
01603 759215
barfordpc@gmail.com

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Blue Transmission London Array Limited
The American Barns
Banbury Road
Lighthorne
Warwickshire
CV35 0AE

Hannah Terry
Senior EIA and Land Rights Advisor
Temple Quay House,
Temple Quay,
Bristol BS1 6PN.

David Lyon
Senior Asset Manager

david.lyon@frontierpower.biz
Direct tel: +44 (0) 1926 350074
Mobile: +44 (0) 7920573728

16 October 2019

Our Reference: BTLAL191016DL

Dear Hannah,

RE: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation.

Thank you for sending us a copy of the letter of 9 October 2019 regarding the application by Equinor New Energy Limited for an Order granting Development Consent for the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions.

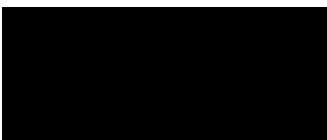
Blue Transmission Sheringham Shoal Limited (BTSSL) is the Offshore Transmission Owner for the offshore and onshore electricity cables connecting the existing Sheringham Shoal Windfarm to the National Grid onshore network. The 'Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions Scoping Report' prepared by Equinor identifies potential cable routes from the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions, some of which are close to the cables owned by BTSSL.

BTSSL is therefore an interested party in any aspect of the proposed development relating to the cable routes as any new cables may need to cross or be installed close to BTSS cables.

You request specifically in your letter of 9 October 2019 for us to inform the Planning Inspectorate of the information we consider should be provided in the Environmental Statement (ES). We are not familiar with the typical scope and contents of an ES but would be particularly interested in any comments on the cable route options that might inform us of the potential likelihood of different options being selected.

I hope that this is clear and look forward to further information on this application in due course.

Yours sincerely



David Lyon
Senior Asset Manager

Terry, Hannah

From: Helen Morris <helen.morris@west-norfolk.gov.uk>
Sent: 16 October 2019 15:53
To: SADEP
Subject: EN010109-000007 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping

Follow Up Flag: Follow up
Flag Status: Flagged

FAO: Hannah Terry

Dear Hannah

I can confirm we have no comments to make in relation to the request for a Scoping Opinion.

Kind regards

Helen

Helen Morris

Principal Planner (North Area)

Borough Council of King's Lynn and West Norfolk

Please note I only work on Mondays, Tuesdays, Wednesdays and Thursdays

T: 01553 616200 – Option 3
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https://www.west-norfolk.gov.uk/info/20147/about_our_website/470/disclaimer

Terry, Hannah

From: Brampton Oxnead PC <bopc@hotmail.co.uk>
Sent: 06 November 2019 19:16
To: SADEP
Cc: Mark Little
Subject: EN010109-000007 Dudgeon and Sheringham Shoal offshore Windfarm Extensions

Follow Up Flag: Follow up
Flag Status: Completed

Planning Act 2008 and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11

Application by Equinor New Energy Limited (the Applicant) for an Order granting Development Consent for the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions (the Proposed Development)

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

Dear Sir

Thank you for your letter of 9th October regarding the above application by Equinor. Having reviewed the papers and plans, it would appear that the villages of Brampton and Oxnead will be directly affected by the proposal and the Parish Council would like to raise the following concerns:

1. Our rural settlements have small, narrow, single track roads which are totally unsuitable for access to a large number of heavy works vehicles on a daily basis.
2. The constant digging up of productive arable land would cause severe disruption to local businesses, where the major income for our rural economy is from farming and tourism.
3. There has been a lack of consultation and information on the detail of the scheme such as the effect on public health of the Electro Magnetic Field from the underground cables.

On a more general note our concerns are as follows:

4. The current system of allocating onshore national grid connections ad hoc and piecemeal is no longer appropriate, and will lead to the unnecessary devastation of the very onshore environments we are trying to protect including AONB, SSSI, CWS and the Broads
5. One possible solution which we are exploring to minimise the onshore impact of infrastructure, is for several offshore wind farms to be connected offshore via a ring main
6. Upgrade the current infrastructure for Sheringham Shoal and Dudgeon which would require upgrading of capacity at substations.
7. There is an urgent need now for strategic central planning of the grid connection arrangements for this and all other wind farms in the North Sea.

We hope you take these concerns into consideration.

Kind regards

Margaret Claridge
Clerk for Brampton & Oxnead Parish Council

BRANDISTON PARISH MEETING
The Old School House
Brandiston
Norwich
Norfolk
NR10 4PJ

The Planning Inspectorate
Temple Quay House
Temple Quay
Bristol
BS1 6PN

1st November 2019

Dear Sirs

Sheringham and Dudgeon Extension Projects

We refer to your letter dated 9th October 2019 requesting that all Councils look at the scoping report for the above new project.

At a Parish meeting on 29th October the scoping report was discussed and apposed unanimously by all present.

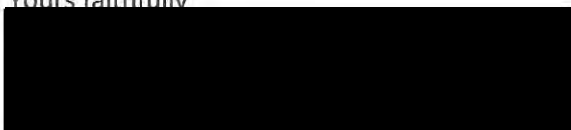
One of the options in the scoping report is to dig the proposed cable trench through the village of Brandiston. If the proposal is put into effect the disruption and environmental impact on the village will be immense.

It should be borne in mind that the Hornsea Project Three currently in planning and up for decision in March 2020 envisages another trench in the adjacent Parish of Booton within half a mile of Brandiston. The Sheringham and Dudgeon extension projects promise more disruption than the village can be expected to absorb – were the Hornsea project to be added to the disruption the result in the locality would be intolerable.

It appears that the developers are taking no opportunity to communicate with each other with a view to combining installations within a single civil engineering exercise. More importantly the developers and the relevant authorities are not it would seem discussing alternatives to cable trenches such as an offshore ring main (ORM).

We hope you will factor our views – which coincide with the views of the surrounding Parishes and those along the proposed routes of the cable trenches – when it comes to a decision.

Yours faithfully



G C S Gates
Parish Meeting Chairman

Hannah Terry
Senior EIA and Land Rights Advisor
Major Casework Directorate
Temple Quay House
2 The Square
Bristol
BS1 6PN

Your reference EN010109-000007
Our reference CPB/37515.002/CPB
Please ask for Chris Burgess
E-mail ChrisBurgess@hansells.co.uk
Date 5th November 2019

Dear Hannah

Re: Application by Equinor New Energy Limited (the Applicant) for an Order granting Development Consent for the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions (the Proposed Development): Scoping Consultation for ES

Managing Partner
Roger Holden

Senior Partner
Timothy Eagle
(Notary Public)

Partners
Kathryn Hirst
Sharon Lilley
(Non Lawyer)
Shelyna Mariscal
Rachel McGurk
Jane Stockings
(Notary Public)
Nick Sutherland

Consultants
Bryan Gillery
Phillip Norton
Susan Seal-Coon
Neil Stubbs
Mari Valgren

Associates
Chris Burgess
Jonathan Care
William Cason
Keely Dougan
Gemma Helsdon
Samantha Loombe
(Chartered Legal Executive)
Gemma Murrell

Staff Solicitors
Felicity Elsmore
(Senior Solicitor)

Chartered Legal
Executives
Yvonne Benner
Kayleigh Eke
Peter Howell
Tracy-Ann Moore

Financial Advisers
David Blowers
Mark Giles
Matthew Hall
Jason Mattless

We act for the Brandiston Parish Meeting in connection with the above matter. We wish to formally request on behalf of our client that the following matters are covered in the Environmental Statement in connection with the above matter:

1. A comprehensive methodology for the criteria to be used to assess the significance of the effects and impacts of the proposed trenching works and routing of cables through our client's administrative area on the matters set out in points 2- 6 below;
2. The short-term and long term likely effects and impacts on the archaeological heritage of the land through which the trenching and cabling will be routed;
3. The short-term and long term likely effects and impacts on the bio-diversity ecology and habitats of the land through which the trenching and cabling will be routed;
4. The short-term and long term likely effects and impacts on the water table and ground water and drainage of the land through which the trenching and cabling will be routed;
5. The short-term and long terms likely effects and impacts of the construction traffic on the surrounding road net-work and air pollution, noise and dust;
6. Whether the proposed works are likely to result in any land contamination issues for the land concerned in our client's administrative area;

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7. The proposals for the mitigation of the above issues.

Yours sincerely

Chris Burgess LARTPI
Hansells Solicitors

Terry, Hannah

From: Matthew Rooke <matthew.rooke@broadland.gov.uk>
Sent: 01 November 2019 11:53
To: SADEP
Subject: Ref. EN010109 Scoping opinion - Dudgeon & Sheringham Shoal Offshore Windfarm DCO.

Your ref: EN010109 - 000007

FAO Hannah Terry

In response to the e-mail from PINS requesting a Scoping consultation reply in respect of the above matter that I received dated 10 October, on behalf of the District Council I would like to request that the Environmental Statement includes the impacts of the proposals on the following topics:

Historic environment (including cultural heritage, listed building and archaeology);
Landscape (including important views, trees, historic hedgerows) and have regard to the District Council's Landscape Character Assessment SPD;
Biodiversity;
Geology & Soils;
Noise, Vibration and Air Quality;
People and Communities.

Regards

Matthew

Matthew Rooke
Planning Manager (West)
t. 01603 430571 e. matthew.rooke@broadland.gov.uk



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Terry, Hannah

From: Tessa Craig <Tessa.Craig@canalrivertrust.org.uk>
Sent: 23 October 2019 10:49
To: SADEP
Subject: RE: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Ifan,

Thank you for your consultation on the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions.

The Canal & River Trust (the Trust) is the guardian of 2000 miles of historic waterways across England and Wales. We are among the largest charities in the UK. Our vision is that "living waterways transform places and enrich lives". We are a prescribed consultee in the Nationally Significant Infrastructure Project (NSIP) process.

The Trust has reviewed the proposal, and on the basis that it appears unlikely to have any impact on our waterways, we have no comment to make at this time.

Kind regards,

Tessa Craig

Area Planner – Canal & River Trust

The Toll House, Little Venice, Delamere Terrace, London W2 6ND
07917616832

Please visit www.canalrivertrust.org.uk to find out more about the Canal & River Trust
Follow [@canalrivertrust](https://twitter.com/canalrivertrust) from the Canal & River Trust on Twitter.

From: SADEP <sadep@planninginspectorate.gov.uk>
Sent: 09 October 2019 15:41
To: National Planning Function <NationalPlanning.Function@canalrivertrust.org.uk>
Cc: Heather Clarke <Heather.Clarke@canalrivertrust.org.uk>
Subject: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Please see attached correspondence on the proposed Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions.

Please note the deadline for consultation responses is **06 November 2019**, and is a statutory requirement that cannot be extended.

Kind regards,

Ifan Gwilym

Cynghorydd AEA a Hawliau Tîr | EIA and Land Rights Advisor
Cyfarwyddiaeth Gwaith Achos Mawr | Major Casework Directorate
Yr Arolygiaeth Gynllunio | The Planning Inspectorate

Temple Quay House, Temple Quay, Bristol BS1 6PN

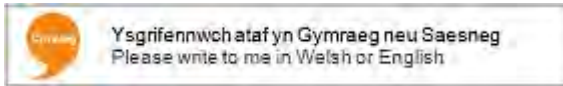
0303 444 5491

Ifan.Gwilym@planninginspectorate.gov.uk

infrastructure.planninginspectorate.gov.uk/ (Cynllunio Seilwaith Cenedlaethol // National Infrastructure Planning)

www.gov.uk/government/organisations/planning-inspectorate (Yr Arolygiaeth Gynllunio // The Planning Inspectorate)

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Cadw mewn cysylltiad

Cofrestrwch i dderbyn e-gylchlythyr Glandŵr Cymru <https://canalrivertrust.org.uk/newsletter>

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Mae'r e-bost hwn a'i atodiadau ar gyfer defnydd y derbynnydd bwriedig yn unig. Os nad chi yw derbynnydd bwriedig yr e-bost hwn a'i atodiadau, ni ddylech gymryd unrhyw gamau ar sail y cynnwys, ond yn hytrach dylech eu dileu heb eu copïo na'u hanfon ymlaen a rhoi gwybod i'r anfonwr eich bod wedi eu derbyn ar ddamwain. Mae unrhyw farn neu safbwynt a fynegir yn eiddo i'r awdur yn unig ac nid ydynt o reidrydd yn cynrychioli barn a safbwyntiau Glandŵr Cymru.

Mae Glandŵr Cymru yn gwmni cyfyngedig drwy warant a gofrestrwyd yng Nghymru a Lloegr gyda rhif cwmni 7807276 a rhif elusen gofrestredig 1146792. Swyddfa gofrestredig: First Floor North, Station House, 500 Elder Gate, Milton Keynes MK9 1BB.

CAWSTON PARISH COUNCIL RESPONSE TO DUDGEON AND SHERINGHAM SHOAL OFFSHORE WIND FARM EXTENSIONS – SCOPING REPORT

Thank you for your letter, ref EN10109-000007, dated 9th October regarding the Scoping Report on the proposed Dudgeon and Sheringham Shoal extensions.

Cawston Parish Council considers that the following information should be provided in the applicant's Environmental Statement:

A FULL ASSESSMENT OF ALTERNATIVE METHODS OF DELIVERY ONSHORE

Any application should include a full assessment of alternative methods of delivery onshore. In particular, an Offshore Ring Main would avoid the need for a series of cable corridors around Cawston. This has already been acknowledged by developer companies and National Grid; several local MPs have also taken it up with the Secretary of State.

This is the fourth such application currently in progress in North Norfolk, following Hornsea Three, Norfolk Vanguard and Norfolk Boreas. Their cable routes surround Cawston and, if approved, the effect of traffic and construction activities will have a severe impact on life in the village and surrounding area over many years.

FULL LONG TERM COSTINGS OF PUBLIC HEALTH AND WELFARE

We consider that any examination of issues around public health and welfare should be far more thorough than is set out in the Scoping Report and should include full long term costings.

A FULL ASSESSMENT OF THE CUMULATIVE IMPACT OF DUDGEON SHERINGHAM SHOAL EXTENSIONS WITH THE THREE OTHER WINDFARM CABLE ROUTE SCHEMES WHICH AFFECT NORTH NORFOLK INCLUDING THE CAWSTON AREA

All assessments of items affecting public health and well-being, including noise and vibration, air quality and traffic impacts, should include the cumulative impacts with the other schemes noted above.

A ROBUST PUBLIC CONSULTATION PROCESS

Cawston Parish Council would also like to emphasise the need for a robust public consultation process to be undertaken so the views and concerns of the local population are to be taken into consideration by the Planning Inspectorate.

So far, the degree and quality of public consultation by the Applicant has been deficient and should be carefully monitored throughout the process. For example, on 22nd October a Cawston Parish Councillors found out, quite by chance, that a "Public Consultation" meeting was to be held in Aylsham on 28th October.

As far as we can ascertain, the Applicant chose not to inform any of the Parish Councils in the affected area; we find this attitude extraordinary. This was the only such meeting offered before the PINS deadline.

Once challenged, an advertisement was placed in the local press a few days before the event. This was the only attempt at publicity. The estimated population of Norfolk is 898,400; the circulation of this newspaper is 24,308. **This is inadequate notice**; it does not give residents time to inform themselves and arrange to go to a meeting held on a working day just a few days later.

Cawston Parish Councillors tried to notify as many residents as we could, and a number were able to attend the meeting. Those who attended the meeting have passed on concerns at the lack of applicant's representatives available to consult, and misleading information.

A Cawston resident who managed to attend the public consultation expressed their concerns about the impact of deficiencies in the Scoping Report on the consultation process as follows :

“The maps in the Scoping Report are indistinct. Roads and properties are hard to identify. If you find a point of reference such as the edge of a village or town and estimate 500m from there, you could underestimate the width of the scoping corridor. This could lead people to misunderstand whether or not certain land or property is within the scoping corridor.

An example of misleading information is the width of the scoping Cable Corridor is stated as 500m in the Scoping Report but was quoted as 1000m by Equinor representatives on site.”

Cawston Parish Council echoes the resident's concern that *“if the Scoping Report contains such a basic error, is it reliable in other respects?”*

Cawston Parish Council

30th October 2019



The Coal
Authority

Resolving the **impacts** of mining

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG
T: 01623 637 119

E: planningconsultation@coal.gov.uk
www.gov.uk/coalauthority

Hannah Terry – Senior EIA and Land Rights Advisor
on behalf of the Secretary of State

Your ref: EN010109-000007

[By email: sadep@planninginspectorate.gov.uk]

11 October 2019

Dear Ms Terry

Planning Act 2008 and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11

Application by Equinor New Energy Limited (the Applicant) for an Order granting Development Consent for the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions (the Proposed Development)

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

Thank you for your notification dated 09 October 2019 regarding our views on the above project.

I have checked the site location plan (Figure 1.1.1) of the Scoping Report against our coal mining information. I can confirm that, whilst the proposed development site falls within the coalfield, it is located outside the defined Development High Risk Area; meaning that there are no recorded coal mining legacy hazards at shallow depth that could pose a risk to land stability.

Accordingly, there is no requirement for the applicant to consider coal mining legacy as part of their Environmental Impact Assessment.

Please do not hesitate to contact me should you require any further assistance with this matter.

Yours sincerely

D Roberts

Deb Roberts *M.Sc. MRTPI*

Planning Liaison Manager

Disclaimer

The above consultation response is provided by The Coal Authority as a Statutory Consultee and is based upon the latest available data on the date of the response, and electronic consultation records held by The Coal Authority since 1 April 2013. The comments made are also based upon only the information provided to The Coal Authority by the Local Planning Authority and/or has been published on the Council's website for consultation purposes in relation to this specific planning application. The views and conclusions contained in this response may be subject to review and amendment by The Coal Authority if additional or new data/information (such as a revised Coal Mining Risk Assessment) is provided by the Local Planning Authority or the Applicant for consultation purposes.

Terry, Hannah

From: Reece Wilson <ReeceWilson@EnergyAssets.co.uk>
Sent: 11 October 2019 12:17
To: SADEP
Subject: Dudgeon & Sheringham Shoal Offshore Wind Farm Extension

Follow Up Flag: Follow up
Flag Status: Flagged

Good Afternoon,

We received a letter sent out by you on the 09/10/2019 & we received this today (11/10/2019), regarding the above development. At this moment in time we have no further comments to add.

Thanks
Reece

Reece Wilson
Apprentice Utility Network Technical Administrator



Web: www.energyassets.co.uk



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Ms Hannah Terry - Senior EIA and Land Rights Advisor
The Planning Inspectorate
Major Casework Directorate
Temple Quay House
2 The Square Temple Quay
Bristol
BS1 6PN

Our ref: AE/2019/912462/01-L01
Your ref: EN010109
Date: 6 November 2019

Dear Ms Terry

DUDGEON AND SHERINGHAM SHOAL OFFSHORE WIND FARM EXTENSIONS ENVIRONMENTAL IMPACT SCOPING

Thank you for your EIA Scoping consultation letter dated 9 October and received in this office by email on the same date.

We have reviewed the Environmental Impact Assessment Scoping Report submitted and whilst it appears to be thorough in most respects our response highlights areas that we think should be given more focus and consideration.

Assessment of Impacts

Sensitivity and the Water Framework Directive

The report confirms that the industry standard approach of using matrices applying magnitude and sensitivity to calculate a category for the impact significance. We agree that this approach provides transparency and welcome the approach outlined at section 1.6.4.1 paragraphs 173 to 177. We note that the report does not propose, at this stage, to use Water Framework Directive status as an indicator of receptor sensitivity; we consider that WFD status is not a reliable indicator of sensitivity. We welcome the undertaking at paragraph 614 to work jointly with stakeholders, including the Environment Agency, to determine methodology for assessment and data collection.

Private Water Supplies

There are many dwellings in Norfolk that are not served by a public water supply. We would expect unlicensed water supplies to be assigned high sensitivity if it is the sole source of drinking water supply.

Geology and Ground Conditions

We are pleased that impacts detailed in Table 3.2 are scoped into the Assessment. If an area of land contamination is identified within the cable corridor which may affect principal and secondary aquifers a Preliminary Risk Assessment will need to be undertaken. Sufficient information should be provided the EIA to provide assurance that

the risks to the water environment are fully understood and can be addressed through appropriate measures including the need for site investigation, risk assessment and remediation. If significant contamination is found within the Application area, any proposals to undertake piling on site should be accompanied by a piling risk assessment.

We recommend that the cable corridor does not pass through areas designated as Source Protection Zone 1.

Ecology

Biodiversity Net Gain

The Scoping Report mentions Biodiversity Net Gain at paragraph 183 stating that it will be sought through the mitigation hierarchy. By this we assume that it proposes the sequential process of: avoid, minimise remediate and compensate. We consider that although linked, Biodiversity Net Gain is not embedded in mitigation but sits above it. As such it should not be addressed as a mitigation process but should be informed by the mitigation required. Whilst Biodiversity Net Gain is not mentioned in National Policy Statements EN1 and EN3 the requirement to 'pursue opportunities for securing measurable net gains for biodiversity' is specifically mentioned in the more recently updated NPPF (para 174). Most recently, the Environment Bill 2019 –2020 proposed a requirement for 10% biodiversity net gain and confirmed a mechanism for measuring this using the metric developed by Defra. Although these proposals are not currently enshrined in law, we consider that the principles proposed reflect the spirit of the NPPF requirements and recommend that this methodology is adopted.

Biosecurity

We welcome that the potential risk of spreading invasive species is recognised as a potential impact at paragraph 663. However, the potential to spread disease that endangers protected species should also be addressed. For example, the invasive signal crayfish can carry crayfish plague which threatens the native white-clawed crayfish. It is therefore, important that the need for biosecurity is addressed and control measures adopted. We would expect that a check, clean, dry regime is adopted together with appropriate disinfection using VIRKON.

Habitats and protected species

Whilst the River Wensum SAC is referenced as a designated site, consideration of the potential to support protected species at other water crossing points should be made.

Table 3.11

The report does not identify the potential of buried cables to impact on wildlife. The altered thermal and EMF (Electro-Magnetic Fields) should be considered making the case for scoping in, or out of the assessment. This is especially important where the cable will cross watercourses

Use of HDD

The report correctly identifies the potential impacts of the use of HDD on the environment. In general we welcome the use of HDD to construct a cable run below sensitive receptors, this is because in these settings it usually has fewer potential impacts than other trench methods. However, in some instances the potential impacts of a breakout are severe, such as the potential to smother gravels in a chalk river and remediation can be as harmful as the impact itself. Therefore, we expect the Applicant to fully research the incidences of breakout occurring in similar projects and to apply that learning in developing the most robust construction methodology and processes

possible.

I hope that you find this information useful.

Yours sincerely



Mrs Barbara Moss-Taylor
Planning Specialist

Direct dial 0208 474 8010

Direct fax 01473 271320

Direct e-mail barbara.moss-taylor@environment-agency.gov.uk

End

Terry, Hannah

From: ESP Utilities Group Ltd <donotreply@espug.com>
Sent: 29 October 2019 09:25
To: SADEP
Subject: Your Reference: EN010109 Our Reference: PE139861. Plant Not Affected Notice from ES Pipelines

Follow Up Flag: Follow up
Flag Status: Flagged

SADEP
The Planning Inspectorate

29 October 2019

Reference: EN010109

Dear Sir/Madam,

Thank you for your recent plant enquiry at: Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions.

I can confirm that ESP Utilities Group Ltd has no gas or electricity apparatus in the vicinity of this site address and will not be affected by your proposed works.

ESP Utilities Group Ltd are continually laying 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.

Important Notice

Please be advised that any enquiries for ESP Connections Ltd, formerly known as British Gas Connections Ltd, should be sent directly to us at the address shown above or alternatively you can email us at: PlantResponses@espug.com

Yours faithfully,

Plant Protection Team
ESP Utilities Group Ltd



Bluebird House
Mole Business Park
Leatherhead
KT22 7BA

☎ 01372 587500 📠 01372 377996

<http://www.espug.com>

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From: Chris Lacey <chrisdavidlacey@yahoo.com>
Sent: 23 October 2019 16:18
To: SADEP
Subject: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Sir/Madam,
Great Melton Parish Council strongly objects to the developer's potential proposal to route underground cabling through the village of Great Melton. The village has a small rural community with narrow roads and is completely unsuitable for construction traffic. Further, works will cause a disruption to the farms, agriculture and the livery yards. The Parish Council calls for an offshore ring main to be considered as an alternative.

Yours faithfully

Chris Lacey

Clerk to Great Melton Parish Council

Terry, Hannah

From: Karen Thorpe <karen@harlaxton.com>
Sent: 18 October 2019 15:51
To: SADEP
Subject: Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions

Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon,

Thank you for sending the relevant information and material regarding the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions – EN010109-000007.

Harlaxton Gas Networks Ltd. do have assets in the Norwich area and will gladly provide specific information when requested.

Kind Regards

Karen Thorpe

For any electricity power issues please call Harlaxton Energy Networks 0800 055 6288.

For any gas issues please call the National Gas Emergency Line 0800 111 999.

0844 800 1813
Toll Bar Road, Marston, Grantham, Lincs, NG32 2HT



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CEMHD Policy - Land Use Planning
NSIP Consultations
Building 1.2
Redgrave Court
Merton Road
Bootle, Merseyside
L20 7HS

FAO Ifan Gwilym
The Planning Inspectorate
Major Casework Directorate
Temple Quay House
2 The Square
Bristol
BS1 6PN

Your Ref: EN010109
Our Ref: 4.2.1.6653

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

05 November 2019

Dear Ifan

**PROPOSED DUDGEON AND SHERINGHAM SHOAL OFFSHORE WIND FARM EXTENSIONS
PROPOSAL BY EQUINOR NEW ENERGY LIMITED (the applicant)
INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017 (as
amended) – Regulations 10 and 11**

Thank you for your letter of 9 October 2019 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.

HSE's land use planning advice

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

According to HSE's records there are 10 major accident hazard sites and 14 major accident hazard pipelines within the proposed DCO application boundary of the proposed Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions for this Nationally Significant Infrastructure Project; and are listed below:

Major Accident Sites

- 1) HSE reference H0124 Bacton Gas Terminal; Prencu UK Ltd.
- 2) HSE reference H0176 Bacton Gas Terminal; National Grid PLC.
- 3) HSE reference H0467 Bacton Gas Terminal; Eni Hewett Ltd.
- 4) HSE reference H0501 Bacton Gas Terminal; Shell UK.
- 5) HSE reference H3535 Bacton Gas Terminal; Interconnector UK Ltd.
- 6) HSE reference H4432 Bacton Gas Terminal; Bacton Company Storage Ltd.
- 7) HSE reference H0230 British pipeline Agency North Walsham.
- 8) HSE reference H0776 The old airfield; Bernard Matthews Foods Ltd.
- 9) HSE reference H0648 Hook 2 sisters Ltd.
- 10) HSE reference H4003 Hook 2 sisters Ltd.

Major Accident Pipelines

- 1) HSE reference 7462; Transco Reference 1720; operated by National Grid PLC; 4 feeder Bacton / Great Ryburgh
- 2) HSE reference 7462; Transco Reference 1712; operated by Cadent Gas; Bacton / Trunch
- 3) HSE reference 7455; Transco Reference 1713; operated by Cadent Gas; Bacton / Walsham

- 4) HSE reference 7456; Transco Reference 1714; operated by Cadent Gas; Bacton / Hanworth
- 5) HSE reference 12238; Transco Reference 2739; operated by National Grid PLC; 27 feeder Bacton / Kings Lynn
- 6) HSE reference 8371; Transco Reference 2648; operated by National Grid PLC; 2 feeder Bacton / Kings Comp
- 7) HSE reference 7450; Transco Reference 1709; operated by National Grid PLC; 3 feeder Bacton / Rouldham Heath
- 8) HSE reference 7446; Transco Reference 1705; operated by National Grid PLC; 5 feeder Bacton / Yelverton
- 9) HSE reference 7584; operated by RWE n Power PLC; Bacton to Great Yarmouth Gas Pipeline
- 10) HSE reference 7447; Transco Reference 1706; operated by National Grid PLC; 5 feeder Yelverton / Diss Comp Tee
- 11) HSE reference 7427; Transco Reference 1686; operated by Cadent Gas; Bowthorpe Drayton
- 12) HSE reference 7425; Transco Reference 1684; operated by Cadent Gas; Bowthorpe supply
- 13) HSE reference 7385; Transco Reference 1644; operated by Cadent Gas; Yelverton / East Carleton
- 14) HSE reference 7447; Transco Reference 1676; operated by Cadent Gas; Norwich / Loddon

This is based on the current configuration as illustrated in the figures section of the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions Scoping Report October 2019, Drawing reference: PB8164-RHD-ZZ-XX-DR-Z-0003 Titled scoping study areas.

HSE's Land Use Planning advice would be dependent on the location of areas where people may be present. When we are consulted by the Applicant with further information under Section 42 of the Planning Act 2008, we can provide full advice.

Hazardous Substance Consent

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 as amended.

Hazardous Substances Consent would be required to store or use any of the Named Hazardous Substances or Categories of Substances at or above the controlled quantities set out in Schedule 1 of these Regulations; substances may be present in batteries.

Further information on HSC should be sought from the relevant Hazardous Substances Authority.

Consideration of risk assessments

Regulation 5(4) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires the assessment of significant effects to include, where relevant, the expected significant effects arising from the proposed development's vulnerability to major accidents. HSE's role on NSIPs is summarised in the following Advice Note 11 An Annex on the Planning Inspectorate's website - [Annex G – The Health and Safety Executive](#). This document includes consideration of risk assessments on page 3.

Explosives sites

HSE has no comment to make as there are no licensed explosives sites in the vicinity.

Electrical Safety

No comment from a planning perspective.

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

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

Yours sincerely

pp Linda Cowen

Dave Adams
CEMHD4 Policy

Terry, Hannah

From: hethersettpc <hethersett.pc@tiscali.co.uk>
Sent: 06 November 2019 07:36
To: SADEP
Subject: Re: Your Reference EN010109-000007 - Equinor New Energy Limited

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Sir/Madam

I refer to your letter of the 9th October 2019 which has been discussed by members of the Parish Council.

Hethersett Parish Council have the following comment to make on the likely impact of the planning proposals to the parish:

- The proposed project will see the Parish of Hethersett bordered by 2 massive trenches. The village has already undergone a period of rapid expansion over recent years with residents being subjected to severe disruption as a result of the housing development. The construction involved in the proposed extension project will have a further impact on residents due to the sheer density of HGV construction traffic and abnormal loads passing through the village together with road closures, night working etc.

Yours faithfully

Mrs Annette Palmer
Clerk to Hethersett Parish Council
Village Hall
Back Lane
Hethersett
Norwich
NR9 3JJ

Tel: 01603 810915



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Terry, Hannah

From: Davies, Robert <Robert.Davies@highwaysengland.co.uk>
Sent: 10 October 2019 14:41
To: SADEP
Cc: Irwin, Matthew
Subject: RE: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Sir/Madam

I confirm that our only observation upon the above is to notify you of the existence of a former railway structure within the onshore scoping area.

The bridge in question is located at OS co-ordinates 612673,327987 (OS National Grid reference TG126279) and carries an unclassified public road over a former railway formation. The bridge is managed by our team on behalf of the Secretary of State for Transport and our reference for the structure is Bridge No. is PMY2/119.

Kind regards

Rob Davies

Robert Davies
Historical Railways Estate (on behalf of Department for Transport)

Highways England | 37 Tanner Row | York | Y01 6WP

General Office Tel : 01904 621924

Mobile Tel: + 44 (0) 7740418158

If you would like to make a request under the Freedom of information Act, please contact info@highwaysengland.co.uk

Web: <http://www.highwaysengland.co.uk>

From: SADEP [mailto:sadep@planninginspectorate.gov.uk]
Sent: 09 October 2019 15:44
To: SADEP <sadep@planninginspectorate.gov.uk>
Subject: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Dear Sir/Madam

Please see attached correspondence on the proposed Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions.

Please note the deadline for consultation responses is **06 November 2019**, and is a statutory requirement that cannot be extended.

Kind regards,

Ifan Gwilym

Cynghorydd AEA a Hawliau Tîr | EIA and Land Rights Advisor
Cyfarwyddiaeth Gwaith Achos Mawr | Major Casework Directorate
Yr Arolygiaeth Gynllunio | The Planning Inspectorate

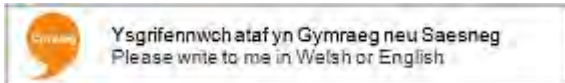
Temple Quay House, Temple Quay, Bristol BS1 6PN
0303 444 5491

Ifan.Gwilym@planninginspectorate.gov.uk

infrastructure.planninginspectorate.gov.uk/ (Cynllunio Seilwaith Cenedlaethol // National Infrastructure Planning)

www.gov.uk/government/organisations/planning-inspectorate (Yr Arolygiaeth Gynllunio // The Planning Inspectorate)

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Historic England

East of England

Ms Hannah Terry
The Planning Inspectorate
Major Casework Directorate
Temple Quay House
2 The Square
BRISTOL
BS1 6PN

Direct Dial: 01223 582710

Our ref: PL00625881

6 November 2019

Dear Ms Terry

Planning Act 2008 and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) - Regulations 10 and 11

Application by Equinor New Energy Limited (the Applicant) for an Order granting Development Consent for the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions (the Proposed Development)

Scoping consultation and notification

Ref: EN010109-000007

Thank you for your letter of 09th October 2019 notifying Historic England that a scoping opinion is required for the above development. Your letter was accompanied by the applicants Scoping Report (ref: EQUINOR PB8164-RHD-ZZ-XX-RP-Z-0003).

The historic environment is a finite and non-renewable environmental resource which includes designated heritage assets, non-designated archaeology and built heritage, historic landscapes and unidentified sites of historic and/or archaeological interest. It is a rich and diverse part of England's cultural heritage and makes a valuable contribution to our cultural, social and economic life. Historic England is the government advisor on the historic environment and our remit includes both on and off-shore environments.

The proposal is for extensions to the Offshore Wind Farms of Sheringham (SEP) and Dudgeon (DEP), with a view to extending the capacity of the two developments and will require the erection of new offshore wind turbines, and new offshore and onshore infrastructure, such as export cables, new landfall sites and new substations. It is noted that the exact locations of the proposed infrastructure has not yet been decided, and that a number of routes and landfall sites are currently being considered. We note that a single application for a Development Consent Order will be submitted, but that separate Deemed Marine Licences will be sought for each of the new array areas.



Historic England, Brooklands, 24 Brooklands Avenue, Cambridge CB2 8BU
Telephone 01223 58 2749 HistoricEngland.org.uk

Please note that Historic England operates an access to information policy.

Correspondence or information which you send us may therefore become publicly available.



Historic England Advice

We acknowledge and confirm our view is that the impact upon the historic environment is likely to be significant in EIA terms and agree that archaeology and cultural heritage (both on and offshore) would need to be included in the scope of the Environmental Statement. We broadly support the approach taken by the applicant at the scoping stage in relation to setting out an approach to determine the likely impact of the project upon the historic environment.

We note however under Section 1.6.2 (Stakeholder consultation) that the intention to establish an Evidence Plan Process (EPP) is discussed. Given our statutory remit in relation to the Historic Environment we consider that Historic England would need to be included in discussions regarding the formulation of any EPP and would need to be included as members of the Steering Group. We therefore note with concern that the Steering Group has already met (July 2019). We also note the mention made regarding 'key stakeholders' (paragraph 167) and consider it essential that as we are a statutory body that equal attention and effort is given to engaging with Historic England for both on and off-shore environments, and for both proposed extension projects. This would enable the applicant to fully and appropriately realise the programme of activities set out in Sections 1.6.3 (Characterisation of the existing environment), 1.6.4 (Assessment of impacts) and 1.6.4.7 (Cumulative impacts).

Please find specific comments below in relation to other aspects of the report

Section 1

We are pleased to see that the landfall sites are being considered in terms of their archaeological impacts at this stage (Section 1.4.3, paragraph 61), but it should be noted that there is a potential for internationally significant archaeological remains, associated with the Cromer Forest bed Formation (CF-bF), to be found along this coast such as the internationally significant archaeological finds and discoveries at Happisburgh and West Runton.

It is noted that some aspects of the development have not yet been decided upon, such as the type of turbine foundations that will be used (Section 1.5.4.5, paragraph 101). All the options suggested (see paragraph 101) have the potential to impact on the historic environment however, of all the possible foundation designs, gravity bases are the type that would require the most seabed preparation and most potential for adverse impact on seabed heritage

It is stated in Section 1.5.5.6 that cables will be installed either by open cut trenching or horizontal directional drilling (HDD). HDD requires the use of a drilling fluid (Section 1.5.6.5, paragraph 152), such as bentonite. It should be noted that there is the potential for the bentonite slurry used in the HDD process to 'breakout'. If this was to occur adjacent to areas of archaeology, the bentonite could spread into archaeological deposits, features and materials. The potential harm that this would cause to any archaeology deposits, including physical damage, changes to the burial and preservation environments needs to be considered as part of the impact



assessment.

Section 1.5.5.5 and 1.5.5.7 discuss the export cables that will be installed as part of the proposed developments. We note that cables can emit heat, which in turn can impact on certain archaeological deposits. For example, heat could dry out waterlogged organic deposits such as peat and any archaeological or palaeoenvironmental remains that may be preserved within the deposits. This impact also needs to be considered.

Some form of seabed preparation may be required as part of the construction programme, which may include seabed levelling, ground reinforcement, and the removal of debris (Section 1.5.6.2, paragraph 137). These activities may directly impact on buried or near-surface archaeological remains. In addition, the action of jackup legs or anchors of vessels used as part of the ground preparation works could impact on archaeological remains (Section 1.5.6.3, paragraph 143). Preparation works will also include survey work to identify and locate any unexploded ordnances (UXO) within the proposed development area. It is also important to note that detailed survey works carried out as part of the UXO survey work can also be used to identify and locate remains of archaeological interest, and results of the UXO survey would need to be considered in light of their archaeological and historical potential.

Section 2.1: Marine Geology, Oceanography and Physical Processes

This section discusses the assessments of the marine geology, oceanography and physical processes. We would recommend that this section includes references to how changes to these factors could impact on the historic environment by exposing or covering heritage assets. For example, it is stated in Section 2.1.2.2 that there is the potential for the development to increase sea bed scour in areas, which could result in the exposure, degradation or loss of vulnerable assets. We note that the impact of changes to the hydrodynamic and sedimentary process regimes on the historic environment are discussed in Section 2.9.2, however we would recommend that heritage is also referenced within this section of the ES.

Section 2.9: Offshore Archaeology and Cultural Heritage

Section 2.9.1 provides a summary of the existing knowledge including information from the Historic Seascape Character maps and previous developments. We are aware that the assessments carried out as part of the Dudgeon offshore wind farm identified significant sedimentary sequences that permitted partial palaeoenvironmental reconstruction of part of the North Sea Basin. This work was of considerable interest and significance and clearly demonstrated the value that this information has for increasing our understanding of how environments and climates have changed over long time periods. Similar sequences should be anticipated for this project.

Section 2.9.3 and Table 2-24 summarises the assessment and data gathering exercise that will be undertaken to establish baseline evidence listing the main sources that will be used. We would recommend that this table also includes



references to the Coastal and Intertidal Zone Archaeological Network (CITiZAN), which has developed a map for find spots in the coastal and intertidal zones. We would also recommend that the applicants refer to recent research projects that have investigated archaeology associated with the Cromer Forest bed Formation (CF-bF), such as the work carried out by the Ancient Humans of Britain (AHOB) project or the work to investigate the mammoth remains discovered at West Runton. It should also be noted that if Palaeolithic or Pleistocene age deposits are found, either during onshore or offshore works, the scientific dating of these deposits needs to be considered carefully. This is because the techniques that can be applied to deposits of this age often require very specific collection, storage and processing strategies (e.g. Optically Stimulated Luminescence) and will also require the involvement of specialists.

It is noted in Table 2-25 that a number of different survey options will be utilised as part of the evaluation work. We would recommend that the survey line spacings used are considered carefully, and reference is made to the Historic England '*Marine Geophysics Data Acquisition, Processing and Interpretation*' (2013) guidance.

Section 2.9.3 (paragraph 482) outlines the programme of marine geophysical data acquisition. Given the discovery of significant maritime remains and confirmation of known sites during the development of both Sheringham Shoal and Dudgeon Offshore Wind Farms (as illustrated in Figure 2.9.1), we encourage the Applicant to develop a strategic programme of data gathering to ensure that campaign effectiveness is optimised and high-resolution data capture occurs to support archaeological interpretation and analysis.

It is also stated in Section 2.9.3 (paragraph 482) that pre-consent geotechnical investigations are not currently planned, but instead will form a part of the pre-construction archaeological assessment should consent be granted. If the applicant is going to take this approach, then we recommend a preliminary deposit model is developed as part of the desk-based assessment work. This would need to be drawn together from existing information such as BGS borehole logs and information from previous projects and assessments (such as AHOB). It would however provide an assessment of archaeological potential, and would allow the characterisation and interpretation of sequences, and would help to identify gaps in the knowledge, where additional work may be required. We would therefore recommend that the applicants discuss the proposed project with a geoarchaeologist and include a deposit model within the desk-based assessment.

Section 3.5: Onshore Archaeology and Cultural Heritage

We are pleased to see that the applicants have acknowledged the rich and varied history of Norfolk. It should however be noted that if Palaeolithic or Pleistocene age deposits are found, either during onshore or offshore works, then as set out above the scientific dating of these deposits due to the specific needs of sample collection, storage and processing. We note that deposits models are not mentioned in the sections that discuss the baseline evidence that will be gathered (e.g. Table 3-16).



We recommend that a preliminary deposit model is produced as part of the baseline assessment stage and included in the Desk Based Assessment (paragraph 709) and also recommend that a reference is included in Table 3-15 to specific works such as those carried out at Happisburgh by the AHOB project team, or similar projects at West Runton and Weybourne.

We acknowledge that the applicants preferred approach would be to undertake the archaeological evaluation phase of work post-consent (see paragraph 706). We consider that this approach carries considerable risk and we recommend a more flexible and targeted approach to evaluation is taken. In particular, the applicant may wish to consider advanced work on locations that are critical for the delivery of the project, such as the cable landfall sites. Adequate time needs to be given within the programme to ensure all phases of archaeological work are completed, and allowing for any unexpected discoveries to be adequately mitigated.

A number of standards and guidance documents are referred to in paragraph 708, and we would recommend the inclusion of the Historic England '*Preservation of Archaeological Remains*' (2016) guidance, as this outlines the information needed when deciding if archaeological remains can and should be preserved:

<https://historicengland.org.uk/images-books/publications/preserving-archaeological-remains/>

Section 4.1: Seascape, Landscape and Visual

We note (para 811) that the applicant proposes to address historic landscape and seascape character as part of the historic environment assessments. We would anticipate that further evidence by way of heritage specific viewpoints for images and photomontages would need to be produced and either integrated into the Landscape and Visual Effects or the heritage chapters in order to support the assessment. In particular we raised concerns about a number of heritage assets in relation to the location of the Hornsea Project Three on-shore substation with specific reference to the harm caused to the Grade II* listed buildings closest to the development (Gowthorpe Manor House and Barn, and Mangreen Hall), and the Grade II* registered park and garden and Grade II* listed church at Intwood. We have also raised concerns about the impact upon the Grade II listed Keswick Hall, the South Norfolk Conservation Area and the complex of scheduled monument associated with the Roman Town at Caistor St Edmund near Norwich. Any direct and cumulative effects on the significance of designated assets, including those to their setting would need to be clearly considered in the siting of the substation and we would wish to engage in early discussion about preferred locations and options appraisals.

On a more general point, where relevant, the cultural heritage should be cross-referenced to other chapters or technical appendices; for example LVIA, noise, light, traffic and landscape. We advise that all supporting technical information (desk-based assessments, geophysical surveys, evaluation and post-excavation reports etc.) are included as appendices.



Historic England

East of England

We also strongly recommend that the applicant involve the County Archaeological Officers and the District Council Conservation Officers in the planning process. They are best placed to provide advice on local historic environment issues and design priorities; and give advice on how the proposal can be tailored to avoid and minimise potential adverse impacts on the historic environment; the nature and design of any required mitigation measures; and opportunities for securing wider benefits for the future conservation and management of heritage assets.

The assessment should be carried out in accordance with established policy and guidance, including the National Planning Policy Framework. The Planning Practice Guidance *contains* guidance on setting, amplified by the Historic England document Historic Environment Good Practice Advice in Planning Note 3, *The Setting of Heritage Assets*, which provides a thorough discussion of setting and methods for considering the impact of development on setting, such as the use of matrices. Whilst standardised EIA matrices or are useful tools, we consider the analysis of setting (and the impact upon it) as a matter of qualitative and expert judgement which cannot be achieved solely by use of systematic matrices or scoring systems. Historic England therefore recommends that these should be seen primarily as material supporting a clearly expressed and non-technical narrative argument within the cultural heritage chapter. The EIA should use the ideas of benefit, harm and loss (as described in NPPF) to set out 'what matters and why' in terms of the heritage assets' significance and setting, together with the effects of the development upon them.

Given the diversity of designated and non-designated heritage asset within the area, we would welcome further discussions with the applicant at the earliest opportunity in order to discuss options. We would also like to note that this response is based on the information provided in this consultation. To avoid any doubt, this does not affect our obligation to provide further advice and, potentially, object to specific proposals, which may subsequently arise, where we consider that these would have an adverse effect upon the historic environment.

If you have any queries about any of the above, or would like to discuss anything further, please contact me

Yours sincerely



Dr Will Fletcher

Inspector of Ancient Monuments

e-mail: will.fletcher@historicengland.org.uk



Historic England, Brooklands, 24 Brooklands Avenue, Cambridge CB2 8BU

Telephone 01223 58 2749 HistoricEngland.org.uk

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Terry, Hannah

From: Sharon Brooks <smariabrooks17@icloud.com>
Sent: 06 November 2019 16:55
To: SADEP
Subject: Your Ref: EN010109-000007

Your Ref: EN010109-000007

Dear Sir

**Planning Act 2008 and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11
Application by Equinor New Energy Limited (the Applicant) for an Order granting Development Consent for the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions (the Proposed Development)
Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested**

The report is not clear as to the exact delineation of the area and on attending the information event on 28th October Parish Councillors were not able to obtain precise clarity. The observations and requirements below are based on the limited information available through the scoping report.

The Parish Council has received the notification concerning proposals to site the above Offshore Wind Farm Extensions through the conservation area of Itteringham including neighbouring Saxthorpe and Corpusty, The Parish Council has grave reservations about these works and the severe impact it would have on this area of natural outstanding beauty.

The environmental and ecological damage needs to be clearly detailed together with the effect on the archeology of the landscape and the entire environment including waterways.

The parish council requires to know what the environmental benefit would be at the end of the process.

The parish council is also concerned by the devastation that will be caused by the density of HGV construction traffic, abnormal loads, road closures, night working etc.

A clear impact assessment of all the above needs to be included.

In summary the parish council requires full and complete disclosure on the impact on this unique piece of Norfolk countryside prior to any further applications.

Please keep me informed of any developments

Kind regards

Sharon Bedford-Payne
Itteringham Parish Council


Terry, Hannah

From: JNCC Offshore Industries Advice <OIA@jncc.gov.uk>
Sent: 10 October 2019 10:34
To: SADEP
Subject: RE: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning Ifan

Thank you for consulting JNCC with regard the above mentioned scoping report. Our duties in this matter have been deferred to Natural England, subsequently we will not be responding directly to this consultation.

Regards

Dr Sarah Canning

Marine Management Team
JNCC, Inverdee House, Baxter Street, Aberdeen, AB11 9QA
Tel: 01224 266 550
Direct Tel: 01224 266589 (Tues-Thurs)
Email: sarah.canning@jncc.gov.uk (Mon-Fri)



jncc.gov.uk



From: SADEP <sadep@planninginspectorate.gov.uk>
Sent: 09 October 2019 15:44
To: SADEP <sadep@planninginspectorate.gov.uk>
Subject: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Dear Sir/Madam

Please see attached correspondence on the proposed Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions.

Please note the deadline for consultation responses is **06 November 2019**, and is a statutory requirement that cannot be extended.

Kind regards,

Ifan Gwilym

Cynghorydd AEA a Hawliau Tîr | EIA and Land Rights Advisor
Cyfarwyddiaeth Gwaith Achos Mawr | Major Casework Directorate
Yr Arolygiaeth Gynllunio | The Planning Inspectorate

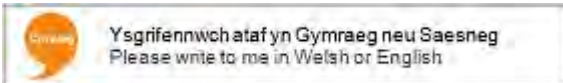
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infrastructure.planninginspectorate.gov.uk/ (Cynllunio Seilwaith Cenedlaethol // National Infrastructure Planning)

www.gov.uk/government/organisations/planning-inspectorate (Yr Arolygiaeth Gynllunio // The Planning Inspectorate)

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Terry, Hannah

From: Emily Anderson <Emily.Anderson@lincolnshire.gov.uk>
Sent: 16 October 2019 08:52
To: SADEP
Subject: Lincolnshire County Council Representation

Importance: High

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning,

I write on behalf of our Head of Planning. Lincolnshire County Council do not wish to make any comments on the scoping opinion.

Kind regards,



Emily Anderson

Planning

01522 554811

Lancaster House | 36 Orchard Street | Lincoln | LN1 1XX



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Management
Organisation

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Tyne

Hannah Terry
The Planning Inspectorate
Temple Quay House
2 The Square
Bristol, BS1 6PN

Your reference: EN010109-000007
Our reference: DCO/2019/00004

By email only - sadep@planninginspectorate.gov.uk

06 November 2019

Dear Ms Terry,

RE: Application by Equinor New Energy Limited (the Applicant) for an Order granting Development Consent for the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions (the Proposed Development)

Scoping opinion consultation for Sheringham Shoal Offshore Wind Farm

Thank you for your letter dated 09 October 2019 requesting information in order that the Planning Inspectorate can adopt a scoping opinion for the Proposed Development.

Please find attached the scoping opinion of the Marine Management Organisation (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) and have included issues raised in the recent Seabed Expert Topic Group held in London on 30 October 2019.

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

Yours sincerely,

[Redacted signature]

Adam Suleiman
Marine Licensing Case Officer

D +44 (0)2080 269530
E adam.suleiman@marinemanagement.org.uk



1. Comments on the Scoping Report

1.1 General Comments

- 1.1.1 In Section 1.4.3 the Applicant has outlined their rationale for the landfall site selection, identifying the geographical exclusion of locations within the North Norfolk Coast Special Area of Conservation (SAC). Exclusion is on the basis that the SAC's condition status is Unfavourable. As such, the Applicant's two proposed landfall options pass through the Cromer Shoal Marine Conservation Zone (MCZ).
- 1.1.2 Whilst it is acknowledged that proposals passing through any Marine Protected Area (MPA) may be challenging, the MMO strongly recommends the Applicant investigate landfall options within the North Norfolk Coast SAC as an alternative route outside of Cromer Shoal Chalk Reef MCZ to a landfall site at Weybourne. The condition status of Unfavourable does not preclude cabling through the SAC as an option and could warrant further exploration. Detailed investigation would be required to assess the potential impacts specific to those protected features within the site in consideration of the conservation status of those specific features. This would offer a broader assessment of all landfall choices and support the Applicant's overall evidence base and conclusions for the final cable route selection.
- 1.1.3 In that regard, the MMO advises the Applicant continue to engage with Natural England, and other stakeholders as appropriate, to undertake suitable investigations to provide the detail and clarity required for such a cable corridor option.

1.2 Underwater Noise

Major Comments

- 1.2.1 Regarding fish and shellfish ecology, paragraph 302 states that *"underwater noise generated by construction activities, particularly if pile driving or UXO clearance is required, may result in disturbance and displacement of acoustically sensitive fish species (e.g. herring) and affect spawning and nursery areas"*. Piling or UXO clearance may also result in temporary threshold shift (TTS), recoverable injury and mortality (Popper *et al.*, 2014). Further, although UXO clearance is mentioned, it has not specifically been scoped in, whereas piling has. It is recommended that *'underwater noise impacts to acoustically sensitive species during UXO clearance'* are scoped in for further assessment.
- 1.2.2 It is proposed to scope out noise and vibration generated by operational wind turbines for benthic and intertidal ecology. The following justification in paragraph 275 has been provided: *"Noise and vibration generated by the operational wind turbines can be conducted through the tower and foundations into the water. Monitoring studies of underwater noise from operational turbines have shown the noise levels from North Hoyle, Scroby Sands, Kentish Flats and Barrow wind farms to be only marginally above ambient noise levels (Cheesman, 2015). There is no evidence to suggest this low level of noise and vibration has a significant impact on benthic ecology, it is therefore proposed that this impact is scoped out from further*

consideration within the EIA”.

- 1.2.3 Previous measurement data can be applied more broadly to inform the likely significance of noise, if the relevant conditions (including turbines and foundations) are comparable (MMO, 2014). However, it is not clear whether the turbines and environmental conditions at Dudgeon Extension Project (DEP) and Sheringham Extension Project (SEP) are comparable to previous windfarms. The Applicant should provide further evidence to support their position and consider whether scoping out remains valid.
- 1.2.4 Furthermore, as stated in MMO (2014), *“whilst the broadband underwater noise resulting from the operation of an offshore wind farm (OWF) has been shown to be of a relatively low level, the level of seabed vibration resulting from an operational wind turbine is still unknown. Similarly, whilst there is understanding of the likely sound pressure level in the water resulting from operational wind turbines, the resulting particle motion in the water column as a function of depth and range is not known”.*
- 1.2.5 Marine invertebrates are primarily known to detect particle motion and seabed vibrations (more so than sound pressure). If assessment conclusions are to be based on previous measurement data, then it should be made clear in the report how the turbines and environmental conditions at DEP and SEP are comparable to previous wind farms.

1.3 Fish and Shellfish Ecology

Fish Ecology

Major Comments

Sandeel

- 1.3.1 The commercial and ecological importance of sandeel has not been discussed in any detail in the scoping report. The ecological and commercial importance of sandeel should be acknowledged in the ES and an appropriate species-specific impact assessment should be undertaken for sandeel.
- 1.3.2 Sandeel, as well as juvenile herring and sprat, are of ecological importance as a prey source for marine mammals and birds, some of which are protected and qualifying features of nearby Special Protection Areas (SPA) or SACs such as the Greater Wash SPA and The Wash & North Norfolk Coast SAC. Sandeel have a spatial dependency on a specific substrate and it is recognised that sandeel show site fidelity to defined areas of seabed, and do not tend to travel to other locations to spawn.
- 1.3.3 Otter and beam trawls are not considered suitable survey gears to adequately sample sandeel species. Catches of sandeel (e.g. from grabs, trawls) in the area can provide information on presence, however this method does not provide information about abundance and distribution. The most accurate method for assessing the DEP and SEP areas as a sandeel habitat would be through a sandeel dredge survey.

Surveys would need to be carried out either during night-time or during seasonal hibernation periods, using specific sandeel dredge gear. To provide a statistically robust study these surveys would have to be carried out over a number years pre- and post-construction. This may be disruptive for the population, and the study would be expensive so this is not recommended by the MMO. Instead, the EIA would be expected to characterise sandeel habitat following the method described in MarineSpace (2013b) which uses broadscale sediment data and site-specific Particle Size Analysis (PSA) data from the array and export cable corridor. As per the assessment of herring potential spawning habitat, PSA data collected during the proposed benthic sampling surveys can be used to inform the area's suitability as sandeel habitat. Any catches of sandeel observed in grabs will provide anecdotal evidence of their presence in the array and export cable route areas.

1.3.4 Whilst there are a number of broad areas of the Southern North Sea that are considered suitable as sandeel habitat, many areas are already subjected to anthropogenic activities such as windfarm construction, trawling and aggregate dredging. Additionally, many areas may not provide suitable habitat due to physical parameters such as incompatible substrate composition or water depth. The cumulative impact assessment should consider these factors when assessing the impacts of the windfarm development on sandeel.

Migratory fish

1.3.5 Migratory fish species should be included in the assessment and the various conservation statuses of these species should also be considered. Potential impacts from construction and operational activities should be adequately assessed in relation to migratory fish transiting the area e.g. to/from the Wash and river Humber. The Environment Agency carry out fisheries surveys to monitor coastal and transitional waters, including the river Humber and the Wash. Data can be downloaded via; <https://data.gov.uk/dataset/41308817-191b-459d-aa39-788f74c76623/trac-fish-counts-for-all-species-for-all-estuaries-and-all-years>

Minor Comments

1.3.6 Generally, the approach to the scoping assessment is appropriate in that it sets out the proposed methods to be used to inform and undertake the EIA. However, given that the scoping report is intended to support an application for the construction of up to two nationally significant infrastructure projects (NSIPs), more detailed descriptions of the potential impacts to fisheries and fish ecology as well as more detailed explanations of how the potential impacts to key sensitive species will be assessed would have been beneficial.

1.3.7 In order to ensure that a robust assessment of potential impacts to fish is undertaken during the EIA process, comments and recommendations are provided below concerning the use of appropriate data sources and data interpretation to inform an accurate characterisation for fisheries and fish ecology.

Recommendations on Proposed Data Sources and Approach to EIA

- 1.3.8 The table of data sources (Table 2-14) proposed for the characterisation of the existing environment for fish is generally appropriate. However, there are some concerns with the timeliness of data collected during the Dudgeon and Sheringham Shoal OWF EIA characterisation surveys and the Sheringham Shoal OWF Post-construction surveys for the reasons outlined below:
- 1.3.9 The Environmental Statement (ES) should recognise the limitation that the data collected for EIA fish characterisation surveys for Dudgeon OWF (2008) and Sheringham Shoal OWF (2005) are now in excess of 10 years old, and that the surveys were carried out prior to the placement and operation of OWF infrastructure. Factors such as loss of habitat, introduction of hard substrates, and temporal and natural variations in fish assemblages may have changed over this period. However, the MMO advise there is no requirement for new fish characterisation surveys to be undertaken, as the various sources of data proposed to inform the desk-based assessment will be adequate to provide a general description of the fish species typically found in the DEP and SEP areas.
- 1.3.10 Point 292 of the scoping report refers to the Sheringham Shoal post-cable installation elasmobranch survey which recorded a single starry smooth-hound (*Mustelus asterias*) in the export cable corridor just south of the wind farm array (Brown & May Marine, 2013). Conversely, starry smooth-hounds represented the greatest numbers caught in the pre-construction cable installation elasmobranch survey report (Brown & May Marine, 2010). The MMO recommend that if data from the Sheringham Shoal Post-cable Installation Elasmobranch Survey 2013 are to be used to inform the EIA, then so too should data from the Post-Cable Installation Elasmobranch Survey Reports from 2012 and 2015 and the Pre-construction Cable Installation Elasmobranch Survey Report (Brown & May Marine, 2010).
- 1.3.11 It should also be noted that there are no recent confirmed records of common smooth-hound (*Mustelus mustelus*) (listed in Table 2-11) being captured in UK waters. A genetic study (Farrell *et al.*, 2009) confirmed that all specimens investigated were found to be starry smooth-hounds (*Mustelus asterias*). Therefore, it may be more appropriate to refer to *Mustelus spp.* in the ES.
- 1.3.12 When using any fisheries data collected from past surveys, it is important that the data are interpreted and presented appropriately and that all survey limitations are acknowledged within the ES, as per point 1.3.9. It is recommended that any trawl or longline catch data should be presented in standardised units e.g. Catch Per Unit Effort (CPUE). The survey methods, timings and limitations of survey and gear types as well as gear selectivity should be discussed or acknowledged within the ES, especially with regard to the influence on species and life stages captured by individual gear types/sampling methods. For example, a 2m epibenthic beam trawl will not adequately target large/adult fish, or pelagic fish; otter trawls and epibenthic beam trawls will not adequately target sandeels and the season in which a survey is undertaken may influence species abundance in that particular area.

Herring

- 1.3.13 The scoping report has correctly identified that herring are sensitive to activities that disturb the seabed and are sensitive to noise and vibration, making them vulnerable to the impacts of OWF construction and operation activities. Comments and recommendations are provided below on how the assessment of impacts for this species should be carried out.
- 1.3.14 The nearest herring spawning ground to the DEP and SEP sites, is that of the Banks/Dogger population off the coast of Flamborough Head. Some smaller, localised herring spawning grounds also exist at locations along the Norfolk and Lincolnshire coasts and outside the Wash, although due to a lack of recent larval data for these locations it is not known whether these sites are currently 'active'. The MMO recommend that an assessment of herring potential spawning habitat is undertaken to inform the EIA, using the method described in MarineSpace (2013). The assessment should be supported by 10 years of International Herring Larval Survey (IHLS) data (data up to 2018 are available). The applicant's intention to undertake a program of geophysical and benthic sampling across the proposed wind farm areas and export cable corridors in order to characterise the seabed is noted. PSA data from these surveys can be used to inform the potential herring spawning habitat assessment.

Underwater noise and vibration

- 1.3.15 Little information is presented on how the assessment of impacts of noise and vibration on fish will be carried out, or what resources will be used, or the proposed methods for modelling. An accurate description of the physiological and behavioural impacts to fish caused by noise and vibration should be presented in the ES, and fish species relevant to the development should be assigned into one of the four categories described in Popper *et al.* (2014).
- 1.3.16 We recommend that fish are treated as a stationary receptor in any modelling used to make predictions for noise propagation on fish spawning and nursery grounds. The MMO does not support the use of a fleeing animal model for fish for the reasons outlined below:
- 1.3.17 It is known that fish will respond to loud noise and vibration, through observed reactions including schooling more closely, moving to the bottom of the water column, swimming away and burying in the substrate (Popper *et al.* 2014). However, this is not the same as fleeing, which would require a fish to flee directly away from the source over the distance shown in the modelling. The MMO is not aware of scientific or empirical evidence to support the assumption that fish will flee in this manner.
- 1.3.18 The assumption that a fish will flee from the source of noise is overly simplistic as it overlooks factors such as fish size and mobility, biological drivers and philopatric behaviour which may cause an animal to remain/return to the area of impact. This is of particular relevance to herring, as they are benthic spawners which spawn in a specific location due to its substrate composition.

- 1.3.19 Eggs and larvae have little to no mobility, which makes them vulnerable to barotrauma and developmental effects. Accordingly, they should also be assessed and modelled as a stationary receptor, as per the Popper *et al.* (2014) guidelines.
- 1.3.20 The outputs of modelling should be presented in map-form depicting the predicted noise contours. 10 years of IHLS data (2008-2018) should be presented in the form of a 'heat map' which should be overlaid with the mapped noise contours. This will provide a better understanding of the likely extent of noise propagation into herring spawning grounds and allow for a more robust assessment of impacts to be made.
- 1.3.21 The applicant should clearly state in their ES (and PEIR if applicable) whether they propose to undertake simultaneous piling, i.e. the installation of more than one pile at a time, for the installation of WTGs or other offshore platform structures. If simultaneous piling is proposed, then underwater noise modelling for impacts to fish should be based on this scenario.

Recommendations

- 1.3.22 The applicant should also consider the use of embedded mitigation and good practice measures to remove or reduce impacts and effects on fish. Such measures might include;
- 1.3.23 The use of soft start procedures on commencement of piling. The MMO's technical advisers Cefas recommend a 20-minute soft-start in accordance with the Joint Nature Conservation Committee (JNCC) protocol for minimising the risk of injury to marine mammals and other fauna from piling noise (JNCC 2010). Should piling cease for a period greater than 10 minutes, then the soft-start procedure must be repeated.
- 1.3.24 Cable burial to a minimum depth of 1.5 m (subject to local geology and obstructions) to minimise the effects of EMF, as recommended in the Department of Energy and Climate Change report (2011).
- 1.3.25 The use of air bubble curtains to reduce or mitigate the impacts of noise and vibration from piling.

Shellfish Ecology

Major Comments

- 1.3.26 Potential impacts are categorised by development phase in the report. Whilst a number of potential impacts are identified these are not associated with specific species. Further detail and clarification should be provided as the application progresses. Generally, all relevant impacts to shellfish species and shell-fishers have been scoped in.
- 1.3.27 Permanent habitat loss to shellfish has been scoped in during the operation stage but scoped out for both construction and decommissioning. "*Permanent habitat loss*"

suggests that the habitat will never recover. The MMO advise changing this to “temporary habitat loss” and scoping the impact into both the construction and decommissioning phases as any interaction with the seabed may cause loss of habitat for some species and all phases of the project could result in temporary habitat loss for shellfish. It is notable from the report that “*permanent habitat loss*” is intended to complement “*Physical disturbance and temporary loss of seabed habitat, spawning or nursery grounds during intrusive works*”, however, the two are not similar and should not be considered so.

1.4 Benthic Ecology

Major Comments

- 1.4.1 The potential impact of ‘Invasive species’ has been scoped out of the construction phase of the development. The MMO recommend that further justification is included, e.g., mitigation measures for vessels/platforms involved in the construction of the DEP and SEP to ensure they are free from non-native species.
- 1.4.2 Section 2.3 ‘Benthic Ecology’, (line 256, page 69) incorrectly summarises the Dudgeon OWF post-construction monitoring report. The MMO recommend that the sentence “*The overall conclusion of the Dudgeon post-construction monitoring is that there are no significant differences in the benthic communities due to the construction of the wind farm.*” is removed from the scoping report. Prior advice on the Dudgeon OWF post-construction monitoring report has highlighted significant differences between the pre- and post-construction benthic assemblage.
- 1.4.3 Not all protected features presented in the designation order of the Cromer Shoal Chalk Beds MCZ are included in the scoping report (line 265, page 70). Please amend the report accordingly.

Minor Comments

- 1.4.4 The potential impact of ‘Permanent habitat loss’ has been scoped in under the operation phase of the development in Table 2-8. While there is a recognition that the exact nature and design of turbine foundation remains unknown, all available types result in a degree of habitat loss during the construction phase. The MMO recommend including reference to the maximum area of seabed that may be affected (e.g. a total of 61 turbine with gravity base foundations), in relation to the DEP and SEP area for lease, to help justify the scoping decision.
- 1.4.5 The precise benthic survey design to aid site characterisation currently remains unknown. However, the approach presented in the scoping report states that habitat maps will be made following interpretation of geophysical data. The MMO recommend that acoustic data are first interpreted and used to inform the placement of sampling stations for ground truthing, using the methods proposed (sediment samples and seabed imagery), before any habitat maps are created to ensure a more accurate assessment.

1.4.6 Furthermore, it is recommended that the location of suitable reference areas is considered at this stage to aid with future monitoring requirements (for the both extension projects and the current Dudgeon and Sheringham OWFs).

Observations

1.4.7 Potential impacts from Electromagnetic Fields (EMF) on benthic invertebrates have also been scoped out with the justification that there is a lack of evidence to suggest impact. The MMO agree with this justification. Note that while Bochert & Zettler (2006) did conclude that the distributions of the brown shrimp *Crangon crangon*, common starfish *Asterias rubens* and polychaete worm *Hediste diversicolor* do not change when exposed to EMF, the experimental conditions were much lower salinity (10 *psu*) than is typically found in the North Sea (~35 *psu*).

1.4.8 The data sources presented in Table 2-9 are relevant and the characterisation surveys proposed in Table 2-10 are suitable. However, if the cable route is re-routed to avoid the MCZ, further data will need to be obtained as the area to the west of the MCZ is data poor.

1.5 Sedimentary and Coastal Processes

Major Comments

1.5.1 The applicant proposes that effects on the hydrodynamic regime should be scoped out (Chapter 2.1.2.1), despite noting that there is potential for the physical presence of construction plant and offshore infrastructure to have an impact on the hydrodynamic state. The MMO suggest that the applicant scope this in, as construction activities (such as any changes at the seabed during cable installation) could have an impact on flow and wave propagation.

1.5.2 It is clearly stated in the text that *“The Marine Geology, Oceanography and Physical Processes assessment is likely to have key inter-relationships with Marine Water and Sediment Quality, Benthic and Intertidal Ecology and Fish and Shellfish Ecology and these will be considered where relevant throughout the EIA process”* (Chapter 2.1.2), but there is no further information provided on how this assessment will be done. As the combination of activities within the development project could lead to significant impacts, further explanation should be given accordingly.

1.5.3 Impacts of climate change on wind, waves, and sea level rise have neither been assessed nor identified. The MMO expect these to be at least identified as potential stressors and that the applicant provides clarification.

Minor Comments

1.5.4 The applicant is advised to list in the text the receptors that will be included in the EIA (e.g. hydrodynamics (flow and waves), Sheringham Shoal sand bank etc.).

- 1.5.5 In the operational impacts section (Chapter 2.1.2.2), impacts from scour protection on current and wave action are not included (even though they are assessed for fish and shellfish but not for coastal processes and mentioned in NPS Requirement – EN-3 2.6.113). The applicant should justify why this has been scoped out from the Coastal Processes EIA process.
- 1.5.6 It is not clear from the text provided in Chapter 2.1.2.3 if the applicant is scoping in or out any potential impacts of decommissioning, even though impacts are expected from the removal of the foundations. The applicant should clarify this.
- 1.5.7 For the cumulative impact assessment, and especially for the nearshore zone (landfall), the MMO advises that the local Shoreline Management Plan should be included in the considerations of impacts, especially as the minimum expected operational life of the projects will be 30 years and that a full list of nearby developments/schemes should be provided and considered.
- 1.5.8 Regarding transboundary impacts, the applicant suggests that they are unlikely to occur or if they do, it's unlikely that they will be significant. No information is provided on how they have reached this conclusion. The text should be revised accordingly, and this conclusion should be further explained and better justified.
- 1.5.9 In the impacts on Marine Water and Sediment Quality, it is not clear if the applicant is scoping in or out the impact during construction of the release of sediment in the water column, even though they do clearly state the potential changes in water quality. This should be clarified.
- 1.5.10 The applicant intends to scope out the assessment of suspended sediment concentrations in the water column due to changes in tidal and wave characteristics. This should be clarified. An example of such a clarification would include a referenced desk based assessment.
- 1.5.11 It is not clear from the text provided in Chapter 2.1.2.3 if the applicant is scoping in or out any potential impacts on decommissioning, even though they are expecting impacts from removal of the foundations. The applicant should explain further and describe the EIA process that will be followed for coastal processes in more detail.
- 1.5.12 As the current application is for two projects but the timeline of construction has not yet been confirmed, the MMO would expect the projects to be included in the relevant cumulative impact assessment (CIA) at the time (i.e. if SEP construction is underway, how will the start of DEV construction impact the coastal processes and vice versa?).
- 1.5.13 The applicant has suggested that models from nearby or similar cases will be used to form the baseline for this application. The MMO strongly advise the applicant to support this suggestion by showing the validation of these models, present any uncertainties and discuss how the model results deviate (or not) from in-situ data.

1.5.14 In combination impact assessments on coastal processes (from within the project activities) should be conducted and the relevant evidence base to be used to support these assessments should be presented. As mentioned in 1.5.8 it is not clear why the applicant is not including transboundary impacts. Results from the in-combination assessments should be considered accordingly for the transboundary and the cumulative assessments.

Observations

1.5.15 The approach of the scoping assessment and data gathering is appropriate however the applicant is advised of the following:

1.5.16 At page 33, it is noted that wind and metocean data exist for the operational assets. An analysis of these datasets should be included in the baseline information in the PEIR.

1.5.17 The applicant is advised to include a full list (in a table) of the in-situ and modelled data that will form the baseline. Information from UKCP18 on waves, winds, storm surge and sea level rise, should be in the baseline. Bathymetric and sediment features maps should also be included in the baseline (as well as the analysis from the surveys to be completed in 2020).

1.5.18 Maximum of wave heights, propagating from the north east should be added in the text in 2.1.1.2.



Maritime &
Coastguard
Agency

Bay 2/24
Spring Place
105 Commercial Road
Southampton
SO15 1EG
UK

Your ref: EN10109 - 000007
Our ref:

The Planning Inspectorate
3/18 Eagle Wing
Temple Quay House
2 The Square
Bristol
BS1 6PN

By email to:
sadep@planninginspectorate.gov.uk

1 November 2019

Dear Sir/Madam,

Planning Act 2008 and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11

Application by Equinor New Energy Limited (the Applicant) for an Order granting Development Consent for the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions (the Proposed Development) - Scoping Consultation

The MCA has reviewed the scoping report provided by Equinor on the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions, as detailed in your letter of 9th October 2019 and would comment as follows:

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

- 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.

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



HM Coastguard



INVESTORS
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room and include an appropriate assessment of the distances between wind farm boundaries and shipping routes as per MGN 543.

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 found at <https://www.gov.uk/guidance/offshore-renewable-energy-installations-impact-on-shipping>

We note that a vessel traffic survey will be undertaken to the standard of MGN 543. This must consist of at least 28 days and include seasonal data (two x 14-day surveys) collected from a vessel-based survey using AIS, radar and visual observations to capture all vessels navigating in the study area. The proximity to other offshore windfarms will need to be fully considered, with an appropriate assessment of the distances between OREI boundaries and shipping routes as per MGN 543.

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 with the current layout designs of Dudgeon and Sheringham Shoal wind farms, in straight rows and columns, and with at least two lines of orientation. Any additional navigation safety and/or Search and Rescue requirements, as per MGN 543 Annex 5, will be agreed at the approval stage.

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.

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. A SAR checklist will also need to be completed in consultation with MCA.

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.

On the understanding that the Shipping and Navigation aspects are undertaken in accordance with MGN 543 and its annexes, along with a completed MGN checklist, MCA are likely to be content with the approach.

Yours faithfully,



Nick Salter
Navigation Safety Policy Advisor
Navigation Safety Branch



Ministry
of Defence

Defence
Infrastructure
Organisation

Major Casework Directorate
Temple Quay House
2 The Square
Bristol
BS1 6PN

Safeguarding Department
Statutory & Offshore

Defence Infrastructure Organisation
Kingston Road
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B75 7RL

Tel: 07816410402

E-mail: DIO-safeguarding-statutory@mod.gov.uk

www.mod.uk/DIO

01 November 2019

Your Reference: EN010109-000007
Our reference: 10046594 & 10046595

Dear Sir/Madam,

Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions

Application by Equinor New Energy Limited (the Applicant) for an Order granting Development Consent Order for the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions (the proposed development)

I write to confirm the safeguarding position of the Ministry of Defence (MOD) in relation to the request made by the applicant for a scoping opinion from the Secretary of State on the information that should be provided in the Environmental Statement to support the above application.

The applicant has prepared a Scoping Report. This recognises the principal defence issues that will be of relevance to the progression of the proposed development.

The use of airspace for defence purposes in the vicinity of the proposed development have been appropriately identified and considered. The Scoping Report considers aviation and radar systems that may be affected by the proposed wind farm extension areas. Section 2.1 of the report relates to aviation and MOD issues and specifically recognises the impact of both extension areas on Air Defence Radar (ADR).

The applicant has recognised the potential need for mitigation to address the impacts on air defence systems and states they will engage with the MOD on this. The ADR at Remote Radar Head (RRH) Trimmingham has been identified as a relevant receptor. Both extension areas will be detectable to the ADR at RRH Trimmingham and will impact upon the operation of the air defence system. The impact on the ADR will need to be mitigated and it will be for the applicant to provide appropriate technical mitigation(s).

Another consideration not covered in the Scoping Report is the impact of the turbines on the Primary Surveillance Radar (PSR) at RAF Coningsby. Turbines on the western edge of the Sheringham

Shoal extension area will be detectable to the PSR at RAF Coningsby. This will need to be addressed and an appropriate technical mitigation will need to be provided by the applicant.

The Scoping Report makes reference to the lighting of the Dudgeon Offshore Wind Farm and the MOD's Lighting Guidance is listed as a data source. In the interests of air safety, the Dudgeon and Sheringham Shoal extension areas should be fitted with MOD accredited aviation safety lighting in accordance with the Air Navigation Order 2016. The MOD would need to confirm the specification of the lighting to be used.

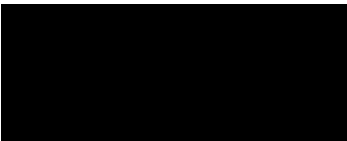
The proposed extension areas do not overlap with any military danger areas or Practice and Exercise Areas (PEXA). We therefore do not anticipate there to be any concerns relating to military maritime activities.

The potential for the offshore development area to contain historic disposal sites has been identified. In addition, the potential presence of unexploded ordnance (UXO) has also been identified as a relevant consideration. The potential presence of UXO and disposal sites is also a relevant consideration to the installation of cables and other intrusive works that may be undertaken in the maritime environment.

In relation to the onshore element of the proposed development, there are two proposed locations where the sea cables will come ashore; one at Weybourne and the other at Bacton. Part of the cable route corridor at the Weybourne landfall site occupies the eastern extent of the statutory technical safeguarding zone surrounding the RAF Weybourne transmitter site; in particular the any development height zone. The Bacton land fall site occupies the statutory safeguarding zone encompassing the Air Defence Radar at RRH Trimmingham. Any structures whether permanent or temporary i.e. construction equipment which exceeds 15.2m at this location may cause a physical obstruction to the radar. Any development within these zones will need to be compatible with technical safeguarding requirements.

I trust this clarifies our position on this consultation. Please do not hesitate to contact me should you wish to consider these points further.

Yours sincerely

A large black rectangular redaction box covering the signature area.

Laura Nokes
Senior Safeguarding Officer

Terry, Hannah

From: Mulbarton Parish <mulbartonparish@btconnect.com>
Sent: 05 November 2019 17:52
To: SADEP
Subject: Re: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Follow Up Flag: Follow up
Flag Status: Flagged

Attention of Hannah Terry

Dear Hannah,

Dudgeon and Sheringham Shoal Extensions (Equinor)

As you will be aware, the village of Mulbarton is specifically identified within the Scoping Report as falling within the search area for the proposed onshore substation for this project, connecting into the grid at Norwich Main.

Our initial view is that there should be a co-ordinated approach to the onshore infrastructure for this and other similar projects. This may include the concept of an Offshore Ring Main (ORM), which would seem to minimise adverse impacts across the county of Norfolk and offer potential economies of scale.

The applicant has suggested, at the recent informal public consultation on 28th October 2019, that they are unable to consider any kind of co-ordinated approach unless required to do so by the relevant authorities. In our view, it would not be in the public interest, on either environmental or economic grounds, to proceed with a Scoping Opinion until this issue has been addressed.

We are also concerned that cumulative adverse impacts, which may include the effects of further projects still at an early stage, will not be properly addressed within the Scoping Opinion as currently proposed.

Mulbarton Parish Council is likely to register as an interested party to this enquiry in due course.

Whilst we appreciate that this is an early stage for this project, we would be grateful if you could please ensure that we are included on your contact list for any new information.

Kind regards,
Anne

Anne Phillips
Parish Clerk, Mulbarton Parish Council
Parish Office, The Common, Mulbarton, NR14 8AE
01508 578134
www.mulbartonpc.org.uk

From: SADEP <sadep@planninginspectorate.gov.uk>
Sent: 09 October 2019 15:44

To: SADEP <sadep@planninginspectorate.gov.uk>

Subject: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Dear Sir/Madam

Please see attached correspondence on the proposed Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions.

Please note the deadline for consultation responses is **06 November 2019**, and is a statutory requirement that cannot be extended.

Kind regards,

Ifan Gwilym

Cynghorydd AEA a Hawliau Tîr | EIA and Land Rights Advisor

Cyfarwyddiaeth Gwaith Achos Mawr | Major Casework Directorate

Yr Arolygiaeth Gynllunio | The Planning Inspectorate

Temple Quay House, Temple Quay, Bristol BS1 6PN

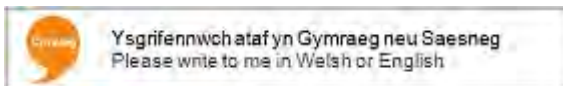
0303 444 5491

Ifan.Gwilym@planninginspectorate.gov.uk

infrastructure.planninginspectorate.gov.uk/ (Cynllunio Seilwaith Cenedlaethol // National Infrastructure Planning)

www.gov.uk/government/organisations/planning-inspectorate (Yr Arolygiaeth Gynllunio // The Planning Inspectorate)

Twitter: @PINSgov



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Terry, Hannah

From: NATS Safeguarding <NATSSafeguarding@nats.co.uk>
Sent: 04 November 2019 14:54
To: Gwilym, Ifan; NATS Safeguarding
Cc: SADEP
Subject: RE: Urgent - EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation (SG28829)

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Ifan

NATS are pleased to note (section 2.10) the developer's awareness of the risks that the proposal carries in relation to NATS air traffic operations in the Southern North Sea and their desire to engage in "consultation with NATS from an early stage".

It should be noted that both the existing Dudgeon and Sheringham Shoal wind farms lie within the Greater Wash Transponder Mandatory Zone, TMZ, and the entirety of the proposed extensions do not. This TMZ was created in 2012 to "negate the impact of increasing levels of wind turbine generated primary surveillance radar (PSR) clutter".

Best wishes



NATS Safeguarding

E: natssafeguarding@nats.co.uk

4000 Parkway, Whiteley,
Fareham, Hants PO15 7FL
www.nats.co.uk

From: Gwilym, Ifan <IFAN.GWILYM@planninginspectorate.gov.uk>
Sent: 04 November 2019 08:28
To: NATS Safeguarding <NATSSafeguarding@nats.co.uk>
Cc: SADEP <sadep@planninginspectorate.gov.uk>
Subject: RE: Urgent - EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation (SG28829)

Hi Emily,

Apologies for not responding sooner. We have not got the OS grid references for the current turbine layout. We have suggested to others that they contact the Applicant directly.

Regards,

Ifan

From: NATS Safeguarding <NATSSafeguarding@nats.co.uk>
Sent: 04 November 2019 08:20
To: Gwilym, Ifan <IFAN.GWILYM@planninginspectorate.gov.uk>; SADEP <sadep@planninginspectorate.gov.uk>
Cc: NATS Safeguarding <NATSSafeguarding@nats.co.uk>

Subject: RE: Urgent - EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation (SG28829)

Importance: High

Hi Ifan

Please can we have a response to the request below.

Many thanks

Emily



NATS Safeguarding

E: natssafeguarding@nats.co.uk

4000 Parkway, Whiteley,
Fareham, Hants PO15 7FL
www.nats.co.uk

From: NATS Safeguarding <NATSSafeguarding@nats.co.uk>

Sent: 15 October 2019 08:28

To: Ifan.Gwilym@planninginspectorate.gov.uk

Cc: NATS Safeguarding <NATSSafeguarding@nats.co.uk>

Subject: RE: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation (SG28829)

Good Morning Ifan

Thank you for sending us the details on the above planning application.

In order for us to assess and comment, could you please provide the additional information:

The OS Grid References in Eastings & Northings for the proposed development

Once we have this information, we will be able to assess and comment accordingly.

Yours faithfully



NATS Safeguarding

E: natssafeguarding@nats.co.uk

4000 Parkway, Whiteley,
Fareham, Hants PO15 7FL
www.nats.co.uk

From: SADEP <sadep@planninginspectorate.gov.uk>

Sent: 09 October 2019 15:44

To: SADEP <sadep@planninginspectorate.gov.uk>

Subject: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Dear Sir/Madam

Please see attached correspondence on the proposed Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions.

Please note the deadline for consultation responses is **06 November 2019**, and is a statutory requirement that cannot be extended.

Kind regards,

Ifan Gwilym

Cynghorydd AEA a Hawliau Tîr | EIA and Land Rights Advisor

Cyfarwyddiaeth Gwaith Achos Mawr | Major Casework Directorate

Yr Arolygiaeth Gynllunio | The Planning Inspectorate

Temple Quay House, Temple Quay, Bristol BS1 6PN

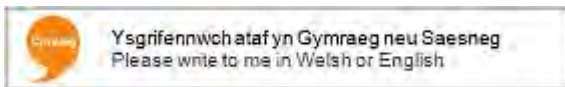
0303 444 5491

Ifan.Gwilym@planninginspectorate.gov.uk

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www.gov.uk/government/organisations/planning-inspectorate (Yr Arolygiaeth Gynllunio // The Planning Inspectorate)

Twitter: @PINSgov



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Date: 06 November 2019
Our ref: Case 13015: 297302
Your ref: EN010109-000007



FAO Hannah Terry
Senior EIA and Land Rights Adviser on behalf of the Secretary of State
Major Casework Directorate
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Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
Cheshire
CW1 6GJ

T 0300 060 3900

sadep@planninginspectorate.gov.uk

BY EMAIL ONLY

Dear Hannah

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) - Regulations 10 and 11

Application by Equinor New Energy Limited (the Applicant) for an Order granting development Consent for the Dudgeon and Sheringham Shoal Offshore Wind Farm extensions (the Proposed Development)

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

Thank you for seeking our advice on the scope of the Environmental Statement (ES) in your consultation dated 09 October 2019 which we received the same day.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

Case law¹ and guidance² has stressed the need for a full set of environmental information to be available for consideration prior to a decision being taken on whether or not to grant planning permission. **Annex A** to this letter provides Natural England's advice on the scope of the Environmental Impact Assessment (EIA) for this development. More detailed comment on the content of the report entitled Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions Scoping Report (Equinor, dated October 2019) is given in **Annex B** to this letter.

In keeping with the abbreviations used by the Applicant in the Scoping Report, throughout this response we refer to Dudgeon Extension Project as DEP and Sheringham Shoal Extension Project as SEP.

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

¹ Harrison, J in *R. v. Cornwall County Council ex parte Hardy* (2001)

² *Note on Environmental Impact Assessment Directive for Local Planning Authorities* Office of the Deputy Prime Minister (April 2004) available from

<http://webarchive.nationalarchives.gov.uk/http://www.communities.gov.uk/planningandbuilding/planning/sustainability/environmental/environmentalimpactassessment/noteenvironmental/>

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 the most recent Round of projects compared with previous ones. Therefore, while lessons are being learned from those projects that are operational, under construction or in the pre-construction phase, there is the potential for a different range and/or a greater level of impacts to arise going forwards 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 the Dudgeon and Sheringham Shoal Offshore Wind Farm extensions, 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 seeks 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.

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 Dudgeon and Sheringham Shoal Offshore Wind Farm extensions, 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 (as amended) 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”. Natural England advises that this information should therefore be provided and appraised as part of the EIA process.

Further Liaison and Advice

DEP and SEP lie in relative proximity to 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, Vanguard and Boreas OWF and East Anglia 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 A and B.

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, Local Planning Authorities, Marine Management Organisation (MMO), key stakeholders and the where possible the regulators:

- The potential effects of this development proposal on offshore 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.
- The potential for impacts on designated sites from offshore and onshore cable installation – 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 as part of this consultation.
- The potential for visual impacts to seascape, particularly in relation to the statutory purposes of the Norfolk Coast Area of Outstanding Natural Beauty.

Should the proposal be amended in a way which significantly affects its impact on the natural environment then, in accordance with Section 4 of the Natural Environment and Rural Communities Act 2006, Natural England should be consulted again.

Please note that while the Scoping consultation is required under the Environmental Impact Assessment Regulations (2008) many of the impacts also relate to interest features of designated sites both alone and in-combination. Therefore, our response also includes advice relating to

Habitat Regulation requirements and the Marine and Coastal Access Act (2009) to aid the drafting of the Environmental Statement.

For any queries relating to the specific advice in this letter only please contact me using the details below. For any new consultations, or to provide further information on this consultation please send your correspondences to consultations@naturalengland.org.uk.

Yours sincerely

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Annex A – Natural England’s general advice related to the EIA Scoping Requirements

1. General Principles

Schedule 4 of the Town & Country Planning (Environmental Impact Assessment) Regulations 2017 sets out the necessary information to assess impacts on the natural environment to be included in an Environmental Statement (ES), specifically:

- A description of the development – including physical characteristics and the full land/marine use requirements of the site during construction and operational phases.
- Expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation, etc.) resulting from the operation of the proposed development.
- An assessment of alternatives and clear reasoning as to why the preferred option has been chosen.
- A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape/seascape and the interrelationship between the above factors.
- A description of the likely significant effects of the development on the environment – this should cover direct effects but also any indirect, secondary, cumulative, short, medium and long term, permanent and temporary, positive and negative effects. Effects should relate to the existence of the development, the use of natural resources and the emissions from pollutants. This should also include a description of the forecasting methods to predict the likely effects on the environment.
- A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.
- A non-technical summary of the information.
- An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.

It will be important for any assessment to consider the potential cumulative effects of this proposal, including all supporting infrastructure, with other similar proposals and a thorough assessment of the ‘in combination’ effects of the proposed development with any existing developments and current applications. A full consideration of the implications of the whole scheme should be included in the ES. All supporting infrastructure should be included within the assessment.

2. Biodiversity and Geology

2.1 Ecological Aspects of an Environmental Statement

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 (EclA) have been developed by the Chartered Institute of Ecology and Environmental Management (CIEEM) and are available on their website.

EclA is the process of identifying, quantifying and evaluating the potential impacts of defined actions on ecosystems or their components. EclA 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.174-177 on how to take account of biodiversity interests in planning decisions and the framework that the responsible authority should provide to assist developers.

2.2 Internationally Designated Sites

The ES should thoroughly assess the potential for the proposal to affect designated sites.

Internationally designated sites (e.g. designated Special Areas of Conservation (SAC) and Special Protection Areas (SPA)) fall within the scope of the Conservation of Habitats and Species Regulations 2017 (as amended) and the Offshore Conservation of Habitats and Species Regulations 2017 (as amended). In addition paragraph 176 of the National Planning Policy Framework requires that potential Special Protection Areas, possible Special Areas of Conservation, listed or proposed Ramsar sites, and any site identified as being necessary to compensate for adverse impacts on classified, potential or possible SPAs, SACs and Ramsar sites be treated in the same way as classified sites.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) and 28 of the Offshore Conservation of Habitats and Species Regulations 2017 (as amended), an appropriate assessment needs to be undertaken in respect of any plan or project which is (a) likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and (b) not directly connected with or necessary to the management of the site.

The ES should include a full assessment of the direct and indirect effects of the development on the features of special interest within these sites, and should identify such mitigation measures as may be required in order to avoid, minimise or reduce any adverse significant effects.

Further information on the location of SPAs, SACS and Ramsar sites and their special interest features can be found at www.magic.gov.uk. Further information on the special interest features, their conservation objectives, and any relevant conservation advice packages for designated sites is available on our website <https://designatedsites.naturalengland.org.uk/>

2.3 Habitats Regulations Assessment

If the proposal outlined within the scoping document has the potential to significantly affect features of the internationally designated sites and the activity is not directly connected to the management of any designated site it should be assessed under Regulation 63 the Conservation of Species and Habitats Regulations (2017). Should a Likely Significant Effect on an Internationally designated site be identified or be uncertain, the competent authority (e.g. the Marine Management Organisation or Local Planning Authority or Government Department) may need to prepare an Appropriate Assessment, in addition to consideration of impacts through the EIA process.

If during the EIA process the potential for a Likely Significant Effect on the conservation objectives of the sites cannot be ruled out the competent authority should undertake an Appropriate Assessment of the implications for the site in view of its conservation objectives. Noting recent case law (People Over Wind³), measures intended to avoid and/or reduce the likely harmful effects on a European Site cannot be taken into account when determining whether or not a plan or project is likely to have a significant effect on a site, therefore consideration is required at Appropriate Assessment. Natural England wishes to be consulted on the scope of the Habitats Regulations Assessment and the information that will be produced to support it and should be formally consulted on any Appropriate Assessment provided for the proposal (Regulation 63).

2.4 Nationally Designated Sites, inc. Sites of Special Scientific Interest (SSSI) and Marine Conservation Zones (MCZ's)

Sites of Special Scientific Interest (SSSIs)- Further information on the location of SSSIs and their special interest features can be found at www.magic.gov.uk. The ES should include a full assessment of the direct and indirect effects of the development on the features of special interest within the SSSIs listed above, and should identify such mitigation measures as may be required in order to avoid, minimise or reduce any adverse significant effects, to ensure compliance with the Wildlife and Countryside Act 1981 (as amended). We recommend consideration of SSSI Impact Risk Zones (available on www.magic.gov.uk and as a downloadable [dataset](#)) to aid the identification

³ People Over Wind and Sweetman vs Coillte Teoranta (ref: C 323/17).

of any potential environmental risks to designated sites.

Marine Conservation Zones - Marine Conservation Zones are areas that protect a range of nationally important, rare or threatened habitats and species. You can see where MCZs are located and their special interest features on www.magic.gov.uk. Factsheets that establish the purpose of designation and conservation objectives for each of the MCZ's are available at <https://www.gov.uk/government/collections/marine-conservation-zone-designations-in-england>

The ES should consider including information on the impacts of this development on MCZ interest features, to inform the assessment of impacts on habitats and species of principle importance for this location. Further information on MCZs is available via the following link: <http://publications.naturalengland.org.uk/category/1723382>

Further information on the special interest features, the conservation objectives, and relevant conservation advice packages for designated sites is available on our website <https://designatedsites.naturalengland.org.uk/>.

2.5 Regionally and Locally Important Sites

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 ES 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.

2.6 Protected Species - Species protected by the Wildlife and Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2017 (as amended)

The ES should assess the impact of all phases of the proposal on protected species (including, for example, pinnipeds (seals), cetaceans (including dolphins, porpoises whales), fish (including seahorses, sharks and skates), marine turtles, birds, marine and terrestrial invertebrates, bats, great crested newts, reptiles, water voles, and badgers etc.).

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, [NBN Atlas](#), 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 terrestrial protected species which includes links to guidance on survey and mitigation. Information on the relevant legislation protecting marine species can be reviewed on the following link <https://www.gov.uk/government/publications/protected-marine-species>.

The cable routes proposed will result in the loss, severance or potential degradation of various

habitats and severance between these. These impacts, together with potential pollution risks, have the potential to affect various protected species. An assessment of the impact of all phases of the proposal on protected species should be undertaken.

2.7 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 here <https://www.gov.uk/guidance/biodiversity-duty-public-authority-duty-to-have-regard-to-conserving-biodiversity>.

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 biodiversity (or wildlife) net 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.

2.8 Contacts for Local Records

Natural England does not hold local information on local sites, local landscape character and local or national biodiversity priority habitats and species. We recommend that you seek further information from the appropriate bodies (which may include the local records centre, the local wildlife trust, local geoconservation group or other recording society and a local landscape characterisation document).

For:

- Local Record Centre (LRC) in Norfolk please contact: <http://www.nbis.org.uk>
- County Wildlife Sites in Norfolk please contact <http://norfolkwildlifetrust.org.uk>
- County Geodiversity Sites in Norfolk please contact <https://norfolkgeology.co.uk>

3. Designated Landscapes and Landscape/Seascape Character

3.1 Nationally Designated Landscapes

As the development site is within and around the Norfolk Coast Area of Outstanding Natural Beauty (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 the AONB.

3.2 Landscape/Seascape and visual impacts

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 EIA should include a full assessment of the potential impacts of the development on local landscape character using [landscape/seascape assessment methodologies](#). We encourage the use of Landscape and Seascape Character Assessment (LCA/SCA), based on the good practice guidelines produced jointly by the Landscape Institute and Institute of Environmental Assessment in 2013. LCA/SCA 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 / seascape 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 / Seascape Character Assessment at a local level are also available on the same page.

<https://www.gov.uk/government/publications/seascape-assessments-for-north-east-north-west-south-east-south-west-marine-plan-areas-mmo1134>

<https://data.gov.uk/dataset/3fed3362-2279-4645-8aaf-c6b431c94485/mmo1037-marine-character-areas>

3.3 Heritage Landscapes

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 and further information can be found on Natural England's landscape pages here.

4. Access 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/blue infrastructure. Relevant aspects of local authority green/blue infrastructure strategies should be incorporated where appropriate. Opportunities should be sought for provision for walkers, cyclists and horse riders and to meet the needs of the expanding population.

4.1 England Coast Path

The England Coast Path (ECP) is a new National Trail that will extend around all of England's coast with an associated margin of land predominantly seawards of this, for the public to access and enjoy. Natural England takes great care in considering the interests of both land owners/occupiers and users of the England Coast Path, aiming to strike a fair balance when working to open a new stretch. We follow an approach set out in the approved Coastal Access Scheme and all proposals have to be approved by the Secretary of State. We would encourage any proposed development to include appropriate provision for the England Coast Path to maximise the benefits this can bring to the area. We suggest that the development includes provision for a walking or multi-user route, where practicable and safe. This should not be to the detriment of nature conservation, historic environment, landscape character or affect natural coastal change. Consideration for how best this could be achieved should be made within the Environmental Statement.

As part of the development of the ECP a 'coastal margin' is being identified. The margin includes all land between the trail and the sea. It may also extend inland from the trail if:

- it's a type of coastal land identified in the Countryside and Rights of Way Act 2000 (CROW Act), such as beach, dune or cliff
- there are existing access rights under section 15 of the CROW Act
- Natural England and the landowner agree to follow a clear physical feature landward of the trail

Maps for sections of the ECP and further proposals for adoption are available here:

<https://www.gov.uk/government/collections/england-coast-path-improving-public-access-to-the-coast>

4.2 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. Consideration should also be given to the potential impacts on the adjacent/nearby Norfolk Coast Path National Trail. The National Trails website www.nationaltrail.co.uk provides information including contact details for the National Trail Officer. 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.

5. Water Quality

Increases in suspended sediment concentrations (SSC) during construction and operation (e.g. future dredging works) have the potential to smother sensitive habitats. The ES should include information on the sediment quality and potential for any effects on water quality through suspension of contaminated sediments. The EIA should also consider whether increased suspended sediment concentrations resulting are likely to impact upon the interest features and supporting habitats of the designated sites as listed above.

The ES should consider whether there will be an increase in the pollution risk as a result of the

construction or operation of the development.

For activities in the marine environment up to 1 nautical mile out at sea, a Water Framework Directive (WFD) assessment is required as part of any application. The ES should draw upon and report on the WFD assessment considering the impact the proposed activity may have on the immediate water body and any linked water bodies. Further guidance on WFD assessments is available here: <https://www.gov.uk/guidance/water-framework-directive-assessment-estuarine-and-coastal-waters>

6. 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.

7. 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 174), which should be demonstrated through the ES.

8. Contribution to local environmental initiatives and priorities

The Applicant should consider how this development can contribute to local initiatives and priorities such as any green infrastructure strategies, strategic nature conservation solutions and any environmental enhancement schemes proposed within the Norfolk Coast AONB.

9. Cumulative and in-combination effects

A full consideration of the implications of the whole scheme should be included in the ES. All supporting infrastructure should be included within the assessment.

The ES should include an impact assessment to identify, describe and evaluate the effects that are likely to result from the project in combination with other projects and activities that are being, have been or will be carried out. The following types of projects should be included in such an assessment, (subject to available information):

- a. existing completed projects;
- b. approved but uncompleted projects;
- c. ongoing activities;
- d. plans or projects for which an application has been made and which are under consideration by the consenting authorities; and
- e. plans and projects which are reasonably foreseeable, i.e. projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in-combination effects.

10. Wind Turbines

Specific guidance for wind developments has been developed by Natural England and should be used to inform the EIA.

A full consideration of the implications of the whole scheme should be included in the ES. This should include the consideration of the electrical connection within the site and between the proposed substation and the wider grid. All supporting infrastructure should be included within the assessment.

Annex B– Natural England’s specific comments on the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions Scoping Report

Point No.	Topic	Section	Paragraph / Table	Comment
Part 1: Introduction				
1.	Consenting strategy	1.1.2	10 - 13	Natural England welcomes the single application approach proposed by the Applicant. It saves both time and resources, allowing both projects to be reviewed simultaneously and allows comparisons between the projects to be easily made.
2.		1.1.2	14 - 16	The Applicant proposes an integrated approach to electrical infrastructure. This will result in one offshore substation, onshore cables within the same trench and single onshore substation. Natural England prefers this option to reduce the overall amount of infrastructure, in particular the impacts caused by two distinct cable routes.
3.	Habitats Regulation Assessment	1.3.4	43	Natural England notes the reference to the conclusions of The Crown Estate’s Offshore Wind Extensions Plan HRA. Natural England advises the Applicant that in its advice to The Crown Estate on the revised RIAA (submitted to TCE by Natural England on 15th July 2019) that “Natural England is not able to agree with the overall conclusions of the RIAA in relation to bird features of SPA.”
4.	Site Selection and Assessment of Alternatives	1.4	46	Natural England would welcome further detail on how environmental constraints have been considered in the site selection process.
5.	Offshore Array Site Selection	1.4.1	49	Can the Applicant confirm that the removal of Race Bank extension from the current leasing round will not open up the possibility that SEP might extend outside the scoping area as currently drawn (i.e. in the direction of the current Race Bank wind farm).
6.	Landfall Site Selection	1.4.3	57	Natural England notes the decision to avoid routing potential cable corridors through the Wash and North Norfolk Coast SAC in light of its status being changed to unfavourable condition. However, the unfavourable condition of some site features doesn’t preclude the cable from going through the SAC. But, it does provide context in relation to any risk based judgements that may need to be made in relation to the significance of any impacts and thus mitigation measures required. The Greater Wash SPA does not yet have an updated Conservation Advice package. The recently updated Conservation Advice package for the Outer Thames Estuary SPA has a “reduce” target for the attribute relating to the disturbance and displacement of red-throated divers. This species is also a feature of the Greater Wash SPA in which there is already known to be considerable disturbance/displacement of this species due to existing anthropogenic activities – notably operational offshore windfarms. It is

				therefore possible that before the Applicant applies for consent, a “reduce” target might also be set for the disturbance/displacement attribute within the conservation objectives for the red-throated divers in the Greater Wash SPA. This possibility should be borne in mind by the Applicant.
7.	Offshore Cable Corridor selection	1.4.3.1	65 / 68	In seeking to minimise the potential impacts of the installation of the offshore export cables, the density maps of the bird features of the Greater Wash SPA should have been considered – in particular the density map for red-throated divers (Natural England & JNCC 2016). The shortest route, while minimising the footprint within the SPA does not necessarily minimise the potential impact to this feature. Please also comments in the benthic ecology section in relation to the cable corridor.
8.	Proposed Development Description	1.5	85 / Table 1-3	Natural England understands that offshore turbine models are continuously evolving and therefore it would be difficult for the Applicant to determine the exact model that will be selected. However, is there not a predicted range in which the turbine models will be in size and wattage, at the least a worst case scenario? This information will be needed to determine the impacts upon sensitive receptors such as ornithology as early as possible.
9.				Natural England queries why floating turbines are not being considered as an alternative foundation option?
10.				Cable protection is mentioned once, for array cables only. Natural England would welcome further detail on potential cable protection across the array and export cable corridor. There is no indication or estimate given of the amount of cable protection that will be required.
11.	Wind Turbine Generators	1.5.4.3	99 / Table 1-5	While Natural England acknowledges the need to use a design envelope to maintain a degree of flexibility in wind turbine design, we consider that maintaining a lowest air gap above HAT of 22m is inadvisable and not in the Applicant’s interests. Recent examinations of offshore windfarm development consent applications by PINS (e.g. Hornsea project 2) have seen lowest air draughts increased to 35m above HAT specifically to reduce/mitigate predicted impacts arising from collision mortality of birds. If the design envelope for DEP and SEP included this as a lowest air gap, it is highly likely that the greatest number of collisions that might be predicted to occur for all bird species, and for Sandwich tern in particular, would be markedly reduced compared to an assumption of a lowest air gap of 22m above HAT. If a revised design envelope were adopted at this stage in the process, the likelihood of there being a significant or insurmountable risk to consent for DEP and/or SEP might be markedly reduced.
12.	Seabed preparation	1.5.6.2	137	Natural England would welcome more detailed information regarding what seabed preparation activities would be undertaken for both the turbine array area and cable corridors.

13.				Seabed preparation makes no reference to the need to dispose of any material. However, it is standard practice to designate a disposal site and to dispose of material dredged from the seabed. It should be included here as part of preparation and considered appropriately as an impact within any EIA. Or confirmation should be given that no disposal will be required along with justification as to why.
14.	Operation, maintenance and Decommissioning Phases	1.5.8		There is no mention of what O&M activities will be included in DCO application.
15.	Determining Receptor Sensitivity and Value	1.6.4.1	173 - 177	Natural England advises the Applicant to make use of the Advice on Operations within the Conservation Advice for all marine European designated sites and MCZs to inform this assessment. This advice identifies pressures associated with the most commonly occurring marine activities, and provides a detailed assessment of the feature/sub feature or supporting habitat sensitivity to these pressures. Advice on Operations should be used in conjunction with the specific details of a proposed plan or project (e.g. indirect and/or additive impacts, activity duration, time of year, scale etc.) and the site-specific Supplementary Advice on Conservation Objectives (SACO) in order to develop assessments of impacts to features within the site.
16.	Mitigation	1.6.4.4	182	Natural England welcomes the aspiration " <i>if possible, to enhance the environment</i> ". But please note that as a Statutory undertaker Equinor has a duty to maintain and enhance designated sites
17.			183	Natural England welcomes the intention to " <i>seek 'biodiversity net gain' through the mitigation hierarchy.... So that it can be demonstrated that the Projects are improving biodiversity</i> ".
18.	Cumulative Impacts	1.6.4.7.	188	<p>Natural England notes that no mention is made in the cumulative impact assessment (CIA) section of existing developments. Para 1.4 of Planning Inspectorate Advice Note 17 states the following:</p> <p>For example, the Overarching NPS for Energy (EN-1)9 paragraph 4.2.5 states that "When considering cumulative effects, the ES should provide information on how the effects of the Applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence)".</p> <p>Natural England notes the footnote to Table 2 in Advice Note 17 i.e.:</p> <p><i>Where other projects are expected to be completed before construction of the</i></p>

				<p><i>proposed NSIP and the effects of those projects are fully determined, effects arising from them should be considered as part of the baseline and may be considered as part of both the construction and operational assessment. The ES should clearly distinguish between projects forming part of the dynamic baseline and those in the CEA.</i></p> <p>Natural England does not consider that the effects of any existing OWF are yet fully determined (at least in terms of the level of additional mortality of birds due to either collision or displacement) or that any such effects have as yet been captured in up-to-date “baseline” estimates of the annual survival of any age group of any species of bird that might be subject to added impacts arising from DEP and/or SEP. Accordingly Natural England does not consider that any operational or consented OWF can be ascribed to being part of the dynamic baseline and so considers that all must therefore be included in CIA.</p>
19.			193	<p>Natural England notes that “<i>the full list of ongoing plans and projects to be included in the CIA will be developed as part of ongoing consultation with technical consultees.</i>” However, Natural England also notes that Advice Note 17 proposes a four stage approach to CEA and that Stages 1 – 2 (establishing the long-list and short-list) should ideally be undertaken early in the pre-application phase and ideally before requesting a Scoping Opinion. While a list of types of plans or projects that might be included within the CIA is provided in paras 191 and 192 of the Scoping Report this falls far short of a long or short list of particular plans/projects that could have been generated if the Advice Note 17 recommendation to adopt a GIS approach to determining a Zone of Influence around a planned development as part of Stage 1 of the CIA process had been followed.</p>
Part 2: Offshore				
2.1 Marine Geology, Oceanography and Physical Processes				
20.	Existing Environment: Bedload Sediment and Transport	2.1.1.3	204	<p>The Applicant is considering a proposed cable route through the Cromer Shoal MCZ, which is predominantly designated for subtidal chalk habitat. As stated there is often a veneer of gravelly sand laid on top of the bedrock. In the case of Cromer Shoal Chalk Beds MCZ, this bedrock is chalk. Cabling through chalk could result in losing the unique 3D structures it creates in certain places. Therefore, understanding where these veneers persist and are a suitable thickness for cabling in, would allow the applicant to have greater confidence that the features of the MCZ will not be damaged.</p>
21.	Potential Impacts During Construction	2.1.2.1	208	<p>Natural England agrees that the greatest potential impacts from the array upon the hydrodynamic regime would be from the constructed windfarm during operation. Therefore, we are content it can be scoped out of further consideration in relation to</p>

				the construction phase.
22.			209	Natural England disagrees that the wind farm extensions will not give rise to significant impacts on sea bed features. This is particularly relevant to the Cromer Shoal Chalk Beds MCZ and installing cables through it. The geological features that exist in this area are unique and cannot be reformed once damaged, unlike a mobile sediment dominated area. However, the effect on coastal morphology and sediment transport itself will probably be minimal.
23.			210	There is currently no reference to specific impacts of suspended sediment concentrations from disposal of dredged material at specific disposal grounds offshore. This needs to be considered further and scoped into the assessment.
24.	Potential Impacts During Operation	2.1.2.2	211	Will wake effects from the turbines be considered further in the assessment?
25.			212	For any proposed cable protection Natural England expects a reasonable estimate of the amount, area impacted and pressure exerted on any designated features within MPAs. Cable protection should be considered as a last resort.
2.2 Marine Water and Sediment Quality				
26.			General	Overall the proposed approach seems appropriate. Please see the following two comments, and otherwise, Natural England defers to the expert advice at the Environment Agency and CEFAS with regards to the need for surveys or additional assessment work for water and sediment quality.
27.	Potential Impacts During Construction	2.2.2.1	237	There is currently no reference to specific impacts of suspended sediment concentrations from disposal of dredged material at specific disposal grounds offshore. This needs to be considered further and scoped into the assessment.
28.	Potential Impacts During Operation	2.2.2.2	239	Increased concentrations of suspended sediments and release of contaminants due to ongoing scour during operation should be scoped in. This has been recognised by the scoping in of increased suspended sediment concentrations during operation in regard to Benthic and intertidal ecology.
2.3 Benthic and Intertidal Ecology				
29.			General	The northern part of DEP is known to be important for fisheries, in particular sand eel, an important prey species for Annex I Sandwich Tern. There will need to be clear consideration of how habitat change could affect prey availability (as well as potential increase in collision risk) for birds and other mobile species from SACs.
30.	Potential Impacts During Operation	2.3.2.2	273	<u>Cable protection:</u> Please be advised that a joint position paper between the MMO and Natural England is currently being drafted in relation to the place of cable protection. This position will clearly define the parameters for what is considered a construction impact, maintenance over the life time of the project, additional O&M placement and decommissioning. Currently the impacts from the use of cable protection are

				considered to be construction/installation and should be assessed as such recognising that this phase can last several years. In addition it is Natural England advice that cable protection is a permanent/long lasting impact not just during the lifetime of the project, but also beyond as there is currently no evidence to support the successful removal. Especially within designated sites where remove is likely to further impact on the interest feature of the site.
31.			274	<u>Habitat Creation:</u> Please be advised that any increase and/or change in biodiversity and species abundance as a result of the OWF and associated infrastructure may not be beneficial as not representative of seabed/designated site features.
32.			275	<u>Underwater noise:</u> Please be advised that the EIA will need to clearly demonstrate that data from previous R1 and 2 OWF remains fit for purpose for the larger turbines and electrical systems now used across industry. This has not been presented here in order for us to agree to it being scoped out.
33.			276	EMF should not be completely scoped out of the EIA, but Natural England agrees that it can be for benthic ecology.
34.	Potential Cumulative Impacts	2.3.2.4	278	Please be advised that fisheries management areas will need to be considered as a plan or project.
35.	Summary of Potential Impacts	2.3.2.6	280 Table 2-8	<ul style="list-style-type: none"> - Please see comment in relation to cable protection above. Therefore we do not believe that construction impacts can be scoped out. - Also see point on underwater noise above. - Colonisation of foundations and cable protection/invasive non-native species: there is no consideration of what happens if not decommissioned and left <i>in situ</i>. Therefore it is not appropriate to scope out. - Again please see above point on EMF.
36.	Approach to Assessment and Data Gathering	2.3.3	282	For designated site features please determine sensitivity using conservation advice packages and advice on operations.
37.			285	Please be advised that this paragraph is incorrect in relation to a full board scale habitat survey being undertaken. Nothing has been agreed or secured.
38.			286 Table 2-10	<p>Please be advised that Natural England advises against undertaking benthic surveys during the winter months in this location due to prevailing weather conditions and ability to collect satisfactory data sets. Case example is the Sheringham Shoal pre-construction benthic survey. In addition, the use of sub-bottom profilers along the Bacton export cable route should be avoided in the winter months due to potential impacts to marine mammals within the Southern North Sea SAC.</p> <p>Natural England notes that no geotechnical investigations are included. We advise that</p>

				as a minimum there would need to be some geotechnical investigations done pre-application to understand the feasibility of cable installation within the MCZ (see also comments on paragraph 204). These would need to be licenced through the MMO and would need to follow after the benthic surveys to demonstrate that there would be a significant impact to the features from the geotechnical surveys themselves. We would therefore expect a Preliminary Trenching Assessment (as done by Hornsea P3) or A cable installation assessment (Vanguard) to be provided as part of the project application.
2.4 Fish and Shellfish Ecology				
39.			General	Overall the proposed approach seems appropriate. Please see the following two comments, and otherwise, Natural England defers to the expert advice at Cefas with regards to the need for surveys or additional assessment work for Fish and Shellfish.
40.	Potential Impacts During Construction	2.4.2.1	302	Potential impacts here should also include impacts from disposal activities, such as smothering of larvae or potential changes to habitat.
41.	Approach to Assessment and Data Gathering	2.4.3	Table 2-14	Data from the most recently published International Herring Larvae Survey 2019 report should also be included to confirm what spawning, if any, is occurring at the identified potential spawning area. September 2019 is the latest publication at time of writing. Table 2-14 suggests that only up to 2018 will be considered.
2.5 Marine Mammal Ecology				
42.	Existing Environment	2.5.1	323	Natural England is satisfied with the species to be included in the marine mammal assessment, namely harbour porpoise, minke whale, white-beaked dolphin, grey seal and harbour seal.
43.	Potential Impacts During Operation	2.5.2.2	355	Natural England is content with the potential impacts to be included in the assessment and that direct impacts to marine mammals from EMF may be scoped out.
44.	Approach to Assessment and Data Gathering	2.5.3	369	Paragraph states digital aerial surveys for offshore ornithology and marine megafauna began in May 2018, but Table 2-16 says these surveys began in May 2019. Please can clarification be provided as to which date is correct.
45.			General	Consideration should also be given within the ES to the possible requirement for a European Protected Species licence.
2.6 Offshore Ornithology				
46.	Existing Environment	2.6.1	380	Natural England welcomes the intention, in addition to the species/seasons identified in para 379, that other seabird and waterbird species recorded at various times of year and any other species not yet recorded which are found to be present in the study area during the second year of baseline surveys will be accounted for during the

				assessment. However, Natural England considers that in addition to those species recorded at some point within the survey area, account may also need to be taken of the possibility for DEP/SEP to interact with migratory species – which may not be recorded at all during snapshot surveys, even over two years. The work of the SOSS programme provides a means to identify which bird species are likely to have a migratory pathway that encompasses the DEP and SEP footprints (Wright et al 2012) and so merits inclusion in the assessment.
47.			381	Natural England agrees with the need to give consideration to sites designated for their ornithological interest, and that lie beyond the boundary of the study area as a proportion of the birds using the habitats within DEP and SEP may originate from (distant) SPAs. However, Natural England advises that the distant SPAs screened in should not be limited to those determined solely by the breeding season/foraging ranges of their ornithological features, but also account for the potential for DEP and SEP to interact with birds from much more distant SPAs during the migration and non-breeding seasons as a proportion of the birds using the DEP and SEP areas may originate from even more distant SPAs. Furness (2015) provides information for many species of seabird on the suite of colonies that may have connectivity with the southern North Sea outside the breeding season.
48.	Potential Impacts	2.6.2	382	Natural England acknowledges recognition of the need to consider interrelationships between ornithological assessments and other assessments e.g. fish and shellfish ecology etc. Natural England advises that full consideration needs to be given to all of the potential indirect pathways through which DEP and SEP may impact birds through impacts on their food (or other key) resources and/or supporting habitats. In respect of bird qualifying features of designated sites (SPAs), the Supplementary Advice on Conservation Objectives (SACO) that form part of the Conservation Advice packages should be consulted to obtain a full picture of all the attributes (and their targets) which could provide a pathway whereby DEP and SEP may impact on the conservation objectives of these sites.
49.	Potential Transboundary Impacts	2.6.2.5	387	Natural England welcomes acknowledgment of the scale of OFW development not just in UK waters but in those of other European countries. This does indeed create the potential for transboundary impacts – and therefore also the need for all such developments (regardless of location) to be included within CIA for populations of many species whose mobility results in their potential interaction with OFWs in a wide range of national waters. It does not, however, follow that as the magnitude of the spatial scale of developments included within transboundary assessments increases that the size of the seabird reference populations increases too. The scope for there to be transboundary effects of developments needs to be considered against each

				population scale that is relevant – and that will often need to include individual colony SPAs because individuals from any one colony may well interact with developments across various national waters.
50.	Summary of Potential Impacts	2.6.2.6	389 Table 2.18	Natural England does not agree that barrier effects due to the presence of turbines can be scoped out during the construction and decommissioning phases. Barrier effects may begin as soon as the first few turbines are erected (which may be well before the end of the construction period), and may not end until the last few turbines are decommissioned.
51.	Data Gathering	2.6.3.1	390	<p>Natural England notes that the area of the “offshore scoping area” as depicted in Figure 1.1.1 does not correspond with the area covered by the survey design for the digital aerial surveys as depicted in Figure 2 of Dudgeon and Sheringham Shoal Extension Project – method statement for ornithological, and marine megafauna survey May 2018 – which is the latest information Natural England has regarding the area being surveyed. Clarity is needed on this issue. Natural England is not convinced that a 4km buffer around the survey area (as shown in Figure 2 of the method statement) is sufficient to ensure that characterisation data are going to be gathered across the full extent of the sea area over which the zone of influence of DEP and in particular SEP may extend – particularly in regard to the red-throated diver interest feature of the Greater Wash SPA. For this species there is increasing evidence of the zone of influence of operational windfarms exceeding 10km and perhaps reaching 20km. These distances would see the zone of influence around SEP overlapping with the Greater Wash SPA. Without survey information from these wider areas the ability to reach sound conclusions regarding the magnitude and significance of these developments on the Greater Wash SPA in particular may be compromised.</p> <p>Ideally, the survey design would have been informed by quantitative analyses of existing survey data from the general area of the DEP and SEP developments to arrive at a design that optimised the trade-off between increasing accuracy and precision of population abundance estimates and survey effort. But we acknowledge that there was a project requirement to start Ornithological surveys ahead of the evidence plan process.</p>
52.			392	As far as Natural England is aware digital aerial imagery cannot be used to discriminate different sexes of seabirds. Also, as far as Natural England is aware, the robustness of all approaches to estimating flight heights from aerial survey platforms has yet to be satisfactorily validated. Natural England is not convinced that the area covered by digital aerial survey, even covering as it does a 4km buffer, will provide any real insight into the importance of “the site” relative to a wider area. The entire aerial

				survey area is small and will provide no real insights into the abundance and distribution of any species in the general area of the Greater Wash – this being the scale at which year to year variation is most likely to be manifest.
53.			393	Natural England is pleased to see that information from other surveys will be utilised during the assessment.
54.	Key Aspects of the Assessment	2.6.3.2	394	Rather than Natural England being involved in further liaison with the Applicant to agree the specific assessment methodology “following the identification of the preferred offshore development area”, Natural England would welcome inclusion in the identification of the preferred offshore development area with the Applicant.
55.			396	<p>Natural England’s position on the issue of generating and using updated collision mortality estimates based on as-built project parameters has been most recently set out in our advice given in response to the PEIR submitted for Hornsea Project 4. This was as follows:</p> <p>Our position on as-built layouts is that for revised collision figures based on design or build changes to be accepted, it is necessary to:</p> <ul style="list-style-type: none"> • Provide documentary proof that the design envelope used to calculate new collision figures is 1) legally secured with no further change possible (i.e. written confirmation from the appropriate Regulator provided); 2) the worst case scenario design envelope for collisions for each species considered for projects that are not yet built; • Agree with Natural England the updated CRM figures – including bird parameters used in the CRM, which CRM model/option to be used, etc.; • Re-run CRMs to generate updated collision figures against any agreed changes to turbine design layouts. Where this is not possible for a project because original bird density data cannot be obtained, we would need to agree whether correction ratios can be calculated (for example following an approach such as MacArthur Green (2017)) and see the full calculation details for these correction factors. <p>This advice still holds.</p>
56.			397	Natural England notes the reference to the conclusions of The Crown Estate’s Offshore Wind Extensions Plan HRA. Natural England advises the Applicant that in its advice to The Crown Estate on the revised RIAA (submitted to TCE by Natural England on 15th July 2019) that “Natural England is not able to agree with the overall conclusions of the RIAA in relation to bird features of SPA.”

57.			398	Natural England advises that, as far as it is aware, the errors associated with site-specific flight height data that may be gathered as part of the digital aerial survey programme will be greater than required for the purpose of Collision Risk Modelling (CRM). If, in the case of CRM for Sandwich tern, the intention is to explore the use of flight height data gathered during the Sheringham Shoal post-construction monitoring, these data must be satisfactorily validated in order for any confidence to be placed in conclusions based on their use.
58.			399	In assessing the sensitivity of each species, Natural England advises the Applicant of the value of consulting the information contained within its Advice on Operations for the features of each Marine Protected Area.
59.			400	In addition to the list of alternative sources of information provided regarding the distribution of seabirds at sea, Natural England advises the Applicant to make use of the information arising from the work on mapping the distributions of birds and marine mammals around the whole of the UK as part of the Marine Ecosystems Research Programme (MERP). MERP: top predators Natural England also advises that in the near future a review of breeding seabird foraging ranges is likely to be completed (part of The Crown Estate front-loading projects for Round 4) and of seabird behaviour at sea under different environmental conditions (ongoing project funded by Marine Scotland). There may be other ongoing projects whose findings may be relevant to the assessments made by the Applicant in due course.
2.11 Offshore Designated Sites				
60.	Natura 2000 Sites	2.11.1.2	524 and Table 2-28	Natural England agrees that it is necessary to consider sites beyond the project boundary. Natural England further agrees that the list of sites provided in Table 2-28 is not an exhaustive list and that an HRA screening exercise should, as part of the application process to come, identify those sites on which the proposed developments would have likely significant effects alone or in combination. In particular, Natural England would advise the need to consider not just Natura 2000 sites in the vicinity of the proposed development (as listed in Table 2-28) but also far distant SPAs to/from which passage migrant birds may be travelling. We also advise consideration of the scope for DEP and SEP to interact during the breeding season with seabirds that are not part of the breeding pool of any given SPA, but are nonetheless part of the wider population on which the long-term viability of the breeding population depends (i.e. non-breeding adults, immatures and juveniles). DEP and SEP may also interact with seabirds outwith the breeding season and so far from the colony at which they may breed (much further than might be considered in scope purely on the basis of breeding season foraging radii).

				Further comments on Table 2.28:																								
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Part 3: Onshore																												
61.	Onshore Ground Conditions and Contamination	3.1	General	<p><u>Soils:</u> 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 170 of the NPPF. We also recommend that soils should be considered in the context of the sustainable use of land and the ecosystem services they provide as a natural resource, as also highlighted in paragraph 170 of the NPPF.</p> <p>Guidance on soil protection is available in the Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, and we recommend its use in the design and construction of development. Should the development proceed, we advise that the developer uses an appropriately experienced soil specialist to advise on, and supervise soil handling, including identifying when soils are dry enough to be handled and how to make the best use of soils on site.</p>																								
62.	Water quality	3.2	General	Impacts on the environment arising from pollution is likely unless appropriate																								

				<p>avoidance or mitigation measures are in place. Measures will need to be put in place to ensure that no pollution enters any surface water or rivers.</p> <p>The applicant should consider the potential impacts of a breakout when using HDD to bore underneath any watercourse and assess potential environmental impacts. We recommend that a code of conduct is in place to prevent damage in the event of a breakout, this should include stopping works and a communication plan listing relevant bodies such as Natural England and the Environment Agency.</p>
63.	Air quality	3.6	715	<p>Para 715 states that designated ecological sites within 50m of construction works and 200m of the road network may be affected by changes in air quality. We recommend that construction works within 200m (as opposed to 50m) of a designated site is scoped into air quality assessment so the potential impacts of dust and particulate matter to sensitive features are fully considered. This is in line with Natural England's distance criteria (<u>internal guidance</u>).</p>
3.4 Ecology and Ornithology (including Sites of Nature Conservation Interest)				
64.	Existing Environment	3.4.2	Table 3-9	<p>The North Norfolk Coast Ramsar and SPA have the same area and footprint, therefore they should have the same proximity to the study area – it is not clear why the SPA is considered to be within the study area, while the Ramsar is outside. Additionally, the North Norfolk Coast SPA is duplicated in the table with two different proximities given (within and 1.6km). We advise that the closest distance to any proposed development is used.</p> <p>The Broads is SAC only, while Broadland is an SPA as well as a Ramsar site.</p> <p>Mundesley Cliffs SSSI should be included in Table 3-9. Sand martins nest in the cliffs although they are not listed as a designated feature.</p> <p>Weybourne Town Pit SSSI should be included as it occurs within the onshore scoping area.</p>
65.			General	<p><u>Functional Linked Land</u>: Functional habitat is an undesignated area beyond the boundary of a protected site which is used by designated bird populations. A typical bird requires a secure roost and / or nest site, and sufficient food, all encompassed within a home range. Where an essential ecological function, such as foraging, occurs beyond a site boundary, then the area within which this occurs is termed functionally</p>

				<p>linked land, or is known as functional habitat. As the presence of this land is essential in meeting a species' needs, damage or deterioration of this habitat could in turn impact upon the designated population.</p> <p>The development may result in the removal of functional habitat or the disturbance of interest features, the relevant surveys should be completed to ascertain if designated species utilise the site and if the proposal is likely to significantly affect those species.</p>
66.			653	<p><u>County Wildlife Sites</u>: All routes that have the potential to impact County Wildlife Sites should be carefully considered to avoid impacts to these sites.</p>
Part 4: Wider Scheme Aspects				
4.1 Seascape, Landscape and Visual				
67.			General	<p>Natural England advises that visual impacts to seascape and in particular to the statutory purposes of the Norfolk Coast AONB from the operational phase of SEP and DEP should be considered. Natural England's concerns relate to the south western portion of the proposed SEP site, and the south eastern portion of the proposed DEP site.</p> <p>Natural England advises that the following potential impacts are scoped in:</p> <ul style="list-style-type: none"> • 'Curtaining' effect when viewed from onshore, created by apparent joining together of the DEP and SEP OWFs with existing OWFs (Dudgeon, Sheringham Shoal and Race Bank); • Use of taller turbines when viewed in conjunction with shorter turbines of existing OWFs will create a visually confusing and incoherent aspect within the seascape; • Cumulative impacts with other projects and existing OWFs.
6. Summary and Conclusions				
68.			902 Table 6-1	<p><u>Summary of impacts scoped in and out</u></p> <p>Natural England advises that any potential impacts which are not listed in this table, but come to light subsequently, cannot be considered to have been scoped out at this stage purely by omission.</p>

				<p>One general observation is that the section of this table devoted to marine mammals lists 18 different potential impacts listed whereas offshore ornithology lists just 6. The latter should be split into more specific impact pathways similar to the level of detail provided in regard to impacts on marine mammals. For example, for marine mammals there are 5 separate rows for differing cumulative effects but just one row for offshore ornithology. Also some potential impacts listed for marine mammals are currently omitted for offshore ornithology and these should be added – even if just to make clear they have been scoped out for offshore ornithology too – e.g. <i>Electromagnetic fields direct effects</i>.</p> <p>Under marine mammals there is a row for <i>Changes to prey availability (including from habitat loss and EMF)</i> whereas under offshore ornithology this is embedded within the broader impact of <i>Indirect impacts through effects on habitats and prey species</i>. There needs to be greater consistency in the listing of the potential impacts across the different receptors.</p> <p>It is not clear what is meant by the scoping out of all potential impacts for all development phases in relation to Offshore Designated Sites. In the case of Marine Protected Areas all of the attributes listed within the Supplementary Advice on Conservation Objectives for each qualifying feature of each designated site for which these are available, and through which impacts on the feature may arise indirectly e.g. air quality, food availability, water depth, water quality (DOC, nutrients and turbidity) etc., should be considered.</p> <p>Further comments on Table 6-1:</p> <table border="1"> <thead> <tr> <th>Potential impacts</th> <th>Natural England comment</th> </tr> </thead> <tbody> <tr> <td colspan="2">Marine water & sediment quality</td> </tr> <tr> <td>Potential for increases in suspended sediment</td> <td>This should not be scoped out during operation – the possibility of ongoing scour must be considered – and this is recognised by the scoping in of increased suspended sediment concentrations during operation in regard to Benthic and intertidal ecology.</td> </tr> <tr> <td>Potential for the release of contamination</td> <td>This should not be scoped out during operation – the possibility of ongoing scour must be considered.</td> </tr> <tr> <td colspan="2">Benthic and intertidal ecology</td> </tr> <tr> <td>Re-mobilisation of</td> <td>With increased suspended sediment</td> </tr> </tbody> </table>	Potential impacts	Natural England comment	Marine water & sediment quality		Potential for increases in suspended sediment	This should not be scoped out during operation – the possibility of ongoing scour must be considered – and this is recognised by the scoping in of increased suspended sediment concentrations during operation in regard to Benthic and intertidal ecology.	Potential for the release of contamination	This should not be scoped out during operation – the possibility of ongoing scour must be considered.	Benthic and intertidal ecology		Re-mobilisation of	With increased suspended sediment
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				contaminated sediments	concentrations during operation being screened in, so too should this potential impact.
				Invasive species	This should not be scoped out during construction. The vessels used during construction may already be carrying invasive species in their ballast water or on their external surfaces.
				Fish & shellfish ecology	
				Introduction of wind turbine foundations, scour protection and hard substrate	This should not be scoped out during the construction phase as this is the phase when wind turbine foundations and scour protection will be installed (and will also remain until decommissioning is completed).
				Impacts on commercially exploited species associated with their displacement from the area of activity / works	Consideration must also be given to potential impacts on species which are not commercially exploited but may nonetheless be key prey resources of many seabirds and waterbirds.
				Marine mammal ecology	
				Underwater noise during UXO clearance	This potential impact should also be scoped in in respect of waterbirds that forage underwater – eg red throated divers, auks etc. Advice on Operations produced by Natural England scores underwater feeding species such as red-throated divers to be sensitive to underwater noise changes (albeit low sensitivity).
				Underwater noise during piling	This potential impact should also be scoped in in respect of waterbirds that forage underwater – eg red throated divers, auks etc.
				Underwater noise and presence of vessels	This potential impact should also be scoped in in respect of waterbirds that forage underwater – eg red throated divers, auks etc.
				Underwater noise from operational wind turbines	This potential impact is scoped in for marine mammals during the operation phase. In the absence of any evidence indicating that seabirds and waterbirds that forage underwater are not similarly sensitive, this should be scoped in for birds too during the operational phase. Advice on Operations

					produced by Natural England scores underwater feeding species such as red-throated divers to be sensitive to underwater noise changes (albeit low sensitivity).
				Barrier effects from underwater noise	It is not clear why this potential impact is scoped out during operation when three other potential impacts relating to underwater noise during operation are scoped in.
				Changes to prey availability (including from habitat loss and EMF)	This potential impact pathway should also be listed for birds and scoped in
				Cumulative barrier impacts	It is not clear why this impact is scoped out for construction and decommissioning while barrier effects due to eg underwater noise is scoped in for these phases. Is this on the assumption that construction and decommissioning of DEP and SEP will not overlap in time with that of any other development? Unless that can be guaranteed, these cumulative barrier impacts should be scoped in across all three phases.
				Offshore ornithology	
				Disturbance and displacement (work activity, vessel movements, presence of turbines and infrastructure, lighting)	This impact pathway should also consider the potential for impacts from displaced fishing vessel activity and other shipping activity (scoped in elsewhere in this table).
				Barrier effect due to presence of turbines	This impact should be scoped in for construction and decommissioning phases as barrier effects may start as soon as the first turbines are erected and continue until the last ones are decommissioned.
				Commercial fisheries	
				Impacts on commercially exploited species associated with their displacement from the area of activity / works	Consideration must also be given to potential impacts on species which are not commercially exploited but may nonetheless be key prey resources of many seabirds and waterbirds.
				Displacement of fishing activity leading to increased pressure on other areas	The potential for this impact to have knock-on impacts on birds must also be considered and scoped in for all phases

				outside the wind farm sites	
				Shipping and navigation	
				Displacement of vessel routeing activities	The potential for this impact to have knock-on consequences for offshore ornithology must also be considered and scoped in for all phases.
				Ecology and Ornithology	Natural England assumes that this section relates to onshore?
				Indirect impacts.....	Natural England agrees that this should be scoped in for all phases but notes that assessment of indirect impacts must take account of all of the pathways through which impacts on sites' qualifying features may arise.
Additional comments					
69.		Appendix 2		It is not clear why density maps are provided for both grey seal (Fig 2.5.1) and harbour seal (Fig 2.5.2) but no equivalent density maps are provided for any bird species – using for example the outputs of: the JNCC's tern tracking and modelling work (Wilson et al 2014), the SeaMaST tool (Bradbury et al 2014), analysis of FAME tracking data (Cleasby et al 2018), analyses of Alde-Ore estuary gull tracking data by the BTO (Thaxter et al 2015) or the modelling work done as part of the Marine Ecosystem Research Programme (MERP).	
70.	Mitigation at a landscape scale and net gain			A wide range of mitigation and compensation measures will be required for the environmental impacts. At this early stage, we encourage the adoption of a landscape scale approach with a clear vision and coherent strategy of how measures can be delivered across a wider area beyond the compulsory purchase corridor of any route, cannot only provide mitigation and compensation but deliver a net gain for biodiversity and people. To achieve this will mean looking well beyond the footprint of any chosen route. Measures to create new, restore existing and link severed or isolated habitats across the wider area should be incorporated, with the focus on wetland and woodland habitats. This approach should also secure a net gain for biodiversity in line with government policy.	
71.	Research report			Natural England has produced a report <i>Generating more integrated biodiversity objectives – rationale, principles and practice (NERR071)</i> which it would be very useful to consider in the context of this development proposal and is available via http://publications.naturalengland.org.uk/publication/5891570502467584 The intention of the report is to help partners and stakeholders to understand our	

				rationale for more integrated biodiversity decision-making. It should be seen as critical detail for applying the 'ecosystem approach' which provides a wider framework for environmental decision-making.
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Norfolk County Council response to: Dudgeon and Sheringham Shoal Offshore Wind Farm Extension EIA Scoping Report

October 2019

1. Introduction

- 1.1. The County Council (CC) welcomes the opportunity to comment on the above Scoping Report. The comments below are made on a without prejudice basis and the County Council reserves the right to make further additional comments on the Development Consent Order (DCO) application during the statutory consultation periods and at the Public Examination stage.
- 1.2. The Environmental Impact Assessment (EIA) / Preliminary Environmental Information Report (PEIR) will need to assess the wider economic benefits arising from the above wind farm extension both in terms of the scheme coming forward on its own and in combination with the other wind farms.
- 1.3. The remainder of this note sets out more detailed comments in relation to the County Council's statutory roles and responsibilities:

2. Highways and Traffic Access

- 2.1. The construction phase will generate the greatest number of vehicle movements. The transportation of materials and removal of spoil for the trenches will cause the greatest impact.
- 2.2. With the above in mind, the applicants will need to submit a full Transport Assessment (TA). The TA will need to assess the effects of the anticipated traffic upon driver delay; severance; pedestrian delay; pedestrian amenity; accidents; road safety; and impact from abnormal loads. In order to assist with determining the content for the TA, the applicants need to provide details of the following:

(a) Vehicles

- 2.3. 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.

(b) Access and Access Route

- 2.4.
 - The anticipated volume of construction traffic needs to be identified for each individual route
 - detailed plans of site access/es incorporating sightline provision (with particular regard to the permanent access to the proposed substation)
 - Details of any routes to be stopped up
 - confirmation of any weight restrictions applicable on the route

- details of any street furniture along each route that may need to be temporarily removed/relocated
- Any roads to be crossed by open cut trench methods need to be agreed in advance with the Highway Authority. **NB – Norfolk County Council will seek to restrict open cut trenching on A and B routes at all times unless there is a technical reason why this is not possible.**

(c) Impact During Construction

2.5. Are any special requirements needed and if so provide details, for example:

- 2.6.
- Restrictions on the 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.
 - identification of the highway boundary along the construction traffic route (if required)
 - any modifications required to the alignment of the carriageway or verges/over-runs
 - identification of sensitive features along the route together with proposed mitigation measures
 - confirmation of any extraordinary maintenance agreement/s required by the Highway Authority
 - A Construction Traffic Management Plan
 - Measures proposed to avoid Impacts upon traffic during the tourist season – to be incorporated within the proposed traffic management plan.
 - Requirements for a Travel Plan (TP). If a TP is not going to be submitted, then justification needs to be provided.

(d) Specific Considerations

- 2.7.
- The cable route passes close to Oulton airfield which is intended to serve as a main compound for Hornsea 3; a mobilisation area for Norfolk Vanguard; and also a mobilisation area for Norfolk Boreas. The applicants need to identify any cumulative impacts arising from their proposals.
 - The cable route passes close Cawston village which accommodates construction traffic for Hornsea 3; Norfolk Vanguard and also Norfolk Boreas. The applicants need to identify any cumulative impacts arising from their proposals.
 - The traffic light junction at Harford has been identified as already being over capacity. It is anticipated this project will need to utilise this junction to for construction works to reach the substation. The applicants need to address this point. They also need to bear in mind Highways England have previously expressed concern with this junction due to potential for traffic to stack back to the A47(T) roundabout. Accordingly, the applicants also need to discuss this point at an early stage with Highways England.

- 2.8. Should you have any queries with the above highway comments please contact John Shaw email John.R.Shaw@norfolk.gov.uk

3. **Environment**

(a) Public Rights of Way

- 3.1. The installation of the on-shore cables has the potential to impact the Norfolk Coast Path, which follows the same route as the England Coast Path (ECP) in the locations where landfall is being considered. The Coast Path is managed by Norfolk County Council and is a heavily used recreational trail which brings significant benefits to the local economy. The County Council would wish to minimise impacts on this National trail during construction.
- 3.2. In addition to the Coast Path and the wider Public Rights of Way network, there are several County Trails and promoted circular walks that could be impacted during construction. Full details of County Council trails and promoted walks can be found on the County Council website <https://www.norfolk.gov.uk/out-and-about-in-norfolk>. We would particularly draw attention to the Marriott's Way which receives particularly heavy usage where it is crossed by the proposed cable corridor route in two separate locations. The Norfolk Trails team collect data on trail usage, and this can be provided for relevant locations in due course should it be required.
- 3.3. The Construction Code of Practice Document, and the Public Rights of Way Management Plan (presumably part of the former document), will be the method that will be used to agree potential impacts on the ECP, Norfolk Trails, the PRow network and other promoted walks. The County Council agree with this approach and will work with the applicant in this regard.

(b) Ecology Comments

- 3.4. The EIA will be supported by an information to support a HRA and the applicant intends to undertake the Ecological Impact Assessment (EclA) in accordance with guidelines published by the Chartered Institute of Ecology and Environmental Management (CIEEM) – Please note that EclA guidelines were updated in [2019](#) and that the new guidelines should be followed.
- 3.5. Table 3.13 states that the applicant is proposing to undertake the following surveys:
- Extended Phase 1 Habitat Survey (including non-native Invasive Species);
 - Badgers
 - Water vole and otter
 - Breeding birds
 - Great crested newts
 - Reptiles
 - Dormice
 - Bats: activity and emergence surveys
 - Botanical surveys, and

- Wintering bird surveys

3.6. Ecological surveys will need to be undertaken at the appropriate time of year in accordance with best practice guidelines (outlined in paragraph 677) and by suitably qualified and experienced surveyors (please state surveyor name, licence numbers and experience where applicable);

We would encourage the applicant to undertake reptile surveys on all land that has potential to support this species rather than concentrating on '*on habitats that may support significant populations*';

The scope of ecological surveys, which will be refined following the Phase 1 survey, needs to consider species for which sites are designated e.g. the White clawed Crayfish;

Important hedgerows, as defined by the Hedgerows Act 1997 will need to be identified;

Complete baseline data should support the EIA to ensure certainty in the conclusions, beyond reasonable doubt, that no Adverse Effects will result from the proposed proposals alone, and in combination with other proposals;

We welcome the proposal for liaison with the applicant as to the approach and methodology for data collection. The survey methodology for the PEA, and any subsequent habitat or species-specific surveys should be agreed with Natural England, the EA and the county ecologist, as appropriate, in advance of the surveys being undertaken;

All ecological data (including that from pre-construction and post construction monitoring) should be submitted to the Local Records Centre, in a timely manner and in a form that is readily accessible;

Table 3.9 European designated sites within 20km - Paston Great Barn SAC is not the only known barbastelle maternity roost in Norfolk. It was when the site was designated. The Norfolk Barbastelle Study Group be approached for data.;

Specialist local wildlife groups could be approached for local records, including Norfolk Barbastelle Study Group;

When selecting the onshore cable route, significant impacts on statutory and non-statutory designated sites should be avoided wherever possible, and where impacts cannot be avoided, appropriate mitigation or compensation put in place;

Consideration should also be given to securing biodiversity net gain

(c) Landscape Comments

3.7. Suitable methodology has been proposed for the SLVIA (Seascape, Landscape and Visual Impact Assessment) including best practise guidance from The Landscape Institute with the Institute of Environmental Management and Assessment (2013).

Guidelines for the Assessment of Landscape and Visual Impacts, Third Edition (GLVIA3) and Landscape and Seascape Character Assessments published by Natural England and the Department for Environment, Food and Rural Affairs (2014).

- 3.8. The study area has not currently been defined but should reflect best practise and ensure that where potential long distance views are possible, the study area is enlarged to reflect this. This will be particularly pertinent in areas of low-lying topography where the landscape will allow broad views across large expanses of landscape and seascape.
- 3.9. Suitable data sources have been identified to source Landscape Character Areas and information about smaller designated and important landscape. No mention is made of the 'Seascape character area assessment: East Inshore and East Offshore marine plan areas' produced by the Marine Management Organisation, this may be useful to refer to when undertaking the seascape element of this assessment. It should also be noted that the Norfolk Coast Area of Outstanding Natural Beauty does run south of Mundesley in a small separate section.
- 3.10. The identified visual receptors appear broadly correct for during construction, operation and decommissioning. Suitable mitigation should be proposed to minimise both the visual and landscape impacts, especially to residential and recreational uses, consideration should also be paid to the timing of construction work in relation to the tourism season when visual receptors will increase, giving rise to a much more significant impact.
- 3.11. Should you have any queries with the above environmental comments (a - c) please contact Emily Smith (Green Infrastructure and Landscape Officer) – email Emily Smith emily.smith2@norfolk.gov.uk
- 3.12. **(d) Historic Environment**
- 3.13. The Historic Environment team welcome the approach taken by the applicant's consultants Royal Haskoning in relation to archaeology and the historic environment more generally. We note that approach outlined in the EIA scoping report is similar to that taken for The Vanguard/Boreas scheme and values the inclusion of specialist historic environment survey work in addition to archaeological desk-based assessment and built heritage impact assessment at the EIA stage.
- 3.14. Our specific comments are as follows:

Paragraph 704, Table 3-15. Row 2, we welcome the recognition that a full NHER search will be required. Non-designated buildings with HER records do not necessarily equate with buildings regarded as local listed by North Norfolk District Council. An NHER record for an undesignated building is not an indicator of its significance;

Paragraph 704, Table 3-15, Row 4. The Existing archaeological studies and published sources should also include the archaeological assessment carried

out in relation to the Hornsea 3 onshore cable route;

Paragraph 705, Table 3-16, Row 3 and Paragraphs 706 and 707. We welcome the recognition that geophysical and trial trenching will be required at the pre-consent stage and recommend that Norfolk County Council Environment Service historic environment strategy and advice team are consulted at the earliest stage regarding the areas to be targeted;

Paragraph 708. Needs to include reference to *Standards for Development-led Archaeological Projects in Norfolk* (see below);

Paragraph 709. We would expect historic map regression to cover all of the onshore project boundary;

Paragraph 710. We assume that the Aerial Photographic and LiDAR assessment and the Geoarchaeological desk-based review will cover all of the onshore project boundary;

Paragraph 710. The Geoarchaeological desk-based review needs to also take into account NHER data relating to finds of Palaeolithic date and include an assessment of potential and impact assessment relating specifically to Palaeolithic archaeology.

- 3.15. Should you have any queries with the above historic environment comments please contact John Percival (Historic Environment – Senior Officer Strategy and Advice) - email John Percival john.percival@norfolk.gov.uk
- 3.16. Norfolk County Council introduced *Standards for Development-led Archaeological Projects in Norfolk* and a new historic environment strategy and advice charging schedule on 1 May 2018. Please visit <https://www.norfolk.gov.uk/libraries-local-history-and-archives/archaeology-and-historic-environment/planning-and-the-historic-environment> for copies.

4. **Economy and Skills**

- 4.1. It would be helpful if the EIA/PEIR could provide accurate figures of those likely to be employed during construction of the wind scheme, both in terms of the onshore and offshore work force. There should also be a statement as to whether the labour would be sourced from local firms or from further afield as well as consideration of using local supply chains during the construction phase. There needs to be an indication of the likely numbers employed in the longer term once the extended wind farm is in operation i.e. how many jobs will there be in the operations and maintenance of the scheme.
- 4.2. While Norfolk County Council recognises the likely economic and environmental benefits arising from the proposed extended wind farms, it is felt that the EIA should consider the wider education, skills and employment opportunities during and after construction of the scheme. The County Council would therefore suggest that the

applicant develops an Education; Skills and Employment Strategy which will form part of the DCO application to address the above issues. Such strategies have been taken forward with other NSIPs covering, for example, the offshore wind energy sector developments.

- 4.3. Should you have any queries with the above comments please contact the Norfolk County Council's Economic Development Manager – David Dukes david.dukes@norfolk.gov.uk and/or the Employment and Skills Manager - Jan Feeney jan.feeney@norfolk.gov.uk

5. **Lead Local Flood Authority (LLFA)**

- 5.1. The LLFA strongly recommend that any EIA includes Flood Risk Assessments (FRA's) and surface water drainage strategies that address
- Local sources of flood risk, including those from ordinary watercourses, surface runoff and groundwater
 - How surface water drainage will be managed on the substation sites and show compliance with the written Ministerial Statement HCWS 161 by ensuring that Sustainable Drainage Systems for the management of run-off are put in place.
 - Post construction ground levels not disrupting current overland flow routes along and across the alignment of the proposed underground cables for land at risk of flooding.
 - Temporary arrangements to maintain overland flow paths that cross the alignment of the proposed underground cables for land at risk of flooding.
 - The requirement to seek consent from Norfolk County Council (NCC) for works that affect the flow in ordinary watercourses outside of the control of an IDB.
- 5.2. This supporting information would assess the potential for the development to increase the risk of flooding from the proposal or how surface water runoff through the addition of hard surfaces. It will show how this will be managed to ensure that the development does not increase flood risk on the site or elsewhere, in line with National Planning Policy Framework (paragraph 103).

In this particular case this would include appropriate information on:

- Sustainable Drainage Systems (SuDS) proposals in accordance with appropriate guidance including “Non-statutory technical standards for sustainable drainage systems” March 2015 by Department for Environment, Food and Rural Affairs.
- 5.3. With particular reference to Section 3.2 Water Resources and Flood Risk, the LLFA welcome that the Scoping report indicates that Flood Risk Assessments (FRA's) will be undertaken and we recommend these will be based on the requirements of the National Planning Policy Framework (NPPF) and in line with Planning Practice Guidance (PPG).

- 5.4. The LLFA also welcome that the applicant indicates that the FRA will inform the identification of any required mitigation measures. These should include drainage strategies and we recommend that appropriate SuDS features are included in the design assessment of the proposed development in accordance with policy guidelines.
- 5.5. Once the potential sites for the Substation and route location for the cables have been finalised we would expect a drainage strategy to assess and justify compliance with the SuDS hierarchy for surface water disposal location. This would include:
- Demonstration of infiltration testing completed to BRE365 requirements or equivalent (including 3 infiltration tests in quick succession at each location tested, each location would be representative across the site and be at depths anticipated to be used on site). A description of where any infiltration is anticipated to be used in full or partially drained SuDS components within a strategy.
 - If site wide infiltration is not appropriate due to unfavourable rates, demonstration with evidence as to why there cannot be a connection made to the nearest watercourse.
 - As a final option, demonstration with evidence that Anglian Water would accept a connection to a surface water sewer.
- 5.6. The drainage strategy should also contain a maintenance and management plan detailing the activities required and details of who will adopt and maintain the all the surface water drainage features for the lifetime of the development.

We note the following constraints from the scoping report and welcome these considerations that are applicable to Flood and Water Management issues:

- Proximity to residential properties,
 - Proximity to Source Protection Zones (SPZ),
 - Flood risk,
 - Minimise requirement for complex crossing arrangements, e.g. road, river, rail and other pipeline crossings,
 - Other infrastructure
- 5.7. Further to the criteria mentioned above the LLFA note the flowing settlements have historical flooding issues and are likely to be sensitive to disruptions to the wider drainage networks:

North Walsham – Drains to the North east (North Walsham and Dilham Canal) and South West (Skeyton Beck); and

Dereham – Drains to the East (via Dereham Stream to Wending Beck).

- 5.8. Generally, any proposed cable route will likely cross watercourses within the catchments of the River Yare, the River Bure and the River Wensum. There are significant lengths of potentially affected Watercourses in the search area that are controlled by the Norfolk Rivers IDB for which they will need to be consulted on separately.

- 5.9. Please note, if there are any works proposed as part of this application that are likely to affect flows in an ordinary watercourse outside of the IDB areas, then the applicant is likely to need the approval of the County Council. In line with good practice, the Council seeks to avoid culverting, and its consent for such works will not normally be granted except as a means of access. It should be noted that this approval is separate from planning. The LLFA would appreciate the applicant advising Norfolk County Council's Water Management team, as soon as practicable, the approximate number of crossings of Ordinary Watercourses and the required timeframes for approval. This will enable us to have adequate staffing resources in place to ensure approvals are not unduly delayed. Please be aware that it takes up to 8 weeks for a consent to be processed. The Flood and Water management team are happy to engage in this process prior to application, and now offer a chargeable Pre-App service.
- 5.10. The LLFA would advise the applicant that the CIRIA SuDS Manual C697 (2007) has recently been updated, report C753 (2015) is now available free on the CIRIA website. We expect any information submitted after 12 March 2016 to use the 2015 SuDS Manual.

On the 19th February 2016, the Environment Agency updated the guidance on climate change allowances for peak river flow and rainfall intensity. The information for the Anglian Region and transitional arrangements for use within the planning process can be found at <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>. We highlight that peak river flow climate change allowances should be considered for ordinary watercourses as well as main rivers.

Please also note that The LLFA guidance has been updated, and that the advice to use FSR rainfall information if the critical storm duration is less than 1 hour has been removed. Only up to date FEH data will be requested in the future.

- 5.11. Further guidance for developers can be found on our website at <https://www.norfolk.gov.uk/rubbish-recycling-and-planning/flood-and-water-management/information-for-developers>
- 5.12. If you have any further queries please contact Lucy Perry (Flood Risk Officer) email lfa@norfolk.gov.uk

6. **Minerals and Waste**

- 6.1 Norfolk County Council in its capacity as the Mineral and Waste Planning Authority for Norfolk has the following comments to make on EIA scoping report for the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions.
- 6.2 **Local planning policies and designations** - The adopted Norfolk Minerals and Waste Core Strategy and Development Management Policies DPD and the Minerals and Waste Site Specific Allocations DPDs are relevant local planning policies and should be taken into account throughout the project.

6.3 **3.1.2.1 Potential impacts during construction**

Paragraph 582.

The recognition of the potential for direct impacts to Mineral Safeguarding Areas is welcomed.

6.4 **3.1.2.2 Potential impacts during operation**

Paragraph 586.

The recognition of the potential for direct impacts to Minerals Safeguarding Areas is welcomed.

6.5 **Table A1-14**

The inclusion of the NPS requirements EN-1-5.10.9 and EN-5.14.6 regarding mineral safeguarding and waste are welcomed.

6.6 To ensure mineral safeguarding is appropriately taken into account, the ES should consider how a methodology can be put in place for the reuse of suitable materials extracted as part of the cable construction phases.

6.6 Should you have any queries with the above comments please contact Richard Drake (Senior Planner Minerals and Waste Policy) on 01603 222349 or email on richard.drake@norfolk.gov.uk

Terry, Hannah

From: Geoff Lyon <Geoff.Lyon@north-norfolk.gov.uk>
Sent: 06 November 2019 18:12
To: SADEP
Subject: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Dear Hannah Terry

RE: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Thank you for notifying North Norfolk District Council (NNDC) in respect of a scoping consultation for application by Equinor New Energy Limited (the Applicant) for an Order granting Development Consent for the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions (the Proposed Development).

Whilst NNDC would have liked to have been able to provide more detailed comments in respect of this scoping consultation, resource limitations and other work pressures and priorities have prevented us from doing so. However, NNDC has committed to taking an active part in NSIP examination process and has done so with previous offshore windfarm projects including Ørsted Hornsea Project Three and Vattenfall Vanguard as well as the upcoming Vattenfall Boreas Project.

North Norfolk District Council is fully supportive of the principle of renewable energy development in helping to tackle the challenges faced by climate change. NNDC recognises the national importance of having a balanced supply of electrical generation including increasing renewable energy supplies from offshore turbines in helping decarbonise the UK's energy sector. At a local level NNDC has made a significant contribution of its own through, amongst other things, the grant of planning permission for in excess of 150MW capacity of solar farms, with electrical output capable of powering over 40,000 homes, in North Norfolk.

Whilst recognising the national importance of Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions, North Norfolk District Council believes it is essential to ensure that key design and construction decisions do not result in unacceptable or adverse impacts on residents or businesses within North Norfolk, acknowledging the important contribution that agriculture and tourism plays in the economic prosperity of the District underpinned by the nationally and internationally recognised coast, landscape and biodiversity interests as well as significant heritage assets that help define the unique character of the area.

In gathering the evidence needed to support the application for the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions, it is noted that reference is made to landscape data in the form of the North Norfolk Landscape Character Assessment at Table 4.2 (page 191 of 310). It is important that the applicant refers to the most up to date landscape evidence for North Norfolk and this should be the new North Norfolk Landscape Character Assessment and a new Landscape Sensitivity Assessment which provide the most up to date evidence in accordance with best practice. These documents will be adopted as SPD before the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions NSIP application is submitted. Copies of these documents are available on the Council's website [here](#).

The applicant is due to meet with NNDC on 28 Nov 2019 where the project will be discussed in more detail.

Kind Regards

Geoff Lyon
Major Projects Manager

Geoff Lyon
Major Projects Manager
+441263 516226



North Norfolk District Council
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Sheringham Shoal & Dudgeon Extension project

Scoping Report response from Oulton Parish Council

Oulton Parish Council (OPC) has been active in responding to the **Orsted Hornsea Three** project and the **Vattenfall Norfolk Vanguard** project both during consultation and during the Examination process. OPC is also about to participate in the Examination for Vattenfall's **Norfolk Boreas**.

Oulton will be significantly adversely impacted by these projects for the following reasons:

Orsted Hornsea Three will have its **Main Construction Compound** on the former airfield in Oulton for the duration of the construction process (an 8-year window) and will see all construction materials and cable drums for the project delivered into and then out of the compound to the cable route by HGVs and abnormal loads.

Vattenfall Norfolk Vanguard and Boreas cable route will go through the southern part of the village and will incorporate a **Mobilisation Area (construction compound)** and the **Cable Logistic Area** for the whole project.

The cumulative impacts from these projects are many, but include the fact that both projects will be using the same access route **B1149/The Street** and at potentially the same time, thus the HGV/other vehicle impact will be huge.

Orsted 118 HGVs & 130 other vehicles daily
Vattenfall 96 HGVs & 80 other vehicles daily

Oulton Parish Council therefore have grave concerns about the addition of yet another project – **Sheringham Shoal and Dudgeon Extension** - routing their cable corridor through the village with the inevitability of further cumulative impacts, especially from traffic.

Oulton Parish Council wish to highlight these main concerns...

Traffic and transport (project in isolation and cumulative with other projects)
Noise from traffic and construction (project in isolation and cumulative with other projects)
Air quality (increased pollution from HGVs in isolation and cumulative with other projects)
The possibility of yet another construction compound in the village.
Impact on potential sensitive receptors (those exposed to increased traffic along access routes)
Cumulative impact with existing intensive farm traffic in the area, including oversized farm vehicles during harvest periods on rural roads meeting increased numbers of HGVs.
Night time working (Noise and light pollution)
Protracted period of construction traffic forced onto the local community yet again, currently 8-10 years with existing projects.
Residents' physical wellbeing and mental health from extended construction periods.
Road closures and/or diversions
Emergency vehicle response times.

The Scoping Report states:

"The construction access strategy will seek to direct the majority of Heavy Goods Vehicle (HGV) movements via the 'A' road network."

However, the cable route proposed will clearly be accessed mostly by 'B' roads and unclassified roads.

Early consultation with NCC Highways and District Councils, as well as with Parish Councils, will be essential, as these are the bodies with local knowledge and specific concerns.

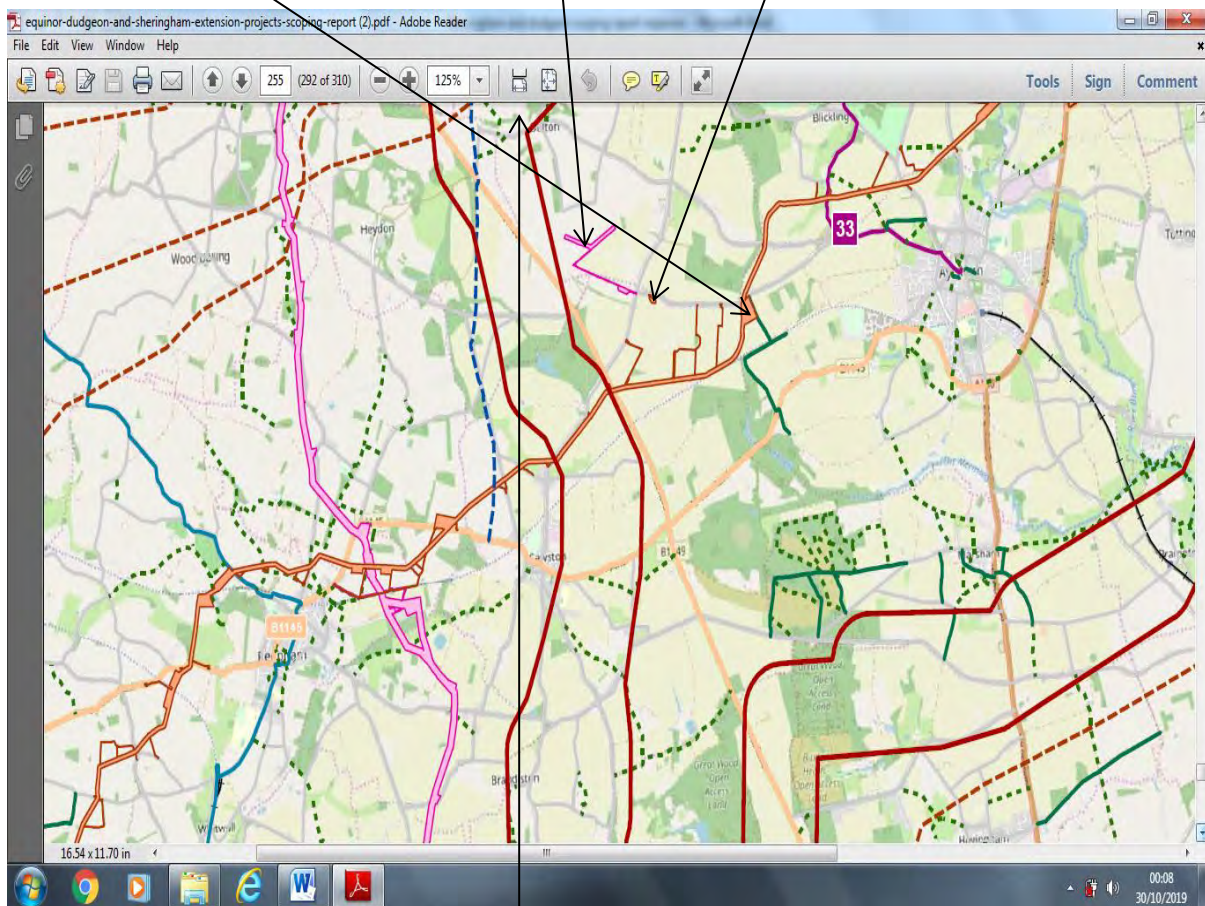
Please see cumulative impact map below.

Cumulative impact map Orsted Hornsea Three, Vattenfall Norfolk Vanguard/Boreas and Sheringham Shoal and Dudgeon Extension Project....OULTON

Vanguard/Boreas Mobilisation area/cable route

Orsted Hornsea Three Main construction Compound

Vattenfall Cable logistics area



Sheringham Shoal & Dudgeon Extension Project

Terry, Hannah

From: clerkplumsteadparishcouncil@hotmail.com
Sent: 05 November 2019 09:49
To: SADEP
Cc: clerkplumsteadparishcouncil@hotmail.com
Subject: Re: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Sir/Madam,

Your Ref: EN010109-000007

Planning Act 2008 and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11

Application by Equinor New Energy Limited (the Applicant) for an Order granting Development Consent for the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions (the Proposed Development)

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

Further to your email dated 9 October, Plumstead Parish Council wishes to make the following comments regarding the above Application.

- 1 Plumstead Parish Council is in favour of offshore wind farms as a source of renewable energy.
- 2 Councillors are concerned about the severe environmental impact of multiple operations to bury cables to link with the National Grid.

We already have Hornsea 3 Cables passing through Edgefield. Hence there is the likelihood of major disruption over a very long period. These projects should be combined with the National Grid taking the lead.

- 3 Councillors are in favour of the proposal to create a 'ring main' to which the various wind farms would connect and landfall would be confined to perhaps two sites. There should be sufficient capacity to allow for future expansion of the wind farms in the North Sea.

Councillors appreciate that there may be a financial cost but it would be consistent with the overall environmental aims.

Yours faithfully

Carolyn Price
Clerk
On behalf of Plumstead Parish Council

Carolyn Price
Clerk ~ Plumstead Parish Council
Tel: 07845979112

From: SADEP <sadep@planninginspectorate.gov.uk>
Sent: 09 October 2019 15:44
To: SADEP <sadep@planninginspectorate.gov.uk>
Subject: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Dear Sir/Madam

Please see attached correspondence on the proposed Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions.

Please note the deadline for consultation responses is **06 November 2019**, and is a statutory requirement that cannot be extended.

Kind regards,

Ifan Gwilym

Cynghorydd AEA a Hawliau Tîr | EIA and Land Rights Advisor
Cyfarwyddiaeth Gwaith Achos Mawr | Major Casework Directorate
Yr Arolygiaeth Gynllunio | The Planning Inspectorate

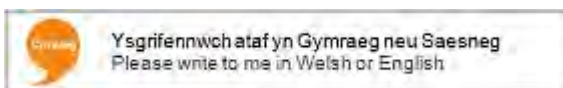
Temple Quay House, Temple Quay, Bristol BS1 6PN
0303 444 5491

Ifan.Gwilym@planninginspectorate.gov.uk

infrastructure.planninginspectorate.gov.uk/ (Cynllunio Seilwaith Cenedlaethol // National Infrastructure Planning)

www.gov.uk/government/organisations/planning-inspectorate (Yr Arolygiaeth Gynllunio // The Planning Inspectorate)

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Public Health
England

Environmental Hazards and
Emergencies Department
Centre for Radiation, Chemical and
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www.gov.uk/phe

Your Ref: EN010109-000007

Our Ref: 52293CIRIS

Ms Hannah Terry
The Planning Inspectorate
Major Casework Directorate
Temple Quay House
2 The Square
Bristol BS1 6PN

1st November 2019

Dear Ms Terry

**Nationally Significant Infrastructure Project
Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions
Scoping Consultation Stage**

Thank you for including Public Health England (PHE) in the scoping consultation phase of the above application. Advice offered by PHE is impartial and independent.

PHE exists to protect and improve the nation's health and wellbeing and reduce health inequalities; these two organisational aims are reflected in the way we review and respond to Nationally Significant Infrastructure Project (NSIP) applications.

The health of an individual or a population is the result of a complex interaction of a wide range of different determinants of health, from an individual's genetic make-up, to lifestyles and behaviours, and the communities, local economy, built and natural environments to global ecosystem trends. All developments will have some effect on the determinants of health, which in turn will influence the health and wellbeing of the general population, vulnerable groups and individual people. Although assessing impacts on health beyond direct effects from for example emissions to air or road traffic incidents is complex, there is a need to ensure a proportionate assessment focused on an application's significant effects.

Having considered the submitted scoping report we wish to make the following specific comments and recommendations:

Environmental Public Health

We understand that the promoter will wish to avoid unnecessary duplication and that many issues including air quality, emissions to water, waste, contaminated land etc. will be covered elsewhere in the Environmental Statement (ES). We believe the summation of relevant issues into a specific section of the report provides a focus which ensures that public health is given adequate consideration. The section should summarise key information, risk assessments, proposed mitigation measures, conclusions and residual impacts, relating to human health. Compliance with

the requirements of National Policy Statements and relevant guidance and standards should also be highlighted.

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. The attached appendix summarises PHE's requirements and recommendations regarding the content of and methodology used in preparing the ES. Please note that where impacts relating to health and/or further assessments are scoped out, promoters should fully explain and justify this within the submitted documentation.

Recommendation

Our position is that pollutants associated with road traffic or combustion, particularly particulate matter and oxides of nitrogen are non-threshold; i.e., an exposed population is likely to be subject to potential harm at any level and that reducing public exposures of non-threshold pollutants (such as particulate matter and nitrogen dioxide) below air quality standards will have potential public health benefits. We support approaches which minimise or mitigate public exposure to non-threshold air pollutants, address inequalities (in exposure), maximise co-benefits (such as physical exercise). We encourage their consideration during development design, environmental and health impact assessment, and development consent.

Electro-magnetic Fields (EMF)

Given the nature of the development, we recommend that particular attention is paid to the EMF section in the Appendices below.

Yours sincerely

For and on behalf of Public Health England
nsipconsultations@phe.gov.uk

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

Appendix: PHE recommendations regarding the scoping document

Introduction

The Planning Inspectorate's Advice Note 11: Working with Public Bodies covers many of the generic points of interaction relevant to the Planning Inspectorate and Public Health England (PHE). The purpose of this Annex is to help applicants understand the issues that PHE expect to see addressed by applicants preparing an Environmental Statement (ES) as part of their Nationally Significant Infrastructure Planning (NSIP) submission

We have included a comprehensive outline of the type of issues we would expect to be considered as part of an NSIP which falls under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations). PHE encourages applicants to contact us as early in the process as possible if they wish to discuss or clarify any matters relating to chemical, poison, radiation or wider public health.

General Information on Public Health England

PHE was established on 1 April 2013 to bring together public health specialists from more than 70 organisations into a single public health service. We are an executive agency of the Department of Health and are a distinct delivery organisation with operational autonomy to advise and support government, local authorities and the National Health Service (NHS) in a professionally independent manner.

We operate from 8 local centres, plus an integrated region and centre for London, and 4 regions (North of England, South of England, Midlands and East of England, and London). We work closely with public health professionals in Wales, Scotland and Northern Ireland, and internationally.¹ We have specialist teams advising on specific issues such as the potential impacts of chemicals, air quality, ionising and non-ionising radiation and other factors which may have an impact on public health, as well as on broader issues such as the wider determinants of health, health improvement and health inequalities.

PHE's NSIP related roles and responsibilities and geographical extent

PHE is a statutory consultee in the NSIP process for any *applications likely to involve chemicals, poisons or radiation which could potentially cause harm to people and are likely to affect significantly public health.*² PHE will consider the potential significant effects (direct and indirect) of a proposed development on population and human health and the impacts from chemicals, radiation and environmental hazards.

Under certain circumstances PHE may provide comments on ionising radiation to/on behalf of the Scottish Parliament. If a proposer is submitting a planning application in Scotland which may require advice on radiation you are recommended to contact the appropriate Scottish Planning Authority for advice on how to proceed.

In the case of applications in Wales, PHE remains a statutory consultee but the regime applies to a more limited range of development types. For NSIP applications likely to affect land in Wales, an applicant should still consult PHE but, additionally will be required to consult the Welsh Ministers.

Role of Public Health England and NSIP with respect to Environmental Impact Assessments

PHE has a statutory role as a consultation body under the EIA Regulations. Where an applicant has requested a scoping opinion from the Planning Inspectorate³ in relation to a proposed NSIP, PHE will be consulted by the Planning Inspectorate about the scope, and level of detail, of the information to be provided in the ES and will be under a duty to make information available to the applicant. PHE's standard recommendations in response to EIA scoping consultations are below.

¹ <https://www.gov.uk/government/organisations/public-health-england/about#priorities>

² The Infrastructure Planning (Interested Parties and Miscellaneous Prescribed Provisions) Regulations 2015

³ The scoping process is administered and undertaken by the Planning Inspectorate on behalf of the Secretary of State

PHE also encourages applicants to discuss with them the scope of the ES at an early stage to explore, for example, whether careful site selection or other design issues could minimise or eliminate public health impacts or to outline the requirement for, scope and methodology of any assessments related to public health.

PHE's recommendations to applicants regarding Environmental Impact Assessments General approach

Applicants are reminded that Section 5(2)(a) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 specifically includes a requirement that the EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on population and human health.

PHE is of the opinion that this requirement encompasses the wider determinants of public health, as well as chemicals, poisons and radiation. Further information on PHE's recommendations and requirements is included below.

It is the role of the applicant to prepare the ES. PHE provides advice relating to EIA within this document and during the NSIP consultation stages.

When preparing an ES the applicant should give consideration to best practice guidance such as the Government's Handbook for scoping projects: environmental impact assessment⁴, IEMA Guide to Delivering Quality Developments⁵, and Guidance: on Environmental Impact Assessment⁶

The Planning Inspectorate's Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements also provide guidance to applicants and other persons with interest in the EIA process as it relates to NSIPs.

It is important that the submitted ES identifies and assesses the potential public health impacts of the activities at, and emissions from, the development.

PHE understands that there may be separate sections of the ES covering the assessment of impacts on air, land, water and so on, but expects an ES to include a specific section summarising potential impacts on population and health. This section should bring together and interpret the information from other assessments as necessary. The health and population impacts section should address the following steps.

1. Screening: Identify and significant effects.
 - a. Summarise the methodologies used to identify health impacts, assess significance and sources of information
 - b. Evaluate any reference standards used in carrying out the assessment and in evaluating health impacts (e.g., environmental quality standards)
 - c. Where the applicant proposes the 'scoping out' of any effects a clear rationale and justification should be provided along with any supporting evidence.

2. Baseline Survey :
 - a. Identify information needed and available, Evaluate quality and applicability of available information
 - b. Undertake assessment

⁴ <https://www.gov.uk/government/publications/handbook-for-scoping-projects-environmental-impact-assessment>

⁵ <https://www.iema.net/assets/newbuild/documents/Delivering%20Quality%20Development.pdf>

⁶ <https://www.gov.uk/guidance/environmental-impact-assessment#the-purpose-of-environmental-impact-assessment>

3. Alternatives:
 - a. Identify and evaluate any realistic alternative locations, routes, technology etc.
4. Design and assess possible mitigation
 - a. Consider and propose suitable corrective actions should mitigation measures not perform as effectively predicted.
5. Impact Prediction: Quantify and Assess Impacts:
 - a. Evaluate and assess the extent of any positive and negative effects of the development. Effects should be assessed in terms of likely health outcomes, including those relating to the wider determinants of health such as socio-economic outcomes, in addition to health outcomes resulting from exposure to environmental hazards. Mental health effects should be included and given equivalent weighting to physical effects.
 - b. Clearly identify any omissions, uncertainties and dependencies (e.g., air quality assessments being dependant on the accuracy of traffic predictions)
 - c. Evaluate short-term impacts associated with the construction and development phase
 - d. Evaluate long-term impacts associated with the operation of the development
 - e. Evaluate any impacts associated with decommissioning
 - f. Evaluate any potential cumulative impacts as a result of the development, currently approved developments which have yet to be constructed, and proposed developments which do not currently have development consent
6. Monitoring and Audit (not a statutory requirement)
 - a. Identify key modelling predictions and mitigation impacts and consider implementing monitoring and audit to assess their accuracy / effectiveness.

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 applicant should fully explain and justify their rationale in the submitted documentation.

Consideration of alternatives (including alternative sites, choice of process, and the phasing of construction) is widely regarded as good practice. Ideally, the EIA process should start at the stage of site 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 ES⁷.

Human and Environmental Receptors

The applicant 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.

Identify and consider impacts on residential areas and sensitive receptors (such as schools, nursing homes and healthcare facilities, as well as other vulnerable population groups such as those who are young, older, with disabilities or long-term conditions, or on low incomes) in the area(s) which may be affected by emissions, this should include consideration of any new receptors arising from future development.

⁷ DCLG guidance, 1999 <http://www.communities.gov.uk/documents/planningandbuilding/pdf/155958.pdf>

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 or activities 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.

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

Emissions to Air and Water

Significant impacts are unlikely to arise from industrial 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 the assessment of emissions from any type of development in order that the ES 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
- encompass the combined impacts of all pollutants which may be emitted by the development with all pollutants arising from associated development and transport, considered in a single holistic assessment (ie, of overall impacts)
- include Chemical Abstract Service (CAS) numbers alongside chemical names, where referenced in the ES
- consider the construction, operational, and decommissioning phases
- 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
- fully account for fugitive emissions
- include appropriate estimates of background levels
 - when assessing the human health risk of a chemical emitted from a facility or operation, background exposure to the chemical from other sources should be taken into account
- identify cumulative and incremental impacts (ie, 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 (ie, rail, sea, and air)
- include consideration of local authority, Environment Agency, Natural Resources Wales, Defra national network, and any other local site-specific sources of monitoring data
- compare predicted environmental concentrations to the applicable standard or guideline value for the affected medium. Where available, the most recent UK standards for the appropriate media (ie, 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, use those recommended by the European Union or World Health Organization:

- If no standard or guideline value exists, the predicted exposure to humans should be estimated and compared to an appropriate health-based value (eg, a Tolerable Daily Intake or equivalent)
- This should consider all applicable routes of exposure (eg, include consideration of aspects such as the deposition of chemicals emitted to air and their uptake via ingestion)
- 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) approach¹ is used
- 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 (eg, 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 applicant 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. Further to assessments of compliance with limit values, for non-threshold pollutants (ie, those that have no threshold below which health effects do not occur) the **benefits** of development options which reduce population exposure should be evaluated.

Additional points specific to emissions to air

When considering baseline conditions (of existing air quality) and 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)
- modelling using appropriate meteorological data (i.e. come from the nearest suitable meteorological station and include a range of years and worst-case conditions)
- modelling taking into account local topography, congestion and acceleration
- evaluation of the public health **benefits** of development options which reduce air pollution – even below limit values – as pollutants such as nitrogen dioxide and particulate matter show no threshold below which health effects do not occur.

Additional points specific to emissions to water

When considering baseline conditions (of existing water quality) and the assessment and future monitoring of impacts, these should:

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

Land Quality

We would expect the applicant to provide details of any hazardous contamination present on site (including ground gas) as part of a 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 assessed⁸ 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 applicant should demonstrate compliance with the waste hierarchy (e.g. with respect to re-use, recycling or recovery and disposal).

For wastes arising from the development the ES should assess:

- 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

If the development includes wastes delivered to the installation:

- Consider issues associated with waste delivery and acceptance procedures (including delivery of prohibited wastes) and should assess potential off-site impacts and describe their mitigation

Other aspects

Within the ES, PHE would expect to see information about how the applicant 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.

PHE would expect the applicant to consider 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: both in terms of their applicability to the development itself, and the development's potential to impact on, or be impacted by, any nearby installations themselves subject to 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 report⁹, jointly published by Liverpool John Moores University and the Health Protection Agency (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*

⁸ 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)

⁹ Available from: <http://www.cph.org.uk/wp-content/uploads/2012/08/health-risk-perception-and-environmental-problems--summary-report.pdf>

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 ES' as good practice.

Electromagnetic Fields (EMF)

This advice relates to 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 on the Gov.UK website.¹⁰

There is a potential health impact associated with the electric and magnetic fields around substations, overhead power lines and underground cables. The field strengths tend 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

A voluntary code of practice is published which sets out key principles for complying with the ICNIRP guidelines.¹¹

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.^{12, 13}

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, based on an accompanying comprehensive review of the scientific evidence, was published in 2004 by the National Radiological Protection Board (NRPB), one of PHE's predecessor organisations¹⁴

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 as expressed in the 1999 EU Council Recommendation on limiting exposure of the general public (1999/519/EC):¹⁵

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.

¹⁰ <https://www.gov.uk/government/collections/electromagnetic-fields#low-frequency-electric-and-magnetic-fields>

¹¹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/37447/1256-code-practice-emf-public-exp-guidelines.pdf

¹² https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48309/1255-code-practice-optimum-phasing-power-lines.pdf

¹³ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224766/powerlines_vcop_microshocks.pdf

¹⁴

<http://webarchive.nationalarchives.gov.uk/20140629102627/http://www.hpa.org.uk/Publications/Radiation/NPRBArchive/DocumentsOfTheNRPB/Absd1502/>

¹⁵ http://webarchive.nationalarchives.gov.uk/+www.dh.gov.uk/en/PublicHealth/Healthprotection/DH_4089500

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 electric fields. 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 underlying 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)

The Stakeholders Advisory Group on ELF EMFs (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.¹⁶

Relevant here is SAGE's 2007 First Interim Assessment, which makes several recommendations concerning high voltage power lines. Government supported the implementation of low cost options such as optimal phasing to reduce exposure; however it did not support the option of creating corridors around power lines in which development would be restricted 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 on the national archive website.¹⁷

The Government also supported calls for providing more information on power frequency electric and magnetic fields, which is available on the PHE web pages.

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 Protection¹⁸ (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 Standards¹⁹ (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.

¹⁶ <http://www.emfs.info/policy/sage/>

¹⁷

http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_107124

¹⁸ These recommendations are given in publications of the ICRP notably publications 90 and 103 see the website at <http://www.icrp.org/>

¹⁹ 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.

As part of the EIA process PHE expects applicants 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, as part of the EIA process, 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 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 calculated²⁰.

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 2012'²¹

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, undertaken as part of the EIA, 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 facilities²². 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.

²⁰ 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>

²¹ 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

²² HPA RCE-8, Radiological Protection Objectives for the Land-based Disposal of Solid Radioactive Wastes, February 2009

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. 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.

Wider Determinants of Health

World Health Organization (WHO's) defines health as "a state of complete physical, mental and social well-being and not merely an absence of disease or infirmity" (WHO, 1948).

The health of an individual or a population is the result of a complex interaction of a wide range of different determinants of health, from an individual's genetic make-up, to lifestyles and behaviours, and the communities, local economy, built and natural environments to global ecosystem trends. All developments will have some effect on the determinants of health, which in turn will influence the health and wellbeing of the general population, vulnerable groups and individual people.



Barton and Grant²³

PHE recognises that evaluating an NSIP's impacts on health through the wider determinants is more complex than assessing a project's direct impacts against clearly defined regulatory protections (e.g. protected species). However, this does not mean that their assessment should be side-lined; with the 2017 EIA Regulations clarifying that the likely significant effects of a development proposal on human health must be assessed.

We accept that the relevance of these topics and associated impacts will vary depending on the nature of the proposed development and in order to assist applicants PHE has focused its approach on scoping determinants of health and wellbeing under four themes, which have been derived from an analysis of the wider determinants of health mentioned in the National Policy Statements. PHE

²³ Barton H, Grant M. A health map for the local human habitat. The Journal of the Royal Society for the Promotion of Health 2006; 126(6): 252-3.

has developed a list of 21 determinants of health and wellbeing under four broad themes, which have been derived from an analysis of the wider determinants of health mentioned in the National Policy Statements (NPS). If the applicant proposes to scope any areas out of the assessment, they should provide clear reasoning and justification.

The four themes are:

- Access
- Traffic and Transport
- Socioeconomic
- Land Use

Methodology

PHE will expect assessments to set out the methodology used to assess each determinant included in the scope of the assessment. In some instances, the methodologies described may be established and refer to existing standards and/or guidance. In other instances, there may be no pre-defined methodology, which can often be the case for the wider determinants of health; as such there should be an application of a logical impact assessment method that:

- identifies effected populations vulnerable to impacts from the relevant determinant
- establishes the current baseline situation
- identifies the NSIP's potential direct and indirect impacts on each population
- if impacts are identified, evaluates whether the potential impact is significant in relation to the affected population
- identifies appropriate mitigation to minimise impacts or the subsequent effects on health
- identifies opportunities to achieve benefits from the scheme
- identifies appropriate monitoring programmes

Currently there is no standard methodology for assessing the population and human health effects of infrastructure projects, but a number of guides exist, including:

- Institute of Environmental Management and Assessment, 2017: Health in Environmental Assessment, a primer for a proportionate approach;
- NHS London Healthy Urban Development Unit (HUDU), 2015. Healthy Urban Planning Checklist and Rapid Health Impact Assessment Tool;
- Wales Health Impact Assessment Unit, 2012: HIA a practical guide;
- National Mental Wellbeing Impact Assessment Development Unit 2011: Mental Wellbeing Impact Assessment Toolkit;

Determining Significant Effects

Neither the EIA regulations nor the National Policy Statements provide a definition of what constitutes a 'significant' effect, and so PHE have derived a list of factors which it will take into consideration in the assessment of significance of effects, as outlined below. these list of factors should be read in conjunction with guidance from the above guides.

1. Sensitivity:

Is the population exposed to the NSIP at particular risk from effects on this determinant due to pre-existing vulnerabilities or inequalities (for example, are there high numbers in the local population of people who are young, older, with disabilities or long-term conditions, or on a low income)? Will the NSIP widen existing inequalities or introduce new inequalities in relation to this determinant?

2. Magnitude:

How likely is the impact on this determinant to occur? If likely, will the impact affect a large number of people / Will the impact affect a large geographic extent? Will the effects be frequent or continuous? Will the effects be temporary or permanent and irreversible?

3. Cumulative effects:

Will the NSIP's impacts on this determinant combine with effects from other existing or proposed NSIPs or large-scale developments in the area, resulting in an overall cumulative effect different to that of the project alone?

What are the cumulative effects of the impacts of the scheme on communities or populations. Individual impacts individually may not be significant but in combination may produce an overall significant effect.

4. Importance:

Is there evidence for the NSIP's effect on this determinant on health? Is the impact on this determinant important in the context of national, regional or local policy?

5. Acceptability:

What is the local community's level of acceptance of the NSIP in relation to this determinant? Do the local community have confidence that the applicants will promote positive health impacts and mitigate against negative health effects?

6. Opportunity for mitigation:

If this determinant is included in the scope for the EIA is there an opportunity to enhance any positive health impacts and/or mitigate any negative health impacts?

Scoping

The scoping report may determine that some of the wider determinants considered under human and population health can be scoped out of the EIA. If that, should be the case, detailed rationale and supporting evidence for any such exclusions must be provided. PHE will expect an assessment to have considered all of the determinants listed in Table1 of Appendix 1 as a minimum.

Vulnerable Groups

Certain parts of the population may experience disproportionate negative health effects as a result of a development. Vulnerable populations can be identified through research literature, local population health data or from the identification of pre-existing health conditions that increase vulnerability.

The on health and wellbeing and health inequalities of the scheme will have particular effect on vulnerable or disadvantaged populations, including those that fall within the list of protected characteristics. Some protected groups are more likely to have elevated vulnerability associated with social and economic disadvantages. Consideration should be given to language or lifestyles that influence how certain populations are affected by impacts of the proposal, for example non-English speakers may face barriers to accessing information about the works or expressing their concerns.

Equality Impact Assessments (EqIA) are used to identify disproportionate effects on Protected Groups (defined by the Equality Act, 2010), including health effects. The assessments and findings of the Environmental Statement and the EqIA should be crossed reference between the two documents, particularly to ensure the assessment of potential impacts for health and inequalities and that resulting mitigation measures are mutually supportive.

The Wales Health Impact Assessment Support Unit (WHIASU), provides a suggested list of vulnerable groups

Age related groups

- Children and young people
- Older people

Income related groups

- People on low income
- Economically inactive

- Unemployed/workless
- People who are unable to work due to ill health

Groups who suffer discrimination or other social disadvantage

- People with physical or learning disabilities/difficulties
- Refugee groups
- People seeking asylum
- Travellers
- Single parent families
- Lesbian and gay and transgender people
- Black and minority ethnic groups
- Religious groups

Geographical groups

- People living in areas known to exhibit poor economic and/or health indicators
- People living in isolated/over-populated areas
- People unable to access services and facilities

Mental Health

PHE supports the use of the broad definition of health proposed by the World Health Organisation (WHO). Mental well-being is fundamental to achieving a healthy, resilient and thriving population. It underpins healthy lifestyles, physical health, educational attainment, employment and productivity, relationships, community safety and cohesion and quality of life. NSIP schemes can be of such scale and nature that will impact on the over-arching protective factors, which are:

- Enhancing control
- Increasing resilience and community assets
- Facilitating participation and promoting inclusion.

There should be parity between mental and physical health, and any assessment of health impact should include the appreciation of both. A systematic approach to the assessment of the impacts on mental health, including suicide, is required. The **Mental Well-being Impact Assessment (MWIA)** could be used as a methodology. The assessment should identify vulnerable populations and provide clear mitigation strategies that are adequately linked to any local services or assets

Perceptions about the proposed scheme may increase the risk of anxiety or health effects by perceived effects. “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.

Evidence Base and Baseline Data

An assessment should be evidence based, using published literature to identify determinants and likely health effects. The strength of evidence identifying health effects can vary, but where the evidence for an association is weak it should not automatically be discounted.

There will be a range of publicly available health data including:

- National datasets such as those from the Office of National Statistics,
- Public Health England (PHE), including the fingertips data sets,
- Non-governmental organisations,
- Local public health reports, such as the Joint Strategic Needs Assessment, Health and Wellbeing Strategies;
- Consultation with local authorities, including local authority public health teams;
- Information received through public consultations

Mitigation

If the assessment has identified that significant negative effects are likely to occur with respect to the wider determinants of health, the assessment should include a description of planned mitigation measures the applicant will implement to avoid or prevent effects on the population.

Mitigation and/or monitoring proposals should be logical, feasible and have a clear governance and accountability framework indicating who will be responsible for implementation and how this will be secured during the construction and/or operation of the NSIP.

Positive Benefits from the Scheme

The scale of many NSIP developments will generate the potential for positive impacts on health and wellbeing; however, delivering such positive health outcomes often requires specific enabling or enhancement measures. For example, the construction of a new road network to access an NSIP site may provide an opportunity to improve the active transport infrastructure for the local community. PHE expects developments to consider and report on the opportunity and feasibility of positive impacts. These may be stand alone or be considered as part of the mitigation measures.

Monitoring

PHE expects an assessment to include consideration of the need for monitoring. It may be appropriate to undertake monitoring where:

- Critical assumptions have been made
- There is uncertainty about whether negative impacts are likely to occur as it may be appropriate to include planned monitoring measures to track whether impacts do occur.
- There is uncertainty about the potential success of mitigation measures
- It is necessary to track the nature of the impact and provide useful and timely feedback that would allow action to be taken should negative impacts occur

How to contact PHE

If you wish to contact us regarding an existing or potential NSIP application please email: nsipconsultations@phe.gov.uk

[Appendix 1](#)
[Table 1 – Wider determinants of health and wellbeing](#)

Health and wellbeing themes			
Access	Traffic and Transport	Socioeconomic	Land Use
Wider determinants of health and wellbeing			
<p>Access to :</p> <ul style="list-style-type: none"> • local public and key services and facilities. • Good quality affordable housing. • Healthy affordable food. • The natural environment. • The natural environment within the urban environment. • Leisure, recreation and physical activities within the urban and natural environments. 	<ul style="list-style-type: none"> • Accessibility. • Access to/by public transport. • Opportunities for access by cycling and walking. • Links between communities. • Community severance. • Connections to jobs. • Connections to services, facilities and leisure opportunities. 	<ul style="list-style-type: none"> • Employment opportunities, including training opportunities. • Local business activity. • Regeneration. • Tourism and leisure industries. • Community/social cohesions and access to social networks. • Community engagement. 	<ul style="list-style-type: none"> • Land use in urban and/or /rural settings. • Quality of Urban and natural environments

1) Access

a. Access to local, public and key services and facilities

Access to local facilities can increase mobility and social participation. Body mass index is significantly associated with access to facilities, including factors such as the mix and density of facilities in the area. The distance to facilities has no or only a small effect on walking and other physical activities. Access to recreational facilities can increase physical activity, especially walking for recreation, reduce body weight, reduce the risk of high blood pressure, and reduce the number of vehicle trips, the distances travelled and greenhouse gas emissions.

Local services include health and social care, education, employment, and leisure and recreation. Local facilities include community centres, shops, banks/credit unions and Post Offices. Services and facilities can be operated by the public, private and/or voluntary sectors. Access to services and facilities is important to both physical and mental health and wellbeing. Access is affected by factors such as availability, proximity to people's place of residence, existence of transport services or active travel infrastructure to the location of services and facilities, and the quality of services and facilities.

The construction or operation of an NSIP can affect access adversely: it may increase demand and therefore reduce availability for the existing community; during construction, physical accessibility may be reduced due to increased traffic and/or the blockage of or changes to certain travel routes. It is also possible that some local services and facilities are lost due to the land-take needed for the NSIP.

Conversely if new routes are built or new services or facilities provided the NSIP may increase access. NSIPs relating to utilities such as energy and water can maintain, secure or increase access to those utilities, and thereby support health and wellbeing.

b. Access to good-quality affordable housing

Housing refurbishment can lead to an improvement in general health and reduce health inequalities. Housing improvements may also benefit mental health. The provision of diverse forms and types of housing is associated with increased physical activity. The provision of affordable housing is strongly associated with improved safety perceptions in the neighbourhood, particularly among people from low-income groups. For vulnerable groups, the provision of affordable housing can lead to improvements in social, behavioural and health related outcomes. For some people with long term conditions, the provision of secure and affordable housing can increase engagement with healthcare services, which can lead to improved health-related outcomes. The provision of secure and affordable housing can also reduce engagement in risky health-related behaviours. For people who are homeless, the provision of affordable housing increases engagement with healthcare services, improves quality of life and increases employment, and contributes to improving mental health.

Access to housing meets a basic human need, although housing of itself is not necessarily sufficient to support health and wellbeing: it is also important that the housing is of good quality and affordable. Factors affecting the quality of housing include energy efficiency (eg effective heating, insulation), sanitation and hygiene (eg toilet and bathroom), indoor air quality including ventilation and the presence of damp and/or mould, resilience to climate change, and overcrowding. The affordability of housing is important because for many people, especially people on a low income, housing will be the largest monthly expense; if the cost of housing is high, people may not be able to meet other needs such as the need for heating in winter or food. Some proposals for NSIPs include the provision of housing, which could be beneficial for the health and wellbeing of the local population. It is also possible that some housing will be subject to a compulsory purchase order due to the land-take needed for an NSIP.

c. Access to affordable healthy food

Access to healthy food is related to the provision of public and active transport infrastructure and the location and proximity of outlets selling healthier food such as fruit and vegetables. For the general population, increased access to healthy, affordable food through a variety of outlets (shops, supermarkets, farmers' markets and community gardens) is associated with improved dietary behaviours, including attitudes towards healthy eating and food purchasing behaviour, and improved adult weight. Increased access to unhealthier food retail outlets is associated with increased weight in the general population and increased obesity and unhealthy eating behaviours among children living in low-income areas. Urban agriculture can improve attitudes towards healthier food and increase fruit and vegetable consumption.

Factors affecting access to healthy affordable food include whether it is readily available from local shops, supermarkets, markets or delivery schemes and/or there are opportunities to grow food in local allotments or community gardens. People in

environments where there is a high proportion of fast food outlets may not have easy access to healthy affordable food.

d. Access to the natural environment

Availability of and access to safe open green space is associated with increased physical activity across a variety of behaviours, social connectedness, childhood development, reduced risk of overweight and obesity and improved physical and mental health outcomes. While the quantity of green space in a neighbourhood helps to promote physical activity and is beneficial to physical health, eg lower rates of mortality from cardiovascular disease and respiratory disease in men, the availability of green environments is likely to contribute more to mental health than to physical health: the prevalence of some disease clusters, particularly anxiety and depression, is lower in living environments which have more green space within a 1-km radius.

The proximity, size, type, quality, distribution, density and context of green space are also important factors. Quality of green space may be a better predictor of health than quantity, and any type of green space in a neighbourhood does not necessarily act as a venue for, or will encourage, physical activity. 'Walkable' green environments are important for better health, and streetscape greenery is as strongly related to self-reported health as green areas. Residents in deprived areas are more likely to perceive access to green space as difficult, to report poorer safety, to visit the green space less frequently and to have lower levels of physical activity. The benefits to health and wellbeing of blue space include lower psychological distress.

The natural environment includes the landscape, waterscape and seascape. Factors affecting access include the proximity of the natural environment to people's place of residence, the existence of public transport services or active travel infrastructure to the natural environment, the quality of the natural environment and feelings of safety in the natural environment. The construction of an NSIP may be an opportunity to provide green and/or blue infrastructure in the local area. It is also possible that green or blue infrastructure will be lost due to the land-take needed for the NSIP.

e. Access to the natural environment within the urban environment

Public open spaces are key elements of the built environment. Ecosystem services through the provision of green infrastructure are as important as other types of urban infrastructure, supporting physical, psychological and social health, although the quality and accessibility of green space affects its use, C19, ethnicity and perceptions of safety. Safe parks may be particularly important for promoting physical activity among urban adolescents. Proximity to urban green space and an increased proportion of green space are associated with decreased treatment of anxiety/mood disorders, the benefits deriving from both participation in usable green space near to home and observable green space in the neighbourhood. Urban agriculture may increase opportunities for physical activity and social connections.

A view of 'greenery' or of the sea moderates the annoyance response to noise. Water is associated with positive perceptive experiences in urban environments, with benefits for health such as enhanced contemplation, emotional bonding, participation and physical activity. Increasing biodiversity in urban environments, however, may promote the introduction of vector or host organisms for infectious pathogens, eg green connectivity may potentiate the role of rats and ticks in the spread of disease, and bodies of water may provide habitats for mosquitoes. Owing to economic growth, population size and urban and industrial expansion in the EU, to maintain ecosystem services at 2010 levels, for every additional percentage increase in the proportion of 'artificial' land, there needs to be a 2.2% increase in green infrastructure.

The natural environment within the urban environment includes the provision of green space and blue space in towns and cities. Factors involved in access include the

proximity of the green and/or blue space to people's place of residence, the existence of transport services or active travel infrastructure to the green and/or blue space, the quality of the green and/or blue space and feelings of safety when using the green and/or blue space. The construction of an NSIP may be an opportunity to provide green and/or blue infrastructure in the local urban environment. It is also possible that green or blue infrastructure in the urban environment will be lost due to the land-take needed for the NSIP.

f. Access to leisure, recreation and physical activity opportunities within the urban and natural environments.

Access to recreational opportunities, facilities and services is associated with risk factors for long-term disease; it can increase physical activity, especially walking for recreation, reduce body mass index and overweight and obesity, reduce the risk of high blood pressure, and reduce the number of vehicle trips, the distances travelled and greenhouse gas emissions. It can also enhance social connectedness. Children tend to play on light-traffic streets, whereas outdoor activities are less common on high-traffic streets. A perception of air pollution can be a barrier to participating in outdoor physical activity. There is a positive association between urban agriculture and increased opportunities for physical activity and social connectivity. Gardening in an allotment setting can result in many positive physical and mental health-related outcomes. Exercising in the natural environment can have a positive effect on mental wellbeing when compared with exercising indoors.

- g. Leisure and recreation opportunities include opportunities that are both formal, such as belonging to a sports club, and informal, such as walking in the local park or wood. Physical activity opportunities include routine activity as part of daily life, such as walking or cycling to work, and activity as part of leisure or recreation, such as playing football. The construction of an NSIP may enhance the opportunities available for leisure and recreation and physical activity through the provision of new or improved travel routes, community infrastructure and/or green or blue space. Conversely, construction may reduce access through the disruption of travel routes to leisure, recreation and physical activity opportunities.

2) Traffic and Transport

a. Accessibility

Walkability, regional accessibility, pavements and bike facilities are positively associated with physical activity and negatively related to body weight and high blood pressure, and reduce the number of vehicle trips, the distances travelled and greenhouse gas emissions. Body mass index is associated with street network accessibility and slope variability.

Accessibility in relation to transport and travel has several aspects including whether potential users can gain physical access to the infrastructure and access to the services the infrastructure provides. The design and operation of transport infrastructure and the associated services should take account of the travel needs of all potential users including people with limited mobility. People whose specific needs should be considered include pregnant women, older people, children and young people and people with a disability. Other aspects of transport infrastructure affecting accessibility include safety and affordability, both of which will affect people's ability to travel to places of employment and/or key local services and facilities and/or access their social networks.

b. Access to / by public transport

Provision of high-quality public transport is associated with higher levels of active travel among children and among people commuting to work, with a decrease in the use of private cars. Combining public transport with other forms of active travel can

improve cardiovascular fitness. Innovative or new public transport interventions may need to be marketed and promoted differently to different groups of transport users, eg by emphasising novelty to car users while ensuring that the new system is seen by existing users as coherently integrated with existing services.

Transport facilitates access to other services, facilities and amenities important to health and wellbeing. Public transport is any transport open to members of the public including bus, rail and taxi services operated by the public, private or community sectors. For people who do not have access to private transport, access to public transport is important as the main agency of travel especially for journeys >1 mile. Access to public transport is not sufficient, however, and access by public transport needs to be taken into account: public transport services should link places where people live with the destinations they need or want to visit such as places of employment, education and healthcare, shops, banks and leisure facilities. Other aspects of access to public transport include affordability, safety, frequency and reliability of services.

c. Opportunities for / access by cycling & walking

Walking and cycling infrastructure can enhance street connectivity, helping to reduce perceptions of long-distance trips and providing alternative routes for active travel. Prioritising pedestrians and cyclists through changes in physical infrastructure can have positive behavioural and health outcomes, such as physical activity, mobility and cardiovascular outcomes. The provision and proximity of active transport infrastructure is also related to other long-term disease risk factors, such as access to healthy food, social connectedness and air quality. The perception of air pollution, however, appears to be a barrier to participating in active travel.

Perceived or objective danger may also have an adverse effect on cycling and walking, both of which activities decrease with increasing traffic volume and speed, and cycling for leisure decreases as local traffic density increases. Health gains from active travel policies outweigh the adverse effects of road traffic incidents. New infrastructure to promote cycling, walking and the use of public transport can increase the time spent cycling on the commute to work, and the overall time spent commuting among the least-active people. Active travel to work or school can be associated with body mass index and weight, and may reduce cardiovascular risk factors and improve cardiovascular outcomes. The distance of services from cycle paths can have an adverse effect on cycling behaviour, whereas mixed land use, higher densities and reduced distances to non-residential destinations promote transportation walking.

d. Links between communities

Social connectedness can be enhanced by the provision of public and active transport infrastructure and the location of employment, amenities, facilities and services.

e. Community severance

In neighbourhoods with high volumes of traffic, the likelihood of people knowing and trusting neighbours is reduced.

f. Connections to jobs

The location of employment opportunities and the provision of public and active transportation infrastructure are associated with risk factors for long-term disease such as physical activity. Good pedestrian and cycling infrastructure can promote commuting physical activity. Improved transport infrastructure has the potential to shift the population distribution of physical activity in relation to commuting, although a prerequisite may be a supportive social environment. Mixed land use, higher densities and reduced distances to non-residential destinations promote transportation walking.

The ease of access to employment, shops and services including the provision of

public and active transport are important considerations and schemes should take any opportunity to improve infrastructure to promote cycling, walking and the use of public transport

g. Connections to services, facilities and leisure opportunities

Mixed land use, higher densities and reduced distances to non-residential destinations promote transportation walking. Access to recreational opportunities and the location of shops and services are associated with risk factors for long-term disease such as physical activity, access to healthy food and social connectedness. Increased distance of services from cycle paths can have an adverse effect on cycling behaviour.

3) Socio Economic

a. Employment opportunities including training opportunities

Employment is generally good for physical and mental health and well-being, and worklessness is associated with poorer physical and mental health and well-being. Work can be therapeutic and can reverse the adverse health effects of unemployment for healthy people of working age, many disabled people, most people with common health problems and social security beneficiaries. Account must be taken of the nature and quality of work and its social context and jobs should be safe and accommodating. Overall, the beneficial effects of work outweigh the risks of work and are greater than the harmful effects of long-term unemployment or prolonged sickness absence. Employment has a protective effect on depression and general mental health.

Transitions from unemployment to paid employment can reduce the risk of distress and improve mental health, whereas transitions into unemployment are psychologically distressing and detrimental to mental health. The mental health benefits of becoming employed are also dependent on the psychosocial quality of the job, including level of control, demands, complexity, job insecurity and level of pay: transition from unemployment to a high-quality job is good for mental health, whereas transition from unemployment to a low-quality job is worse for mental health than being unemployed. For people receiving social benefits, entry into paid employment can improve quality of life and self-rated health (physical, mental, social) within a short time-frame. For people receiving disability benefits, transition into employment can improve mental and physical health. For people with mental health needs, entry into employment reduces the use of mental health services.

For vocational rehabilitation of people with severe mental illness (SMI), Supported Employment is more effective than Pre-vocational Training in helping clients obtain competitive employment; moreover, clients in Supported Employment earn more and work more hours per month than those in Pre-vocational Training.

b. Local Business Activity

It is important to demonstrate how a proposed development will contribute to ensuring the vitality of town centres. Schemes should consider the impact on local employment, promote beneficial competition within and between town centres, and create attractive, diverse places where people want to live, visit and work

In rural areas the applicant should assess the impact of the proposals on a prosperous rural economy, demonstrate how they will support the sustainable growth and expansion of all types of business and enterprise in rural areas, promoting the development and diversification of agricultural and other land based rural businesses.

c. Regeneration

Following rebuilding and housing improvements in deprived neighbourhoods, better housing conditions are associated with better health behaviours; allowing people to

remain in their neighbourhood during demolition and rebuilding is more likely to stimulate life-changing improvements in health behaviour than in people who are relocated. The partial demolition of neighbourhoods does not appear to affect residents' physical or mental health. Mega-events, such as the Olympic Games, often promoted on the basis of their potential legacy for regeneration, appear to have only a short-term impact on mental health.

d. Tourism and Leisure Industries

The applicant should assess the impact of the proposed development on retail, leisure, commercial, office, tourism, cultural, community and residential development needed in town centres. In rural locations assessment and evaluation of potential impacts on sustainable rural tourism and leisure developments that benefit businesses in rural areas, communities and visitors should be undertaken.

e. Community / social cohesion and access to social networks

The location of employment, shops and services, provision of public and active transport infrastructure and access to open space and recreational opportunities are associated with social connectedness. Access to local amenities can increase social participation. Neighbourhoods that are more walkable can increase social capital. Urban agriculture can increase opportunities for social connectivity. Infrastructure developments, however, can affect the quality of life of communities living in the vicinity, mediated by substantial community change, including feelings of threat and anxiety, which can lead to psychosocial stress and intra-community conflict.

f. Community engagement

Public participation can improve environmental impact assessments, thereby increasing the total welfare of different interest groups in the community. Infrastructure development may be more acceptable to communities if it involves substantial public participation.

4) Land Use

a. Land use in urban and / or rural settings

Land-use mix including infrastructure:

Land use affects health not only by shaping the built environment, but also through the balance of various types of infrastructure including transport. Vulnerable groups in the population are disproportionately affected by decisions about land use, transport and the built environment. Land use and transport policies can result in negative health impacts due to low physical activity levels, sedentary behaviours, road traffic incidents, social isolation, air pollution, noise and heat. Mixed land use can increase both active travel and physical activity. Transportation walking is related to land-use mix, density and distance to non-residential destinations; recreational walking is related to density and mixed use. Using modelling, if land-use density and diversity are increased, there is a shift from motorised transport to cycling, walking and the use of public transport with consequent health gain from a reduction in long-term conditions including diabetes, cardiovascular disease and respiratory disease.

Proximity to infrastructure:

Energy resource activities relating to oil, gas and coal production and nuclear power can have a range of negative effects on children and young people. Residing in proximity to motorway infrastructure can reduce physical activity. For residents in proximity to rail infrastructure, annoyance is mediated by concern about damage to their property and future levels of vibration. Rural communities have concerns about competing with unconventional gas mining for land and water for both the local population and their livestock."

b. Quality of urban and natural environments

Long-term conditions such as cardiovascular disease, diabetes, obesity, asthma and depression can be moderated by the built environment. People in neighbourhoods characterised by high 'walkability' walk more than people in neighbourhoods with low 'walkability' irrespective of the land-use mix. In neighbourhoods associated with high 'walkability' there is an increase in physical activity and social capital, a reduction in overweight and blood pressure, and fewer reports of depression and of alcohol abuse. The presence of walkable land uses, rather than their equal mixture, relates to a healthy weight. Transportation walking is at its highest levels in neighbourhoods where the land-use mix includes residential, retail, office, health, welfare and community, and entertainment, culture and recreation land uses; recreational walking is at its highest levels when the land-use mix includes public open space, sporting infrastructure and primary and rural land uses. Reduced levels of pollution and street connectivity increase participation in physical activity.

Good-quality street lighting and traffic calming can increase pedestrian activity, while traffic calming reduces the risk of pedestrian injury. 20-mph zones and limits are effective at reducing the incidence of road traffic incidents and injuries, while good-quality street lighting may prevent them. Public open spaces within neighbourhoods encourage physical activity, although the physical activity is dependent on different aspects of open space, such as proximity, size and quality. Improving the quality of urban green spaces and parks can increase visitation and physical activity levels.

Living in a neighbourhood overlooking public areas can improve mental health, and residential greenness can reduce the risk of cardiovascular mortality. Crime and safety issues in a neighbourhood affect both health status and mental health. Despite the complexity of the relationship, the presence of green space has a positive effect on crime, and general environmental improvements may reduce the fear of crime. Trees can have a cooling effect on the environment – an urban park is cooler than a non-green site. Linking road infrastructure planning and green infrastructure planning can produce improved outcomes for both, including meeting local communities' landscape sustainability objectives.

Terry, Hannah

From: Parish Clerk - Ringland PC <parishclerk@ringlandparishcouncil.com>
Sent: 05 November 2019 08:41
To: SADEP
Subject: Re: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

In addition to the undernoted the council has questions as follows

1. They have omitted the preferred route for the NWL which runs across the proposed corridor near us and which will be classified as an A road.
2. There is a small disused village landfill site on the edge of the proposed corridor, approximate location grid reference H610300 V310400
3. How does this relate to the proposed cable routing for the Hornsea project? Is it the same thing under yet another name or a parallel operation. Surely the routes should be commonised where possible to minimise cost and environmental impact?
4. What is the proposed timescale for the work in this area and how is it integrated into the forthcoming work on the A47, the NWL and the Project Hornsea cable?

Kind regards
Mrs Patricia Kirby
Clerk to the Council

On 05/11/2019 08:33, Parish Clerk - Ringland PC wrote:

To advise Ringland parish Council has no representations to the above consultation.

Kind regards
Mrs Patricia Kirby
Clerk to the Council
On 09/10/2019 15:44, SADEP wrote:

Dear Sir/Madam

Please see attached correspondence on the proposed Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions.

Please note the deadline for consultation responses is **06 November 2019**, and is a statutory requirement that cannot be extended.

Kind regards,

Ifan Gwilym
Cynghorydd AEA a Hawliau Tîr | EIA and Land Rights Advisor
Cyfarwyddiaeth Gwaith Achos Mawr| Major Casework Directorate
Yr Arolygiaeth Gynllunio | The Planning Inspectorate

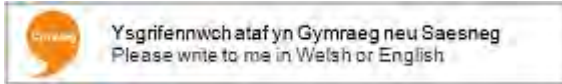
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Terry, Hannah

From: Claire Curtis <CCurtis@S-NORFOLK.GOV.UK>
Sent: 04 November 2019 11:08
To: SADEP
Cc: Tracy Lincoln; Graham Roe
Subject: EN010109-000007 EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Sir/Madam

Planning Act 2008 and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11

Application by Equinor New Energy Limited (the Applicant) for an Order granting Development Consent for the Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions (the Proposed Development)

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

I refer to your consultation dated 9 October 2019 and your request to inform the Planning Inspectorate of the information we consider should be provided in the ES.

The Council would respectfully request that the Environmental Impact Assessment includes a full tree survey and Arboricultural Impact Assessment of all trees effected by the proposal and an assessment of all hedgerows using the ‘importance’ criteria set by the Hedgerows Regulations 1997.

If possible could any further communications/consultations be sent directly to myself and planning.

Kind regards
Claire Curtis

Claire Curtis (Mrs)
Senior Planning Officer
t 01508 533788 e ccurtis@s-norfolk.gov.uk



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Terry, Hannah

From: Isaac Nunn <Isaac.Nunn@suffolk.gov.uk>
Sent: 21 October 2019 13:50
To: SADEP
Subject: Sheringham and Dudgeon Extension Projects - EIA scoping response

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Sir/Madam,

Thank you for consulting Suffolk County Council as a neighbouring authority in relation to this NSIP project. The proposed windfarms themselves, and any associated onshore cabling routes, will be quite geographically distant from Suffolk. It is unlikely that the proposal will give rise to cross-boundary environmental issues.

On this basis we will decline to provide comments on the scoping report. I should be grateful if you can continue to notify SCC at the relevant stages of this case.

Kind regards,

Isaac Nunn
Planning Officer
Growth, Highways & Infrastructure
Suffolk County Council
Endeavour House
8 Russell Road
Ipswich IP1 2BX

Tel: 01473 265248
Mob: 07751 400039

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Terry, Hannah

From: Parish Clerk - Swannington with Alderford & Little Withingham
<salwparishcouncil@gmail.com>
Sent: 05 November 2019 08:21
To: SADEP
Subject: Re: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

Swannington with Alderford & Little Withingham Parish Council has no representations to the above consultation.

Kind regards
Mrs Patricia Kirby
Clerk
Swannington with Alderford & Little Withingham Parish Council
On 09/10/2019 15:44, SADEP wrote:

Dear Sir/Madam

Please see attached correspondence on the proposed Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions.

Please note the deadline for consultation responses is **06 November 2019**, and is a statutory requirement that cannot be extended.

Kind regards,

Ifan Gwilym

Cynghorydd AEA a Hawliau Tîr | EIA and Land Rights Advisor
Cyfarwyddiaeth Gwaith Achos Mawr | Major Casework Directorate
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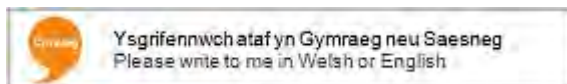
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Terry, Hannah

From: Stephen Vanstone <Stephen.Vanstone@trinityhouse.co.uk>
Sent: 04 November 2019 13:23
To: SADEP
Cc: Trevor Harris
Subject: FW: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation
Attachments: EQNR_Letter to stat cons_Scoping & Reg 11 Notification_.pdf
Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon Hannah,

With reference to the attached letter, 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 current operational Dudgeon, Sheringham Shoal and Race Bank offshore wind farms.
- Any proposed layouts should conform with MGN 543 and again consideration should be given to the layouts of the current Dudgeon and Sheringham Shoal OWFs. The Sheringham Shoal Extension layout should align with the current site, however, as the Dudgeon OWF site has a less uniform layout, early consideration surrounding the Dudgeon Extension layout and risk mitigation measures will be required.
- If any structures, such as met masts, offshore platforms, accommodation platforms or other transmission assets, 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,

Stephen Vanstone

Navigation Services Officer | Navigation Directorate | Trinity House

stephen.vanstone@trinityhouse.co.uk | 0207 4816921

www.trinityhouse.co.uk



TRINITY HOUSE

From: SADEP <sadep@planninginspectorate.gov.uk>

Sent: 09 October 2019 15:42

To: Navigation <navigation@trinityhouse.co.uk>

Cc: Thomas Arculus <Thomas.Arculus@trinityhouse.co.uk>

Subject: EN010109 - Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions - EIA Scoping Notification and Consultation

FAO Steve Vanstone, Navigation Services Officer

Please see attached correspondence on the proposed Dudgeon and Sheringham Shoal Offshore Wind Farm Extensions.

Please note the deadline for consultation responses is **06 November 2019**, and is a statutory requirement that cannot be extended.

Kind regards,

Ifan Gwilym

Cynghorydd AEA a Hawliau Tîr | EIA and Land Rights Advisor

Cyfarwyddiaeth Gwaith Achos Mawr | Major Casework Directorate

Yr Arolygiaeth Gynllunio | The Planning Inspectorate

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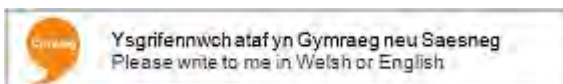
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Response from Weybourne Parish Council, informing the Planning Inspectorate of the information the council consider should be provided in the Environmental Statement relating to the proposed extensions of the Dudgeon and Sheringham Shoal Windfarms

Weybourne Parish Council have a number of concerns regarding the proposed extensions of the Dudgeon and Sheringham Shoal Windfarms. These are outlined below. It is hoped that these will be considered in the Environmental Statement relating to the proposed extensions of the Dudgeon and Sheringham Shoal Windfarms.

Environmental and Ecological Impact

Weybourne Parish Council are deeply concerned about the impact these proposals would have on the ecology and biodiversity of the Weybourne area including, but not limited to:

- Impact on wildlife and biodiversity through the disruption and destruction of key habitats
- Impact on bird populations, including residential and wintering birds, but also migrating birds, an area that is not addressed in the scoping document
- The impact of light pollution on the dark skies
- The impact on the Chalk Reef
- The impact on the AONB
- The impact on the SSSI

Impact on Tourism

Tourism is the largest industry in Weybourne and as such is central to the local economy and the sustainability of village amenities such as the pub and village store. People are drawn to Weybourne for its wildlife, birdlife and tranquillity. The impact of this proposed development on the environment and ecology of Weybourne will also impact upon tourism to Weybourne. In addition to this there are a number of specific projects and locations that currently bring tourism to Weybourne that would be impacted by this proposal:

- The Pond Restoration project
- The Deep History Coast
- The beach
- It is also noted that the North Norfolk Railway Station, a significant tourist attraction for the village, is not identified in the Equinor Scoping document

Impact on Agriculture and Fishing

Agriculture and fishing are significant industries in Weybourne and stand to be impacted adversely by this proposal. These impacts include:

- The impact of beach closure on fishing businesses in Weybourne
- The disruption to agriculture and ongoing reduction in crop yield

The inadequacy of the infrastructure

There are no roads into Weybourne that are suitable for large or heavy construction traffic. Entering Weybourne along the A149 from Kings Lynn would require large vehicles to negotiate the twists and turns of villages such as Cley, while there is a height restriction on the A149 coming from Sheringham. The other roads into Weybourne are narrow, single track and bendy. Station Road crosses the North Norfolk Railway Line over a Victorian bridge built for horses and carts that would not withstand large or heavy construction vehicles.

With these concerns in mind, the Parish Council request that Equinor consider the use of barges and pontoons to bring construction machinery and materials to Weybourne.

Tidal Surges

The Parish Council are keen that Equinor consider the impact of tidal surges in their Environmental Statement. Tidal surges change the nature and character of the coast line and are predicted to increase in frequency and severity.

Offshore Ring Main

Weybourne Parish Council are keen that the possibility of an Offshore Ring Main be considered as an alternative to the repeated disruption and damage, caused by numerous cables making landfall at Weybourne.

Repeated disruption

The Parish Council are also concerned at the repeated disruption the village will be facing over the coming years. Two cables have already come ashore at Weybourne (Dudgeon and Sheringham Shoal) with the prospect of the Hornsea III cable coming through the village in the next few years and now the possibility of two further cables outlined in this proposal. This repeated disruption puts a significant burden on the village over a lengthy period of time. Steps need to be taken to mitigate the impact of this and to ensure the village does not suffer permanent damage to its wildlife and ecology, its economy, and as a result, its community, all of which stand to be impacted by this proposal.