FOREWIND

DOGGER BANK
TEESSIDE A & B

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Dogger Bank Teesside Scoping Opinion

Application Reference 1.5

The Planning Inspectorate
EST 1909

SCOPING OPINION
Proposed Dogger Bank Teesside Offshore Wind Farm

June 2012

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EXECUTIVE SUMMARY

This is the Scoping Opinion (the Opinion) provided by the Secretary of State in respect of the content of the Environmental Statement for the proposed Dogger Bank Teesside Offshore Wind Farm in the North Sea off the coast of Teesside.

This report sets out the Secretary of State's opinion on the basis of the information provided in Forewind Limited's report entitled 'Dogger Bank Teesside – Environmental Assessment Scoping Report' (May 2012) (the Scoping Report). The Opinion can only reflect the proposals as currently described by the Forewind Limited.

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

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

Offshore:

- Impacts on Statutory International Designated Sites;
- Impacts on bird species, including disturbance/displacement during construction and barrier/collision risk during operation;
- Impacts on marine mammals, particularly during construction;
- Impacts on fish and shell fish, including disturbance/displacement during construction;
- Impacts on intertidal and subtidal ecology, particularly during installation of infrastructure;
- Socio-economic impacts on commercial fisheries; and
- Impacts on marine and costal archaeology.

Onshore:

- Impacts on landscape and visual character;
- Impacts on tourism and recreation, particularly during construction;
- Impacts on loss of and disturbance to habitats;
- Impacts on Statutory National Designated sites;
- Noise and vibration during construction, including from traffic;

- Air quality impacts arising from the emission of fugitive dust from construction activities;
- Cultural heritage impacts on setting of listed buildings and Conservation Areas; and
- Traffic and access during construction.

Matters are not scoped out unless specifically addressed and justified by the Applicant, and confirmed as being scoped out by the Secretary of State.

The Secretary of State notes the potential need to carry out an assessment under the Habitats Regulations[1].

[1] The Conservation of Habitats and Species Regulations 2010

1.0 INTRODUCTION

Background

1.1 On 21 May 2012, the Secretary of State (SoS) received a scoping report submitted by Forewind Limited (the Applicant) under Regulation 8 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (SI 2263) (as amended) (the EIA Regulations) in order to request a scoping opinion for the proposed Dogger Bank Teesside Offshore Wind Farm. This Scoping Opinion is made in response to this request and should be read in conjunction with the Applicant's Scoping Report.

1.2 In a letter dated 30 March 2012 addressed to the SoS, the Applicant formally notified the SoS under Regulation 6(1)(b) of the EIA Regulations that it proposes to provide an ES in respect of the proposed development. Therefore, in accordance with Regulation 4(2)(a) of the EIA Regulations, the proposed development is determined to be EIA development. The EIA Regulations enable an applicant, before making an application for an order granting development consent, to ask the SoS to state in writing their formal opinion (a 'scoping opinion') on the information to be provided in the environmental statement (ES).

1.3 The proposed development concerns an installation for the harnessing of wind power for energy production (wind farms). It falls within the description of a Schedule 2 (3) (i) development under the EIA Regulations as being an infrastructure project. An EIA is not mandatory for Schedule 2 development but depends upon the sensitivity of the receiving environment, the likelihood of significant environmental effects and the scale of the proposals.

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

(a) the specific characteristics of the particular development;

(b) the specific characteristics of the development of the type concerned; and

(c) environmental features likely to be affected by the development'.

(EIA Regulation 8 (9))

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

i the EIA Regulations

ii the nature and scale of the proposed development

iii the nature of the receiving environment, and

iv current best practice in the preparation of environmental statements.

1.6 The SoS has also taken account of the responses received from the statutory consultees (see Appendix 2 of this Opinion). The matters addressed by the Applicant have been carefully considered and use has been made of professional judgement and experience in order to adopt this Opinion. It should be noted that when it comes to consider the ES, the SoS will take account of relevant legislation and guidelines (as appropriate). The SoS will not be precluded from requiring additional information if it is considered necessary in connection with the ES submitted with that application when considering the application for a development consent order (DCO).

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

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

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

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

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

(EIA Regulation 8 (3))

1.9 The SoS considers that this has been provided in the Applicant's Scoping Report.

The Secretary of State's Consultation

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

1.11 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 at Appendix 2 along with copies of their comments, to which the Applicant should refer in undertaking the EIA.

1.12 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.

1.13 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 Planning Inspectorate's website. The Applicant should also give due consideration to those comments in carrying out the EIA.

Structure of the Document

1.14 This Scoping Opinion is structured as follows:

Section 1 Introduction

Section 2 The proposed development

Section 3 EIA approach and topic areas

Section 4 Other information.

The Scoping Opinion is accompanied by the following Appendices:

Appendix 1 List of consultees

Appendix 2 Respondents to consultation and copies of replies

Appendix 3 Presentation of the environmental statement

2.0 THE PROPOSED DEVELOPMENT

Introduction

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

The Applicant's Information

Overview of the Proposed Development

2.2 Dogger Bank forms one of the Zones in the Round 3 Offshore Wind Licensing Arrangements announced by the Crown Estate in June 2008. Within the Dogger Bank Zone, four Tranche areas (Tranches A-D) will be defined for development, each with space for approximately three projects. Tranche A (Dogger Bank Creyke Beck) was identified in 2010 and comprises the area closest to the UK shore within the Zone (see Figure 1.1 of the Scoping Report). Tranche A was the subject of a scoping opinion in November 2010. Tranche B was identified in 2011 and is an area of 1500 km^2 situated to the east of Tranche A. Tranches C and D have not yet been identified.

2.3 Dogger Bank Teesside is stage 2 of the Dogger Bank development and all offshore elements will be wholly or partly located within Tranches A and B. It comprises up to four offshore wind farms of up to 1.2GW each, with a total combined generating capacity of up to 4.8GW.

2.4 The Scoping Envelope for the proposed Teesside development, as shown in Figure 1.1, has been divided into: the Offshore Scoping Area (Section A); the Export Cable Corridor Scoping Area (Section B); and the Onshore Scoping Area (Section C).

2.5 Section 2.3 of the Scoping Report has identified the following components within each of the proposed four projects:

Offshore

- Each offshore wind farm project to generate up to 1.2GW;
- offshore collector (up to 4) and converter stations (up to 16), foundations and scour protection measures;
- offshore operations and maintenance infrastructure;
- offshore inter-array and inter-platform cables;

- offshore export cables, carrying power to the onshore grid infrastructure or possibly to adjacent projects;
- crossing structures over existing subsea cables and pipelines; and
- structures for the protection of subsea cables where sufficient burial is not achievable.

Onshore

- up to four cable systems from up to 8 onshore transition bays to onshore converter stations and from converter stations to National grid's substations;
- buried ancillary cable ducts running adjacent to the cable systems; and
- up to four converter stations for the four 1.2GW projects.

Description of the site and surroundings

The Proposed Site – Offshore

2.6 Dogger Bank is the largest Zone identified by the Crown Estate. It is located in the North Sea, approximately 125 to 290km east of the coast of Yorkshire. A target installed capacity of 9GW is to be achieved by 2020 but the development has the potential to provide up to 13GW.

2.7 The seabed deposits of the Dogger Bank are sands, gravely sands and sandy gravels of varying thicknesses and lithology. The cable corridor area deposits are overlain with a thin veneer of sand or gravel and exposed bedrock in places. The north eastern corner of the Export Cable Corridor Area passes through the southern end of the East Bank Ridges which are situated to the northwest of Dogger Bank. These are moribund (relict) tidal sand ridges and are the only significant seabed feature within the Export Cable Corridor scoping area.

2.8 The project site is within a candidate Special Area of Conservation (cSAC) which contains the Annex I feature 'sandbanks which are slightly covered by sea water all the time'.

2.9 Minke whale, white beaked dolphin and harbour porpoise are likely to occur in the Dogger Bank Zone. Limited sightings of bottlenose dolphin, common dolphin, Atlantic white sided dolphin, humpback whale, killer whale, harbour seal, grey seal and Risso's dolphin have been recorded during surveys.

2.10 Two protected benthic species are present in the Dogger Bank Zone, namely the northern hatchet shell *Thyasira gouldi* and the

ocean quahog *Arctica islandica.* Information produced by the JNCC suggests that *S. spinulosa* reef may also be present.

2.11 A proposed Marine Conservation Zone, NG12, is partially within the cable corridor and MCZ NG11 overlaps with the cable landfall area.

2.12 There are a wide range of bird species and a number of SPAs and Ramsar sites in the area of coastline surrounding the Cable Corridor Area with the most relevant being the Teesmouth and Cleveland Coast SPA and Ramsar site.

2.13 Within the Dogger Bank Zone water depths range from -60m LAT, to the north, to less than -20m LAT in the southwest. Depths within the Export Cable Corridor range from -20m to -60m LAT and begin to shallow around 10km from the coast.

2.14 The tidal ranges across the Dogger Bank Zone are relatively small with mean spring tidal ranges of 1.0-2.5m and mean neap tidal ranges of less than 1.5m. Ranges are higher in the western part of the Zone.

2.15 Tidal currents in the Dogger Bank Zone are thought to be between 0.2-0.6ms^{-1} with higher velocity in the west of the Zone. Predominant tidal flows are north-south with subordinate currents flowing south-southeast and north-northwest. Tidal flows within the Cable Corridor Area are between 0.4-0.6ms^{-1}

2.16 For the area directly south of Tranche A south westerly prevailing winds occur between October and January and are classified on the Beaufort Scale as force 4-6 but can reach force 9-12. Calmer winds from the north east occur around April.

2.17 There is an aggregate extraction licence area located on the south western edge of Tranche A. However, there is a current lack of activity at this site. A production licence is being sought for an area located approximately 600m north-west of Tranche A for an 11.13km² site as shown on Figure 14.1.

2.18 A number of existing infrastructure features such as pipelines, cables and the Teesside offshore wind farm are located within the Export Cable Corridor Area.

2.19 Spawning grounds and nursery areas for several fish and shellfish species are found within the Scoping Envelope. These include UK Biodiversity Action Plan protected species and commercially important fish species as identified in Table 10.1. Annex II diadramous fish species and features of conservation interest under the Marine Conservation Process are also located within the Scoping Envelope.

2.20 Within the Export Cable Corridor Area, fishing activity is primarily beam trawling, pair trawling, demersal stern trawling and bottom seining. Target species include haddock, cod, sole, *Nephrops*, plaice, herring, lemon sole, whiting and turbot.

2.21 Fishing activity in the Dogger Bank Zone is year round and consists of beam trawling for plaice, lemon sole, turbot, skates and rays with Dover sole caught on a seasonal basis. An important sandeel fishery is located off the western edge of the Zone.

2.22 High intensity mixed fishery exists nearer to the coastline and comprises of potting, whelkers, trawling, pair trawling, demersal stern trawling, demersal side trawling and beam trawling. The target species in this area are cod, sole, edible crab, lobster, *Nethrops*, plaice, scallops, lemon sole, whiting, brown shrimp and turbot.

2.23 There are a number of recreational boating routes which pass through Tranche A and B on route to mainland Europe.

2.24 The Offshore Scoping Area is within an area of high potential for prehistoric archaeology. There are a limited number of charted wrecks within the Dogger Bank Zone but the number increases within the Cable Corridor Area and particularly nearer to the coastline. There is a potential for further wrecks yet to be identified and there is a likelihood of Unexplored Ordnance (UXO) within the Scoping Area.

2.25 Tranche A is partially located in an area used by the MOD as a Practice and Exercise Area (PEXA). A number of other PEXAs apply to the Export Cable Corridor Area.

2.26 There are no known oil, gas or condensate fields within Tranche A or B areas. Numerous exploration wells have been drilled within the Export Cable Corridor Scoping Area and Tranches A and B, as shown on Figure 14.1, but these have been plugged and abandoned or released as a dry hole.

The Proposed Site – Onshore

2.27 The Onshore Scoping Area is shown in the Scoping Report in Figure 1.3. This figure also shows an indicative cable area and six short-listed converter station sites. The Onshore Scoping Area boundary extends to the Tees estuary in the north, the Teesside coastline in the east as far south as the Heritage Coastline at Saltburn-by-the-Sea, and west to the edge of Middlesbrough.

2.28 The landscape is predominantly flat and low-lying with industry, including steel works, chemical works and Teesport Docks in the north and grade 2 agricultural land and residential areas in the south. The main settlements are Middlesborough, Recar and Markse-by-the-Sea.

2.29 The underlying geology is characterised by the Redcar Mudstone Formation with overlying till deposits and areas of glacial sand, silt, clay and gravels and estuarine deposits. The area immediately south of the River Tees is marked as Tidal Flats Deposits/Estuarine and Marine Alluvium.

2.30 The northern part of the Onshore Scoping Area falls into the Natural England Landscape Character Area 23 'Tees Lowlands' while the southern part falls into the Character Area 25 'North Yorkshire Moors and Cleveland Hills'. The Onshore Scoping Area falls within the Broad Landscape Area of the Redcar Flats.

2.31 There are no National Parks, AONBs or registered parks and gardens within 1km of the Onshore Scoping Area. Three conservation areas including Kirkleatham estate village, the Wilton Conservation Area and Yearby Conservation Area fall within the Onshore Scoping Area. Listed buildings are predominantly clustered within these conservation areas. There is one Scheduled Monument is within the Onshore Scoping Area.

2.32 Three main PROWs cross the area; The Teesdale Way, The Cleveland Way and National Cycle Network route 1 as well as a number of local PROWs.

2.33 There is a sewage outfall within the preferred landfall area near Marske-by-the-Sea as shown on Figure 14.3.

2.34 Key hydrological features include the River Tees and Skelton Beck. There are also a number of smaller streams, drains, reservoirs and ponds. The main water body is the Tees estuary.

2.35 Designated sites within the boundary of the Onshore Scoping Area include:

- South Gare and Coatham SSSI;
- Coatham Marsh WTR/LWS; and
- Redcar to Saltburn Coast Local Wildlife Site.

2.36 Designated sites which fall within the boundary of the Teesside Onshore Proposed Cable Envelope, which is a defined as a 1km buffer around the Onshore Scoping Area (as shown on Figure 5.4) include:

- Teesmouth & Cleveland Coast SPA (a summer breeding ground for Little Tern and Sandwich Tern are abundant on passage) and Ramsar;
- Teesmouth NNR comprising Seal Sands SSSI and Seaton Dunes & Common LNR/SSSI;

- Tees and Hartlepool Foreshore and Wetlands SSSI; and
- Saltholme RSPB Reserve.

2.37 The coastal area around the expected landfall comprises a range of intertidal, reed bed, cliff, urban, sand dune and arable habitats.

The Surrounding Area - Offshore

2.38 The offshore development area shares a boundary with the Dutch Doggersbank pSCI. The Dutch Klaverbank SCI and the German Doggerbank SAC are also located in close proximity. The wider North Sea area contains a number of other Natura 2000 sites as shown on Figure 5.1.

2.39 Parts of the proposed Marine Conservation Zones (MCZ), NG12 and NG11 overlap with the Export Cable Scoping Area. There are no Reference Areas (a highly protected area of the MCZ) within the Scoping Envelope. The location of these MCZ is shown on Figure 5.3.

2.40 A number of platforms and drilling rigs are located in the central and southern North Sea. The nearest to the proposed development is located approximately 5km from the Export Cable Corridor as shown on Figure 14.1.

The Surrounding Area – Onshore

2.41 The Eston Hills Historic Landscape area is located adjacent to the south east border of the Onshore Scoping Area as shown on Figure 24.1.

2.42 Land to the north of the Onshore Scoping Area contains:

- Teesmouth NNR comprising Seal Sands SSSI and Seaton Dunes & Common LNR/SSSI;
- Saltholme RSPB reserve;
- Cowpen Marsh SSSI;
- Hartlepool Submerged Forest SSSI; and
- Tees and Hartlepool Foreshore and Wetlands SSSI.

2.43 Land to the south and west of the Onshore Scoping Area contains:

- Lovell Hill Pools SSSI;
- North Yorkshire Moors National Park SPA, SAC and SSSI;
- A number of country parks, local wildlife sites and local nature reserves; and

- Saltburn Gill woods SSSI/LWS.

2.44 Redcar Rocks SSSI and the North Yorkshire & Cleveland Heritage Coast are located just outside of the Onshore Scoping Area.

Description of the Proposed Development – Offshore

2.45 The Dogger Bank Teesside development consists of up to four wind farms, each project producing up to 1.2GW. Turbine sizes are anticipated to be between 3MW and 10MW. The precise number, location and spacing of these turbines has yet to be decided but would range from 400 x 3MW turbines to 120 x 10MW turbines per project.

2.46 The proposed turbines would have a maximum rotor diameter of between 118m and 216m and a maximum rotor tip height of between 165m and 263m.

2.47 A number of foundation options have been identified (see section 2.3.5 of the Scoping Report). These could consist of:

- steel monopole (tapered or cylindrical)
- multipile or jacket
- tripod
- gravity based structures (steel, concrete or combination)
- suction caisson, and
- additional foundations for the collection and converter substations including self installing jack-up or semi-submersible solutions.

2.48 Spoil may be produced during the installation of the foundations either through drilling or suction dredging. Where seabed preparation is anticipated base locations may be levelled by suction dredging (or similar) to an estimated average depth of 3m below current seabed levels. Spoil could be disposed of on site or off-site at a licensed spoil disposal area. This will be subject to assessment and licensing where appropriate.

2.49 Scour protection may be required. The chosen design will depend upon the final foundation/structural design process, ground conditions, environmental assessment and scour assessments but may include:

- protective aprons
- mattresses
- flow energy dissipation (frond) devices, and
- rock and gravel placement.

2.50 Each inter-array cable will be brought to an off-shore collector substation platform. Power generated offshore will be transformed to a lower alternating current (AC) voltage (likely to be between 33kV to 72kV). The number of collector substations is unknown but is likely to be up to four for each 1.2 GW generating capacity. The capacity and dimensions of the substation platforms will be determined through detailed design.

2.51 The likely technical solution for electricity export will be HVDC technology which reduces power loss over long distances. The HVDC will be produced by changing the AC to DC at one or more offshore converter substations. It is expected that there will be up to four converter substations for each 1.2GW generating capacity which may be standalone or associated with collector substations. Typical platforms could be 125m (l) x 105m (w) x 105m (h).

2.52 There are likely to be up to four AC export cables from each of the collector substations to the converter station with a voltage in the range of 132kV to 400kV.

2.53 There may be a need for inter-project export cabling to link the Dogger Bank Teesside projects with further development within or between the tranches.

2.54 Where practicable, cables will be installed under the seabed using ploughing or trenching/jetting depending on the bed conditions. Where burial is not possible, rock placement, steel structures, frond mattresses or Polyethylene castings may be deployed to protect the cables.

2.55 Met masts will be installed to assess meteorological and oceanographic data prior to and during operation to monitor the performance of the wind farm.

Description of the Proposed Development – Onshore

2.56 Landfall will be chosen to minimise the offshore and onshore cable route lengths. The landfall for Dogger Bank Teesside is anticipated to be along the coastline between South Gare point, at the mouth of the Tees Estuary, and Saltburn-by-the-Sea. The preferred landfall is between Redcar and Marske-by-the-Sea. More than one landfall area may be used if there is more than one cable corridor required.

2.57 The onshore infrastructure comprises up to eight joint transition bays, up to four cable systems, ancillary cable ducts, up to four cable systems and up to four converter stations.

2.58 The design of the transition bays has not yet been determined. They will be located close to the shoreline and will be located below ground level.

2.59 Power will be transmitted via up to four converter stations to either the existing National Grid substation at Lackenby or to a new substation which the National grid propose to build in Teesside as shown on Figure 1.3. The location of the new substation is likely to be in the industrial area south of the Tees Estuary, close to Lackenby.

2.60 The design and layout of the converter stations is yet to be decided. It is likely that they will be proximate to the existing Lackenby substation and co-located together where possible. The footprint of each converter station is likely to be around 2.5ha and would include a building of up to 30m, lightening masts up to 40m in height, access road of width up to 6m, perimeter road, security fencing and drainage.

2.61 Up to four buried cable systems will be required from the onshore joint transition bays to the onshore converter stations. Feasibility and route selection studies are ongoing. Each cable corridor would be 5 to 10km in length. Up to four cable systems would be needed, one for each proposed projects, each buried in a single trench of around 1.5m wide and 1.5m deep. During construction, the corridor would be up to 80m wide for four projects in a single corridor or up to 40m wide for two corridors with two projects in each. Cable jointing bays may be required every 700m – 1km.

Proposed Access

2.62 The principle access routes are identified on Figure 25.1 and include the A174, A1053 and A1085. Suitable locations for the vehicular access points to sites for the converter stations, landfall and cable route will the subject of a design process. Figure 25.2 shows four access points which have been identified for further consideration.

Construction - Onshore

2.63 An indicative outline programme for the delivery of Dogger Bank Teesside has been provided within the Scoping Report at section 1.6. The pre-construction phase is expected to commence in 2015 with construction taking place between 2016 and 2021. The development is expected to begin operation from 2017.

2.64 Each converter station and its associated cable system have an estimated construction period of up to 24 months.

2.65 There will be a requirement for temporary construction compounds, laydown areas, spoil heaps and access tracks. There is likely to be temporary closures or diversions to roads and public rights of way.

Construction – Offshore

2.66 An indicative outline programme for the delivery of Dogger Bank Teesside has been provided within the Scoping Report at section 1.6. The pre-construction phase is expected to commence in 2015 with construction taking place between 2016 and 2021. The development is expected to begin operation from 2017.

2.67 Offshore construction could take place over several years throughout the year although some activities would be restricted by weather conditions.

2.68 Off-shore construction activities are likely to include:

- Mobilisation of construction site personnel;
- Delivery of wind farm components to the ports;
- Seabed preparation;
- Delivery of the foundations and installation at site;
- Installation of tower, nacelle, hub and blades of the wind turbine generators;
- Transportation of the offshore substation module to the site and installation;
- Installation of the sub-sea inter array cables, and termination once installation is complete;
- Installation of the high voltage sub-sea cable between the shore and offshore substation;
- Jointing of the high voltage onshore cable to the high voltage sub-sea cable(s);
- Testing and commissioning of all systems; and
- Demobilisation of the construction site and personnel.

2.69 Foundations will be installed prior to the installation of the wind turbines. The techniques used for foundation installation for off-shore wind energy projects will vary significantly depending upon the foundation type but may include:

- steel monopole (tapered or cylindrical)
- steel multipile
- tripod
- suction caisson
- gravity based structures (steel, concrete or combination), and
- additional foundations for the collection and converter substations including self installing jack-up or semi-submersible solutions.

2.70 The installation of wind turbines, converter stations and accommodation platforms may be achieved by using a crane lifts from offshore barges, crane ships or jack-up vessels accompanied by support craft.

2.71 Specialist cable installation vessels can install the cable using a variety of methods, usually either ploughing or trenching/jetting techniques as appropriate to the location. A detailed cable burial assessment will be carried out and protective measures applied where necessary.

Operation and Maintenance

2.72 Once operational, the proposed development would require a full time dedicated team of technicians and associated support staff.

2.73 It is assumed that, in addition to an onshore base at a suitable port, one or more offshore operations hubs will be required at the site which could be either a fixed platform or a vessel able to travel between port and the project area.

2.74 Transport to the site could be by either helicopter, small, medium or large vessels or jack-up vessels.

2.75 Approximately ten pre installed moorings are likely to be required per project to allow vessels to moor while work is ongoing. These would likely consist of a floating buoy with appropriate mooring systems and would be secured via chains or cables to a system of anchors on the seabed.

2.76 The Applicant proposed to deal with Operation and Maintenance matters within the relevant topic chapters of the ES.

2.77 Access to the online converter stations will be required for the life of the development for monitoring and maintenance and occasional access to the cable systems for repairs may be necessary.

Decommissioning

2.78 It is a condition of the Crown Estate lease for the wind farm site that the proposed development be decommissioned at the end of its operational lifetime. To this end a decommissioning plan will be prepared at the request of the Secretary of State. The decommissioning sequence will generally be the reverse of the construction sequence given above.

2.79 Further information on decommissioning is provided in the technical chapters of the Scoping Report.

2.80 The Scoping Report refers to decommissioning in section 2.3.46. It is expected that decommissioning will take a similar length of time

as construction and will require similar vessels. The section also states that the decommissioning is likely to be the reverse of the construction process although piled foundations would be removed to just below seabed taking into account likely changes in seabed level and the necessity to remove cables will be reviewed nearer the time.

The Secretary of State's Comments

Description of the Application Site and Surrounding Area

2.81 In addition to detailed baseline information to be provided within topic specific chapters of the ES, the SoS would expect the ES to include a section that summarises the site and surroundings both on and offshore. This would identify the context of the proposed development, any relevant designations and sensitive receptors. This section should identify land that could be directly or indirectly affected by the proposed development and any associated auxiliary facilities, landscaping areas and potential off site mitigation or compensation schemes.

2.82 It is noted that the Scoping Report has chosen to split the Scoping Envelope into the Offshore Area, the Export Cable Corridor Area and the Onshore Area. If a similar approach is adopted in the ES, it would be essential to clarify the boundaries between these areas and what infrastructure would be located within each of the areas.

2.83 A 1km buffer zone around the Onshore Scoping Area, which is referred to as the Teesside Onshore Proposed Cable Envelope, is shown on Figure 5.4 and radiates outwards from the Onshore Scoping Area boundary line. This buffer zone is not mentioned in section 1.9.8 of the Scoping Report. Where buffer zones are identified in the ES for topic or area assessments, an explanation should be provided as to how this buffer zone relates to the identification of the receptors and the surveys undertaken. It should be demonstrated that the area identified is sufficiently widely drawn.

Description of the Proposed Development

2.84 The Applicant should ensure that the description of the proposed development is as accurate and firm as possible as this will form the basis of the environmental impact assessment. It is understood that at this stage in the evolution of the scheme that the location and design of infrastructure, both onshore and offshore is not yet confirmed. The Applicant should be aware however, that the description of the development in the ES must be sufficiently certain to meet the requirements of paragraph 17 of Schedule 4 Part 1 of the EIA Regulations and there should therefore be more certainty by the time the ES is submitted with the DCO.

2.85 When identify the proposed infrastructure that would be included within the draft DCO, the Applicant should clearly define what elements of the proposed development are integral to the NSIP and which is 'associated development' under the Planning Act 2008 or is an ancillary matter.

2.86 Any proposed works and/or infrastructure required as associated development, or as an ancillary matter, (whether on or off-site) should be considered as part of an integrated approach to environmental assessment.

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

- Land use requirements;
- Site preparation;
- Construction processed and methods;
- Transport routes;
- Operation requirements including the main characteristics of the process and the nature and quantity of the materials used, as well as waste arisings and their disposal;
- Maintenance activities; and
- Emissions – water, air and soil pollution, noise, vibration, light, heat and radiation.

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

Flexibility

2.89 The SoS notes the Applicant's reference to the Rochdale Envelope approach and draws the Applicant's attention to Advice Note 9 'Using the 'Rochdale Envelope' which is available on the Planning Inspectorate's website, and to Appendix 3 of this Opinion.

2.90 The Applicant should make every attempt to narrow the range of options and explain clearly in the ES which elements of the scheme have yet to be finalised and provide the reasons. At the time of application, any proposed scheme parameters should not be so wide ranging as to represent effectively different schemes. The scheme parameters will need to be clearly defined in the draft DCO and therefore 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 requirements of paragraph 17 of Schedule 4 Part 1 of the EIA Regulations.

2.91 It should be noted that if the proposed development changes substantially during the EIA process, prior to application submission, the Applicant may wish to consider the need to request a new Scoping Opinion.

Grid Connection

2.92 The connection of a proposed offshore wind farm into the relevant electricity network is an important consideration. Therefore, the SoS welcomes the intention to include within the proposed DCO application the export cable to shore, the onshore cabling and the converter stations as part of the overall project so that all potential effects can be assessed within the accompanying ES.

2.93 The SoS notes that whilst an Onshore Scoping Area has been identified for the onshore grid connection element of the proposed development, an indicative cable area and location for up to six onshore converter stations has been identified, as shown on Figure 1.3 of the Scoping Report. If the proposed location of the indicate cable route and converter stations changes, the Applicant should seek further consultation with key statutory consultees to clarify whether a new route would require changes to the proposed surveys identified.

2.94 The Scoping Report identifies that the preferred location of the six converter stations has been chosen to allow connection into the national high voltage electrical transmission system operated by National Grid, as these sites are close to the National Grid existing substation at Lackenby and a proposed new substation in Teesside. It is unclear whether additional works would be undertaken by National Grid to upgrade the existing electrical infrastructure. When assessing cumulative impacts in the EIA, the works which are proposed at each substation location should be clearly identified and assessed.

2.95 The SoS recommends that the construction timetable identifies the proposed timing of the grid connections secured through the application process with National Grid and any impact that changes in the grid connection timetable may have on the proposed development. For example, if it resulted in a delay in construction, whether this would have a different potential impact on the identified receptors, i.e. works timed to avoid a certain species would now be undertaken when the species is present.

Proposed Access

2.96 Figure 25.2 in the Scoping Report identifies the key highway routes proposed to be included within the transport assessment and the areas of search for site vehicle access to the converter station sites. The assessment of impacts on the transport network appears to be limited to only the defined Onshore Scoping Area. As the origins for the materials for the proposed onshore and offshore infrastructure has not yet been identified, the scope of the transport assessment should consider how delivery of construction materials may affect the transport network outside of the Onshore Scoping Area. Consultation should be undertaken with both the local highways authority and the highways agency to agree the scope of the assessment.

Alternatives

2.97 The SoS recognises that a number of alternatives for various elements of the proposed development have been or are currently under consideration and notes the identification of a proposed 'Assessment of Alternatives' section in the ES. The Applicant must ensure that the ES outlines the main alternative studied and provides an indication of the main reasons for the final selection. Advice on alternatives is provided in Appendix 3 of this Opinion.

Construction

2.98 An indicative programme timetable is provided at paragraph 1.6.1, which identifies that construction would take place between 2016 and 2021, with pre-construction works taking place between 2015 and 2019. The SoS considers that the information in the ES on construction should include:

- Phasing of programme;
- Construction methods and activities associated with each phase;
- Siting of construction compounds (including on and off site);
- Lighting equipment/requirements;
- Number and shift patterns of workers;
- Plant and equipment required; and number, movements and parking of construction vehicles (both HGV and staff); and
- The ES should also clearly distinguish between the timetable for onshore and offshore works and clarify where works will happen simultaneously or consecutively.

Operation and Maintenance

2.99 Information is provided in the Scoping Report on the proposed operation and maintenance of the onshore and offshore infrastructure of the proposed development. The design life of the offshore turbine infrastructure is anticipated to be around 20 years, requiring regular inspections, service and maintenance. This is anticipated to be delivered through an onshore base at a port and one or more suitable operations hubs, which may either be a fixed platform at the site or a medium to large vessel travelling between the port and the project area (paragraph 2.3.42 of the Scoping Report). The proposed location of the base port is not identified. The EIA should identify and assess the potential impacts arising from the use of the port and the operation hubs, including numbers of staff required. A description of the onshore operational and maintenance routine is identified in paragraph 2.4.22 of the Scoping Report.

Decommissioning

2.100 The Scoping Report (paragraph 2.3.47) states that the Crown Estate licence for the Dogger Bank Zone is for 50 years. The SoS therefore welcomes the Applicant's consideration of the life span of the proposed development, including construction, operation and decommissioning.

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

2.102 It is a condition of the Crown Estate lease for the wind farm site that the proposed development be decommissioned at the end of its operational lifetime. The SoS notes the Applicant's confirmation that a decommissioning plan will be prepared.

2.103 The SoS also notes the Applicant's reference to the potential for the site to be 'replanted' during the 50 year lease period. The SoS suggests that consideration should be given to how replanting may affect the decommissioning plan.

3.0 EIA APPROACH AND TOPIC AREAS

Introduction

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

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

ES Approach

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

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

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

Matters to be Scoped Out

3.6 The Applicant has identified within the Scoping Report the following matters proposed to be 'scoped out'. These include:

- Impacts on potential Marine Conservation Zones (pMCZ)(paragraph 5.3.19);
- Impacts on offshore geology (paragraphs 6.2.2 and 6.2.9);

- Impacts of the hydrodynamic regime during construction and decommissioning (paragraphs 6.2.3 and 6.2.9);
- Impacts of Electromagnetic Fields (EMF) upon marine benthic community (paragraph 9.2.13);
- Impacts of EMF on pinnipeds (paragraph 11.2.14);
- Impact on military Communications, Navigation and Surveillance (CNS) (paragraph 16.1.9);
- Impacts on civilian CNS infrastructure as a result of the presence of the wind farm (paragraph 17.1.2);
- Landscape and visual impacts of the offshore wind farm on onshore receptors (paragraph 18.2.21);
- Impacts on the North York Moors National Park during the construction, operational or decommissioning phases of the onshore infrastructure (paragraph 20.1.6);
- Impacts on onshore tourism and recreation during the operational phase of the onshore infrastructure (paragraph 20.2.6);
- Impacts on air quality during operation (paragraphs 27.3.6-27.3.8).

3.7 Matters are not scoped out unless specifically addressed and justified by the Applicant, and confirmed as being scoped out by the SoS. The SoS agrees that the following matters can be scoped out:

- The potential visual impact on onshore receptors from the offshore wind farm, as the closest edge of the Dogger Bank Zone (Tranche A) is located approximately 125km from the Yorkshire coastline (paragraph 18.2.21 of the Scoping Report);
- The potential impacts on onshore tourism and recreation during operation, as significant impacts are not expected on this receptor during operation;
- The potential impacts on North York Moors National Park Authority during operation, as significant impacts are not expected on this receptor during operation; and
- The potential impacts on air quality during the operation stage of the development in relation to both onshore and offshore emissions, as the converter stations do not have emissions to air (paragraph 27.3.6) and any emissions from maintenance vehicles are not expected to be significant (paragraphs 27.3.7 and 27.3.8 of the Scoping Report).

3.8 If topics are scoped out prior to submission of the DCO application, the ES should still explain the reasoning and justify the approach

taken, in order to demonstrate that topics have not simply been overlooked.

3.9 For the avoidance out doubt the following matters are not scoped out:

- As the indicative export cable route has not yet been finalised, the assessment of the potential impacts on pMCZ should be included within the scope of the EIA until it can be demonstrated, rather than anticipated, that these sites will not be impacted. The Applicant is referred to the joint Natural England /JNCC response (see Appendix 2);

- The Scoping Report identifies that the choice of foundation for the offshore structures, including the wind turbine, will depend on ground conditions (paragraph 2.3.6). Whilst the Applicant anticipates that the proposed development will not materially change the underlying geology, the underlying geology may affect the choice and location of foundations. Therefore, the SoS considers that geology assessment should be scoped into the EIA;

- The assessment of the impact on the hydrodynamic processes during decommissioning should be scoped into the EIA as removal of the foundations may result in a change to the marine environment with potentially the remobilisation of sediments which have built up around the infrastructure;

- The Scoping Report identifies that there is a lack of evidence and scientific knowledge relating to the impact of EMF upon marine benthic community and anticipates that this potential impact assessment may not be feasible. However, the SoS notes the comments in the joint response from Natural England/JNCC that there is a lack of knowledge about the effects and impacts of High Voltage Direct Current (HVDC) and therefore considers that this assessment should be scoped into the EIA;

- Whilst the Scoping Report identifies that there is no evidence to suggest that pinnipeds are magnetoreceptice, the SoS notes the comments in the joint response from Natural England/JNCC that there is a lack of knowledge about the effects and impacts of HDVC and therefore considers that this assessment should be scoped into the EIA;

- The SoS does not agree that the potential impact on military and civilian CNS can be scoped out at this stage, as the location of the shore based CNS assets have not been identified and the exact range of the CNS infrastructure has not been provided; and

- The Applicant describes the North York Moors National Park Authority as a major tourist attraction and therefore an assessment of the potential impact of the development, particularly during construction and decommissioning on the tourism and recreation elements of this area should not be scoped out of the EIA. The Applicant is referred to the consultation response by Scarborough Borough Council (see Appendix 2).

ES Structure

3.10 Section 3.9 of the ES Scoping Report sets out the proposed structure of the ES. The ES would cover a number of topics and assessments under the headings of:

- Introduction
- Project Need
- Legislative Requirements and EIA Process
- Policy, Legislation and Guidance
- Project Details (including underwater noise modelling)
- Assessment of Alternatives
- Consultation
- Designated Sites
- Marine Physical Processes
- Marine Water and Sediment Quality
- Marine and Coastal Ornithology
- Marine and Intertidal Ecology
- Fish and Shellfish Resource
- Marine Mammals
- Commercial Fisheries
- Shipping and Navigation
- Other Marine Users
- Marine and Coastal Archaeology and Cultural Heritage
- Military Activities
- Civil Aviation
- Seascape, Landscape and Visual Character
- Socio-economics
- Tourism and Recreation
- Geology, Water Resource and Land Quality
- Terrestrial Ecology

- Land Use and Agriculture
- Cultural Heritage
- Traffic and Access
- Noise and Vibration
- Air Quality
- Interrelationships
- Transboundary Effects
- Cumulative Impact Assessment
- Conclusions
- Summary of Mitigation and Monitoring.

3.11 The SoS also notes that a Non-Technical Summary would be provided as part of the EIA.

General Comments

3.12 Section 3 of the Scoping Report refers to 'The Consents Framework and EIA Methodology.' The SoS draws the attention of the Applicant to ensuring that at the time of submission, the ES is up to date in terms of all relevant consents and uses appropriate and up to date methodology.

3.13 Section 3 of the Scoping Report clarifies how the Applicant intends to determine and qualify impacts. The SoS stresses that the terminology and method of determining impact and significance should be clearly explained within the ES. Thereafter, a consistent approach to defining the impacts should be used within each topic chapter. The significance of an impact should also distinguish between beneficial and adverse impacts.

3.14 The SoS welcomes the Applicants approach to considering the potential impacts during construction, operation and decommissioning. Consideration should also be given to the potential replanting of the project within the lease period and how this may affect decommissioning of the pervious development.

3.15 The SoS recommends that the ES should include a description of the proposed construction programme within the Project Description. The information relating to the timings of the construction works can be used to inform the topic chapters of the ES, for example the seasonal timing of particular works to mitigate against ecological impacts.

3.16 The SoS stresses that the pre-construction baseline data should be comprehensive, relevant and up to date. The timing and scope of all surveys should be agreed with the relevant statutory bodies. The SoS notes the consistent reference to the intention of using

the worst case scenario when carrying out the environmental assessments.

3.17 The methodologies of surveys and studies needed to inform the EIA should be fully explained in the ES. The Scoping Report does not explain the specific detail of the proposed methodologies for the individual surveys that will be carried out as part of the EIA. An opinion cannot be given on the methods of carrying out the survey work. The SoS advises that it is important for the Applicant to consult and gain agreement with the relevant statutory consultees when formulating survey methodologies.

3.18 Uncertainties for impact prediction should be identified and where conclusions are based on expert judgement this should be clearly described and justified within the text.

3.19 The methodologies for the individual assessments and surveys making up the ES should describe and take account of relevant and up to date planning policy and technical guidance at a national, regional and local level.

3.20 The SoS notes that the EIA will consider the interrelationships between the technical chapters, drawing together the topics to produce a comprehensive assessment of the environmental impacts.

3.21 The SoS notes that the Applicant will consider the cumulative impacts with other onshore and offshore developments. The SoS recommends that the identification of major developments within the vicinity of the proposal should be carried out in consultation with the local planning authorities and other relevant consenting bodies. The following development should be considered:

- Built and operational
- Under construction
- Permitted application(s), but not yet implemented
- Submitted application(s) not yet determined
- Projects of the Planning Inspectorate's Programme of Projects
- Identified in the relevant Development Plan (and emerging Development Plans – with appropriate weight being given as they move closer to adoption)
- Site identified in other policy documents, as development reasonable likely to come forward.

3.22 Cumulative impacts should consider spatial and temporal aspects and clearly identify the search radius used in the cumulative

impacts assessment (CIA). The ES should identify those projects screened in and out of the CIA within the search radius used and the justification for this decision.

3.23 The SoS welcomes the early consideration of transboundary effects and advises that as further information on transboundary impacts are realised, the engagement with the relevant European States should be carried out. Where the potential for transboundary impacts have been identified, this should be reflected in the physical scope of the relevant topic assessments.

3.24 Given the potential lifespan of the project of up to 50 years following construction, the EIA should consider the impacts of climate change of the development, including rising sea levels and the effect on the landfall area and onshore cabling, and the potential impact of flooding.

3.25 It is stated within the Scoping Report that a waste management plan will be produced as part of the application for development consent. The SoS advises that the EIA should consider the impacts of waste on the environment and should clarify the types of all wastes to be processed and that the effect of the proposal, in terms of waste, should be included in the ES. The SoS draws attention to the responses in Appendix 2 from the Environment Agency regarding waste regulations and the Health Protection Agency regarding the safe disposal of waste. The Waste Management Plan must consider the use of recycled materials can be incorporated into the development.

3.26 JNCC and Natural England have provided a joint response in relation to the Scoping Report and the proposed methods of assessing the impact on the environment (see Appendix 2). Advice is provided on the following topic areas:

- Project Description
- The Content Framework and EIA Methodology
- Designated Sites
- Marine Physical Processes
- Marine Water and Sediment Quality
- Marine and Coastal Ornithology
- Intertidal and Subtidal Ecology
- Fish and Shellfish
- Marine Mammals
- Seascape, Landscape and Visual Character

- Air Quality

3.27 The SoS advises that the advice of JNCC/Natural England is cross referenced with the comments made within the individual topic areas.

Topic Areas

Designated Sites (see Scoping Report Section 5)

3.28 It is noted that the list of designated sites is extensive and covers offshore and onshore internationally and nationally significant sites (Table 5.2). The SoS agrees that the EIA should assess the potential impacts of the development on these sites and the mobile species that may be present or appear within the Scoping Envelope.

3.29 The Applicant must justify the selection of the nationally designated sites that are deemed relevant to the proposal that will be assessed within the EIA. The selection should be agreed with Natural England.

3.30 Section 5 of the Scoping Report discusses some of the potential impacts of the wind farm development on designated sites and states that the remainder of the impacts are discussed within the specific ecological chapters. In its presentation, the ES should be clear where the impacts on designated sites will be discussed and the assessments in the individual chapters should be drawn together and the interrelationships assessed within the leading chapter on designated sites.

3.31 The SoS notes that a HRA will be undertaken by the Applicant to assess the impact of the development on internationally designated species (see Section 4 of this Opinion).

Marine Physical Processes (see Scoping Report Section 6)

3.32 The existing environment is described in this section and Table 6.1 outlines the further survey work that will be undertaken and the timescale for its completion. The purpose of each survey is noted but there are no proposed methodologies. The methodologies should be developed in consultation with JNCC, Natural England and the MMO.

3.33 The applicant states that the onshore and offshore cables may be left in situ as part of the decommissioning of the development. The EIA should assess the impacts of this option including the potential for cable exposure as a result of coastal changes and hydrological processes, including a monitoring plan and suitable mitigation measures.

Marine Water and Sediment Quality (see Scoping Report Section 7)

3.34 In addition to the surveys listed in Table 7.1, the cable route within the intertidal zone should be tested for heavy metal contamination.

3.35 The scope for the surveys listed in Table 7.1 should also be agreed in consultation with the relevant stakeholders to include the MMO, JNCC, Natural England and Cefas.

3.36 The EIA should assess the available options for spoil disposal and the impact on these options upon water quality and marine ecology.

3.37 The EIA should consider the potential impact of the development upon bathing water quality, particularly in relation to the works associated with the construction of the export cable corridor and the landfall works within the designated bathing waters.

3.38 The SoS advises that the interrelations with ecology and the sandbank habitat of the Dogger Bank cSAC are assessed within this section.

Marine and Coastal Ornithology (see Scoping Report Section 8)

3.39 The SoS advises that due to the proximity of several internationally designated sites to Dogger Bank (noted in Figure 5.2) together with the scale of the proposal, the potential impacts on birds should be comprehensively addressed.

3.40 The Applicant must justify the selection of key species for assessment in agreement with JNCC and Natural England. The SoS draws the Applicants attention to the JNCC/Natural England comments in Appendix 2 with regard to further species that require consideration in the EIA.

3.41 In compiling the baseline results, it is noted that the Applicant has carried out low resolution aerial and boat based surveys across the whole of the Dogger Bank region since 2010. Surveys of a higher resolution within Tranche A and B began in 2011 and were to last for one year. The ES must explain the different methodologies used for the high and low resolution surveys and justify the use of different resolutions to achieve a comprehensive pre-construction baseline of results.

3.42 The EIA should consider how marine and coastal ornithology will be monitored throughout the operation of the development.

Intertidal and Subtidal Ecology (see Scoping Report Section 9)

3.43 Clarification of the presence of the Annex 1 habitat reef should be provided in the ES. If the reef is present, a full assessment of the impacts on the reef should be carried out.

3.44 The impacts of the scour protection works on marine ecology should be carefully assessed and should consider the effects of seabed disturbance, increased suspended sediments and smothering, changes to water quality, accidental release of contaminants, and the noise and vibration disturbance during the construction phase and maintenance works of the proposed development.

Fish and Shellfish (see Scoping Report Section 10)

3.45 The studies must include consideration of the impacts upon migratory fish such as salmon and sea trout (refer to the Environment Agency's consultation response in Appendix 2).

3.46 The evaluation of the impacts should interrelate with the assessment of commercial fisheries.

Marine Mammals (see Scoping Report Section 11)

3.47 The SoS advises that due to the presence of the Dogger Bank cSAC within the offshore scoping area, and SAC's, cSAC's, pSAC's and SCI's within the wider area of the North Sea and European coastlines, a comprehensive assessment of the potential impacts on marine mammals and their habitats must be carried out.

3.48 The SoS supports the production of a method statement that will identify and programme the survey work that is required to provide the baseline for the assessment on marine mammals. The method statement should be agreed in consultation with JNCC, MMO and Natural England.

3.49 The SoS agrees with the commitment in Table 11.2 to carry out the marine mammal surveys over a period of 2 years.

Commercial Fisheries (see Scoping Report Section 12)

3.50 Whilst the Scoping Report states that the Applicant expects the impacts during decommissioning to be similar to those experienced during construction (paragraph 12.1.12), the potential impacts on commercial fisheries during construction are not outlined within this section. The potential impacts on commercial fisheries during the construction period, will relate to displacement from fishing grounds, the presence of physical obstacles, increased pressure over diminished grounds, displacement or reduction in the fish and shellfish resource, and the implementation of navigational restrictions. The potential impacts on commercial fisheries during the construction phase should be addressed in the ES.

3.51 The EIA should thoroughly consider the impact of safety zones on commercial fishing and the extent of the zones should be justified within the ES.

3.52 The loss or restricted access to traditional fishing grounds may have subsequent effects on alternative fishing grounds which are fished by smaller vessels. The impacts on alternative fishing grounds should be assessed.

3.53 The SoS welcomes the approach taken by the Applicant to ensure close liaison with the national and international fisheries industry. The Applicant is referred to the comments by Guisborough Town Council on the local fishing industry (see Appendix 2).

Shipping and Navigation (see Scoping Report Section 13)

3.54 The Navigational Risk Assessment should fully consider the cumulative impacts of the development on shipping routes, vessel traffic and the implications due to potential multiple marine navigational markings from other offshore wind farms.

3.55 The impact on navigation as a result of the construction works within the offshore cable corridor should be assessed and appropriate mitigation measures identified within the ES. Trinity House draw the attention of the Applicant to the necessity of considering suitable mitigation to secure the safe navigation of vessels across waters close to the proposed wind farm. Further information relating to suitable mitigation measures can be found in Trinity House's comments in Appendix 2.

Other Marine Users (see Scoping Report Section 14)

3.56 The outline of the existing environment in the context of other marine users is varied in its content. The Scoping Report states that a desk top study will be carried out to identify and consider potential impacts. As the topic range is varied, a single methodology would appear to be insufficient. The SoS advises that the scope and method of assessment for each marine use should be developed individually with a comparative thread to allow for the assessment of interrelationships and cumulative effects.

Marine and Coastal Archaeology (see Scoping Report Section 15)

3.57 The SoS agrees that the assessment methodologies should be developed in consultation with English Heritage and the Joint Nautical Archaeological Policy Committee, and must include an Archaeological Written Scheme of Investigation. The Applicant is referred to English Heritage's consultation responses (see Appendix 2).

3.58 The SoS draws the Applicant's attention to the comments from English Heritage that stresses the importance of the careful consideration of coastal archaeology within the landfall area.

3.59 In assessing the potential impacts during the operational phase of the development, consideration should be given to the impacts

associated with additional anti-scour materials in relation to the export and inter-array cabling and the turbines.

3.60 The ES should include a protocol based on best practice guidance that states how potential archaeological discoveries will be reported.

Military Activities (see Scoping Report Section 16)

3.61 The SoS agrees with the approach that will be taken towards the assessment of impacts on military activities.

Civil Aviation (see Scoping Report Section 17)

3.62 The SoS agrees with the approach that will be taken towards the assessment of impacts on civil aviation. The Applicant is referred to the consultation response from the Civil Aviation Authority (see Appendix 2 of this Opinion).

Seascape, Landscape and Visual Character (see Scoping Report Section 18)

3.63 The SoS advises that the landscape designations and other key features such as public rights of way are listed within a table and identified on a corresponding plan.

3.64 The Scope of the Seascape, Landscape and Visual Impact Assessment (SLVIA) should also include the potential impacts as a result of the offshore decommissioning phase.

3.65 The Scoping Report identifies that the proposed SLVIA would include a Zone of Theoretical Visibility (ZTV) for the onshore converter stations. The SoS advises that the ES should describe the model used, provide information on the area covered and the timing of any survey work and the methodology used. The SoS recommends that the location of viewpoints should be agreed with the relevant local authorities.

3.66 Visual impacts as a result of the loss of hedgerows and trees for the cable corridor should be assessed and proposed mitigation identified and assessed within the ES. Appropriate cross-reference should also be made to the terrestrial ecology assessment within the ES.

Socio-economics (see Scoping Report Section 19)

3.67 The potential impacts listed in the Scoping Report relate to positive impacts. The assessment must also assess any negative socio-economic effects that may arise, including the impacts upon the commercial fishing and tourism and recreation.

3.68 The SoS recommends that the assessment considers the potential significance of the impacts of the proposal within a local context, and a regional context beyond that of the administrative boundary in which the project is located. The types and number of jobs generated should be considered in the context of the available workforce in the area. Information should be provided on worker accommodation and include an assessment of the potential impacts of the influx of workers. The cumulative impact of workers on nearby major projects should be assessed. The Applicant is referred to the comments provided by Scarborough Borough Council (refer to Appendix 2 of this Opinion).

Tourism and Recreation (see Scoping Report Section 20)

3.69 The SoS advises that the interrelationship with socio-economics is discussed as part of the tourism and recreation assessment within the ES.

Geology, Water Resources and Land Quality (see Scoping Report Section 21)

3.70 The SoS draws the Applicants attention to the comments in Appendix 2 made by the Environment Agency in relation to this topic. In addition, an overview of the relevant regulatory requirements can be found within the response.

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

3.72 The EIA must consider the surface water discharge from the potential converter sites and consider the impacts in relation to discharge into tidal waters or fluvial watercourses.

3.73 The Scoping Report states that a Flood Risk Assessment will only be provided if the chosen locations for the converter stations include one within a flood risk zone. The SoS advises that a Flood Risk Assessment is carried out regardless of the location of the converter stations as the landfall works within the tidal area and the cable routes from the shoreline could also be affected by flooding during construction and operation.

3.74 The SoS advises that the potential impacts of landfall works on existing and proposed sea defences, coastal erosion and deposition should be addressed.

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

Terrestrial Ecology (see Scoping Report Section 22)

3.76 The survey distances used within the Phase 1 Habitat Surveys should be defined using best practise guidance and in agreement with the relevant stakeholders.

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

3.78 It is noted that a review of EIA's for other large significant infrastructure projects, such as the Teesside Offshore Wind Farm would be carried out to identify existing constraints and proposed survey methodologies. The SoS advise that whilst this approach is appropriate for gaining general guidance, constraints may have been updated since the publication of earlier EIA's, and each project is individual and requires a methodology tailored to the circumstances of that project. The SoS welcomes the commitment to engaging with key stakeholders and advises that such parties are used to provide up to date ecological information and aid the production of site specific surveys.

Land Use and Agriculture (see Scoping Report Section 23)

3.79 Consideration should be given towards the gas and electricity pipelines buried onshore and the potential restrictions this may place on the location of the onshore cables. The relevant gas pipeline operatives, Northern Gas Networks and SABIC, and the National Grid should be consulted (see the HSE response, Appendix 2).

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

Cultural Heritage (see Scoping Report Section 24)

3.81 Assessment methodologies and investigative works should be formulated in accordance with best practise guidance and agreed with English Heritage and Redcar and Cleveland Borough Council's Archaeology team. Consideration should be given to how potential impacts on in-situ archaeology will be mitigated.

3.82 The development of the viewpoints within the LVIA should incorporate views from cultural heritage locations and should be agreed with the relevant authorities.

Traffic and Access (see Scoping Report Section 25)

3.83 The list of key access routes should be identified within the ES and presented on a plan to allow a clear overview of the routes involved.

3.84 The assessment should include an indication of the construction timings to give a full understanding of the duration of the impacts.

3.85 The Scoping Report states that the impacts on ports outside of the Onshore Scoping Area that may be used to facilitate the development have not been assessed. The traffic and transport assessment should consider the transport implications relating to the use of ports as part of the construction and operation of the development. The assessment should consider vehicles associated with the construction of the offshore development including delivery and personnel vehicles and abnormal loads if applicable.

3.86 The transport assessment should include consideration of the potential impact on the rail network as there is one operational railway line within the Onshore Scoping Area.

3.87 The transport of waste off site and the health and safety implications should also be considered in the EIA.

Noise and Vibration (see Scoping Report Section 26)

3.88 This section of the Scoping Report focuses on onshore noise and it is stated that offshore noise is considered in the project description. Section 2 (Project Description) of the Scoping Report does not make reference to offshore noise. The SoS advises that offshore noise and vibration must be considered as part of the assessment. Appropriate cross-reference should be made to the fish and shellfish and the marine mammals topics in the ES.

3.89 Information should be provided on the types of vehicles and plant to be used during the construction phase to inform the prediction of noise and vibration impacts.

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

Air Quality (see Scoping Report Section 27)

3.91 The onshore scoping area does not lie within a designated AQMA. The results of the most up to date Air Quality Progress Report for Redcar and Cleveland Borough Council should be used to develop the baseline conditions for air quality in the area.

3.92 The assessment should consider the implications on nearby designated sites, in particular Ramsar, SPA's, SAC's and SSSI's.

3.93 Air quality and dust levels should be considered not only on site but also off site, including along access roads, local footpaths and other public rights of way.

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

4.0 OTHER INFORMATION

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

Habitats Regulations Assessment (HRA)

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

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

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

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

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

Sites of Special Scientific Interest (SSSIs)

4.7 The SoS notes that a number of SSSIs are located close to or within the proposed development. Where there may be potential impacts on the SSSIs, the SoS has duties under sections 28(G) and 28(I) of the Wildlife and Countryside Act 1981 (as amended) (the W&C Act). These are set out below for information.

4.8 Under s28(G), the SoS has a general duty '… to take reasonable steps, consistent with the proper exercise of the authority's functions, to further the conservation and enhancement of the flora, fauna or geological or physiographical features by reason of which the site is of special scientific interest'.

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

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

European Protected Species (EPS)

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

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

4.13 If the Applicant has concluded (in consultation with Natural England) that an EPS licence is required the SoS will need to understand whether there is any impediment to the licence being granted. It would assist the examination if the Applicant could provide with the application confirmation from Natural England whether they intend to issue the licence in due course.

Health Impact Assessment

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

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

Other regulatory regimes

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

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

Transboundary Impacts

4.18 The SoS has noted that the Applicant will consider in the EIA whether the proposal is likely to have significant impacts on another European State.

4.19 Regulation 24 of the EIA Regulations, which *inter alia* requires the SoS to publicise a DCO application if the SoS is of the view that the proposal is likely to have significant effects on the environment of another EEA state and where relevant to consult with the EEA

state affected. The SoS considers that where Regulation 24 applies, this is likely to have implications for the examination of a DCO application.

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

APPENDIX 1

List of Consultees

APPENDIX 1

LIST OF BODIES FORMALLY CONSULTED DURING THE SCOPING EXERCISE

CONSULTEE	ORGANISATION
The Health and Safety Executive	Health and Safety Executive
The relevant Strategic Health Authority	NHS North of England
Natural England	Natural England
The Historic Buildings and Monuments Commission for England	English Heritage
The relevant fire and rescue authority	Cleveland Fire and Rescue
The relevant police authority	Cleveland Fire and Rescue
The relevant Parish Council	Saltburn, Marske & New Marske Parish Council Skelton & Brotton Parish Council Guisborough Town Council Loftus Town Council Lockwood Parish Council Kildale Parish Council Great Ayton Parish Council Nunthorpe Parish Council Billingham Town Council
The Environment Agency	The Environment Agency
The Commission for Architecture and the Built Environment	CABE at Design Council
The Equality and Human Rights Commission	Equality and Human Rights Commission
The Commission for Sustainable Development	Sustainable Development Commission
The Homes and Communities Agency	HCA
The Joint Nature Conservation Committee	Joint Nature Conservation Committee
The Commission for Rural Communities	The Commission for Rural Communities
The Maritime and Coastguard Agency	Maritime and Coastguard Agency
The Marine	The Marine Management Organisation

CONSULTEE	ORGANISATION
Management Organisation	
The Scottish Fisheries Protection Agency	Marine Scotland
The Civil Aviation Authority	Civil Aviation Authority
The Highways Agency	The Highways Agency
The relevant Highways Authority	Redcar and Cleveland Borough Council
The Rail Passengers Council	Rail Passenger Council
The Disabled Persons Transport Advisory Committee	DPTAC
The Coal Authority	The Coal Authority
The Office of Rail Regulation	Office of Rail Regulation
Approved Operator	Network Rail Infrastructure Ltd Network Rail (CTRL) Ltd
The Gas and Electricity Markets Authority	OFGEM
The Water Services Regulation Authority	OFWAT
The Relevant Waste Regulation Authority	Environment Agency
The British Waterways Board	The British Waterways Board
Trinity House	Trinity House
The Health Protection Agency	The Health Protection Agency
The Relevant Local Resilience Forum	Cleveland Local Resilience Forum
The Crown Estate Commissioners	The Crown Estate Commissioners
The Forestry Commission	The Forestry Commission (Yorkshire and Humber Region)
Relevant Statutory Undertakers	
Health Bodies (s.16 of the Acquisition of Land Act (ALA) 1981)	
Primary Care Trust (PCT)	Redcar and Cleveland PCT Hartlepool PCT
NHS Foundation Trust	Tees, Esk and Wear Valleys NHS Foundation Trust South Tees Hospitals NHS Foundation Trust
Ambulance Trusts	North East Ambulance Service
Relevant Statutory Undertakers (s.8 ALA 1981)	
Railways	BRB Residuary Limited

CONSULTEE	ORGANISATION
	Network Rail Infrastructure Ltd
Water Transport	The British Waterways Board
Dock	PD Ports Staithes Harbour Board
Pier	Redcar & Cleveland BC
Universal Service Provider	Royal Mail Group
Licence Holder (Chapter 1 of Part 1 of Transport Act 2000)	NATS en Route plc
Water and Sewage Undertakers	Yorkshire Water
Public Gas Transporters	British Gas Pipelines Ltd Energetics Gas Ltd ES Pipelines Ltd ESP Connections Ltd ESP Networks Ltd ESP Pipelines Ltd Fulcrum Pipelines Limited GTC Pipelines Limited Independent Pipelines Limited LNG Portable Pipeline Services Limited National Grid Gas Plc (NTS) National Grid Gas Plc (RDN) Northern Gas Networks Limited Quadrant Pipelines Limited Scotland Gas Networks Plc Southern Gas Networks Plc SSE Pipelines Ltd The Gas Transportation Company Limited Wales and West Utilities Limited Utility Grid Installations Limited
Electricity Licence Holders having CPO Powers	GDF Suez Teeside Limited MGT Teesside Limited UK Power Networks Limited Energetics Electricity Limited ESP Electricity Limited Independent Power Networks Limited Northern Powergrid (Northeast) Limited The Electricity Network Company Limited National Grid Gas Plc
Electricity Transmitters with CPO Powers	National Grid
Local Authorities (s.43)	
North York Moors National Park Authority Scarborough Borough Council Hambleton District Council Hartlepool Borough Council	

CONSULTEE	ORGANISATION
Middlesbrough Council Redcar and Cleveland Borough Council Stockton-on-Tees Borough Council North Yorkshire County Council	
Non Prescribed Consultees	
Ministry of Defence Royal National Lifeboat Institution	

Note: the Prescribed Consultees have been consulted in accordance with the Planning Inspectorate's Advice Note 3: EIA consultation and notification' (May 2012).

APPENDIX 2

Respondents to Consultation and Copies of Replies

APPENDIX 2

LIST OF BODIES WHO REPLIED BY THE STATUTORY DEADLINE

Civil Aviation Authority
English Heritage
English Heritage – Regional office
Environment Agency
ES Pipelines
Guisborough Town Council
Health and Safety Executive
Health Protection Agency
JNCC and Natural England (joint response)
Middlesbrough Council
National Grid
North York Moors National Park Authority
North Yorkshire County Council
Redcar and Cleveland Borough Council
Scarborough Borough Council
The Coal Authority
Trinity House

From: Windfarms [mailto:Windfarms@caa.co.uk]
Sent: Friday, June 08, 2012 11:03 AM
To: Environmental Services
Subject: RE: Dogger Bank Teesside Offshore Windfarm: Scoping Consultation

Dear Sir/Madam,

Having reviewed the Preliminary Environmental Information 1 provided by Forewind for the above proposed development I have no consultees to add beyond those already identified; NATS, MOD, CAA, Offshore Helicopter Operators and SAR operators (including MCA).

In addition to the reference to CAP 764 I would also like to draw your attention to the following Documents:

> http://www.caa.co.uk/docs/33/CAP437RFS.pdf - Standards for Offshore Helicopter Landing Areas.
>
> http://www.caa.co.uk/docs/33/DAP_LightingOffshoreWindTurbines.pdf - Policy Statement: The Lighting of Wind Turbine Generators in United Kingdom Territorial Waters.
>
> http://www.caa.co.uk/docs/33/20120427PolicyStatementFailureofOffshoreAviationLighting.pdf - Policy Statement: Guidance on Actions in the Event of the Failure of Aviation Warning Lights on Offshore Wind Turbines Listed in the UK Aeronautical Information Publication.

Please be aware that the Policy Statement - The Lighting of Wind Turbine Generators in United Kingdom Territorial Waters contains some information that has been superseded by edition 7 of CAP437 and will be updated in due course to reflect this correction as well as to reflect guidance regarding the ICAO requirement for aviation lighting to be spaced at longitudinal intervals not exceeding 900 m (ICAO Annex 14, Volume 1 – Aerodromes, section 6.4.1) in relation to irregularly spaced or shaped wind farms.

In addition to the above lighting requirements there is also a requirement to ensure that positions and maximum heights of wind turbines, meteorological masts and construction equipment are provided to the UK Hydrographic Office for maritime charting and subsequent forwarding to the Defence Geographic Centre for aviation charting purposes.

Please note that as the CAA focal point for wind turbine related enquiries my contact details are below, the CAA prefers to receive such enquiries and consultations by e-mail.

If you have any further questions please don't hesitate to contact me

Yours Sincerely

Neal Henley

N R HENLEY
Squadron Leader (RAF)

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

From: Environmental Services [mailto:EnvironmentalServices@infrastructure.gsi.gov.uk]
Sent: 22 May 2012 16:52
To: Windfarms
Subject: Dogger Bank Teesside Offshore Windfarm: Scoping Consultation

Dear Sir / Madam

Please see attached correspondence in respect of the above.

<<120521_EN010051_1239913_Letter to stat consultees-Scoping (further to Reg 9 notification.pdf>>

Regards

Will Spencer
EIA & Land Rights Adviser
National Infrastructure Directorate,
The Planning Inspectorate,
Temple Quay House,
Temple Quay,
Bristol,
BS1 6PN
Direct Line: 0303 444 5048
Helpline: 0303 444 5000
Email: will.spencer@infrastructure.gsi.gov.uk
Web: www.planningportal.gov.uk/planninginspectorate (Planning Inspectorate casework and appeals)
Web: www.planningportal.gov.uk/infrastructure (Planning Inspectorate's National Infrastructure Planning portal)
Advice may be given about applying for an order granting development consent or making representations about an application (or a proposed application). This communication does not however constitute legal advice upon which you can rely and you should obtain your own legal advice and professional advice as required.

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

****

ENGLISH HERITAGE

W. Spencer Esq,
The Planning Inspectorate
Eagle Wing
Temple Quay House
2 The Square
Bristol
BS1 6PN

Our ref: OWF/Dogger
Your ref: 120521_1239913

Telephone:
Fax: 07798 653897

19th June 2012

Dear Mr Spencer,

Proposed Offshore Wind Farm Extension – Dogger Bank Teesside
Environmental Impact Scoping Report
Infrastructure Planning (EIA) Regulations Act 2009

Further to your letter of 22nd May 2012 we hereby provide comment on the Environmental Impact Scoping Report produced for the 'Dogger Bank Teesside' project (dated May 2012). We understand that this Scoping Report addresses both the marine and terrestrial components of this proposed development.

We understand that the Dogger Bank Teesside is the second stage of the proposed development programme for the Dogger Bank Zone and that it will comprise up to four wind farms, each with a generating capacity of up to 1.2GW, which will connect into the national grid just south of the Tees Estuary. Dogger Bank Teesside will have a total combined generating capacity of up to 4.8GW.

English Heritage is the Government's advisor on all aspects of the historic environment in England. English Heritage is an Executive Non-departmental Public Body sponsored by the Department for Culture, Media and Sport (DCMS) and we report to Parliament through the Secretary of State for Culture, Media and Sport. The National Heritage Act (2002) gave English Heritage responsibility for maritime archaeology in the English area of the UK Territorial Sea. However, we are aware that part of the export cable and the proposed array development are located on UK Continental Shelf adjacent to England and therefore any comment we offer is given without prejudice to our responsibilities. We have also copied this correspondence to DCMS should they wish to provide further comment to you directly.

Scoping Report – Section A (Offshore Scoping Area) and Section B (Export Cable Scoping Area)

We noted the detail provided in Chapter 15 (Marine and Coastal Archaeology) and we concur with the statements regarding potential impacts during construction. However, with respect to potential impacts during operation we also consider impacts associated with additional anti-scour materials to be a relevant consideration in reference to both export and inter-array cabling and turbines. In section 15.6 (Approach to EIA) we support the statement that the archaeological desk-based assessment will be designed to support the on-going preparation of the Dogger Bank Zone ZAP.

In reference to the commissioning of marine surveys to inform the development programme for Tranche A and B, we must draw your attention to the potential to encounter previously unknown archaeological sites and that the planning of this project must be fully informed by an adequate interpretation of geophysics survey data to identify anomalies with archaeological potential. We therefore stress the importance of the developer notifying us regarding further survey work and we will require the developer to produce, in agreement with us, an Archaeological Written Scheme of Investigation.

Scoping Report – Section C (Onshore Scoping Area)

We understand that three areas of search for potential landfall sites have been identified.

Site No.2 is Forewind's preferred area of search. If pursued, this would land the cabling within an area designated as Green Wedge in the adopted Core Strategy for Redcar & Cleveland. It would, however, avoid known assets within the Marske Conservation Area and some Grade II listed buildings outwith that being the closest. There may be coastal considerations regarding archaeology (wagon ruts on the rocks might exist in this area and the coastline here is known to contain areas of submerged forest) and these should be appropriately assessed.

Some of the six proposed converter stations sites may be of interest and/or concern for us. Forewind should therefore be advised to take these concerns into account in the scoping of possible environmental effects. Site Nos. 1,2 and 3 lie within an already highly industrial landscape so are less likely to be so sensitive overall. Site No. 4 lies close to Kirkleatham Village and Hall with its Conservation Area, and several important Grade I and II* listed buildings and structures, the setting of which is likely to be a material planning consideration. A number of these heritage assets are on the Heritage@Risk Register and require positive action to remove them. Nos. 5 and 6 lie near to Wilton Conservation Area and a Grade I listed church. Some would be located, to one extent or another, on greenfield sites and in consequence would need archaeological evaluation as per normal terrestrial planning.

The indicative cable corridors are broad in outline as yet but pass through greenfield sites, some of which have demonstrable archaeology e.g. Foxrush Farm which has extensive evidence for salt working and so on in an LPRIA site, so it is again important that the archaeological potential of any proposed route is investigated. The point at which the indicative cable area narrows to the south of Kirkleatham Hall is considered to be important as regards its parkland setting and key views and vistas in relation to the village of Yearby. The Conservation Plan for Kirkleatham should be referenced in preparing the EIA.

Eastgate Court, 195-205 High Street, Guildford, GU1 3EH

Telephone 01483 252057 Facsimile 01483 252001
www.english-heritage.org.uk

All of these types of consideration have existing methods for evaluation - archaeological desk-based assessment, geophysics and evaluation, viewsheds, the setting of heritage assets etc which we would expect Forewind to use as normal best practice.

Additional comments

The production of an archaeological Written Scheme of Investigation (WSI), prior to development and in agreement with English Heritage should be prepared by a body affiliated to a professional association, such as the Institute for Archaeology, and that attention is directed at the planning and delivery of analysis which is corroborated by information obtained from any geotechnical and geophysical surveying campaign commissioned for this project. Relevant further information is provided in *Model Clauses for Archaeological Written Schemes of Investigation: offshore renewables projects* published by The Crown Estate (December 2010).

Any archaeological reports produced as part of the WSI are to be agreed with English Heritage (and any relevant local authority) prior to the development commencing and the developer is also responsible for ensuring that copies of any agreed archaeological assessment reports are deposited with English Heritage; this requirement is completed by submitting an English Heritage OASIS (Online AccesS to the Index of archaeological investigationS') form with a digital copy of the report. Notification of the completion of the OASIS form is to be sent, by the developer, to the relevant local authority for any aspect of this project that occurs within their area of responsibility for inclusion within any locally maintained Historic Environment Record.

English Heritage supports action that delivers in situ protection and where this might not possible we must direct your attention to the UK Marine Policy Statement (published by HM Government and the Devolved Administrations in March 2011) to ensure that any to such action to disturb such sites takes full account of the historic environment. We add also that the Environmental Statement for this project must set out how a reporting protocol will be produced and we direct your attention to *The Protocol for Archaeological Discoveries: offshore renewables projects* published by The Crown Estate in December 2010.

Yours sincerely,

[redacted]

Christopher Pater
Marine Planning Unit

Cc Alan Hunter and Jacqui Huntley (English Heritage, North East)
Alan Gibson (Marine Management Organisation)
John Tallantyre (DCMS)

From: HUNTER, Alan [mailto:Alan.Hunter@english-heritage.org.uk]
Sent: Tuesday, June 19, 2012 5:20 PM
To: Environmental Services
Cc: RUDGE, Andrew; PATER, Chris; nikki.smith@forewind.co.uk
Subject: FW: Forewind: Dogger Bank Teesside
Importance: High

For the attention of Will Spencer.
English Heritage in the north east - response to the above consultation process.

Regards
Alan Hunter

FOREWIND DOGGER BANK, TEESSIDE

English Heritage in the north east is being consulted on an EIA scoping opinion in respect of proposed cable landfall, cable routes and converter station sites (first stage pre-application consultation for a Major Infrastructure Project).

Chris Pater and Jacqui Huntley have been liaising with Forewind for some time about the geophysical and geotechnical work for the off-shore aspects - in respect of both turbine locations and cable routes. I am happy to report that Forewind have been following best practice for both of these aspects.

A further landfall site has been identified at Creyke Beck and they have been working with Yorks & Humber Office in respect of this.

Three areas of search for potential landfall sites have been identified. Site No.2 is Forewind's preferred area of search. If pursued, this would land the cabling within an area designated as Green Wedge in the adopted Core Strategy for Redcar & Cleveland. It would, however, avoid known assets within the Marske Conservation Area and some Grade II listed buildings outwith that being the closest. There may be coastal considerations regarding archaeology (wagon ruts on the rocks might exist in this area and the coastline here is known to contain areas of submerged forest) and these should be appropriately assessed.

Some of the six proposed converter stations sites may be of interest/concern for us. Forewind should therefore be advised to take these concerns into account in the scoping of possible environmental effects. Site Nos. 1,2 and 3 lie within an already highly industrial landscape so are less likely to be so sensitive overall. Site No. 4 lies close to Kirkleatham Village and Hall with its Conservation Area, and several important Grade I and II* listed buildings and structures, the setting of which is likely to be a material planning consideration. A number of these heritage assets are on the Heritage@Risk Register and require positive action to remove them. Nos. 5 and 6 lie near to Wilton Conservation Area and a Grade I listed church. Some would be located, to one extent or another, on greenfield sites and in consequence would need archaeological evaluation as per normal terrestrial planning.

The indicative cable corridors are broad in outline as yet but pass through greenfield sites, some of which have demonstrable archaeology eg Foxrush Farm which has extensive evidence for salt working and so on in an LPRIA site, so it is again

important that the archaeological potential of any proposed route is investigated. The point at which the indicative cable area narrows to the south of Kirkleatham Hall is considered to be important as regards its parkland setting and key views and vistas in relation to the village of Yearby. The Conservation Plan for Kirkleatham should be referenced in preparing the EIA.

All of these types of consideration have existing methods for evaluation - archaeological desk-based assessment, geophysics and evaluation, viewsheds, the setting of heritage assets etc which we would expect Forewind to use as normal best practice.

I would confirm that we have identified no obvious or absolute show-stoppers at this stage.

Alan Hunter - Planning Adviser and Team Leader
English Heritage - north east office

Will Spencer
The Planning Inspectorate
National Infrastructure Directorate
Temple Quay House (2 The Square)
Temple Quay
Bristol
Avon
BS1 6PN

Our ref: NA/2012/107990/01-L01
Your ref: 120521-1239913

Date: 19 June 2012

Dear Mr Spencer

PROPOSED DOGGER BANK TEESSIDE OFFSHORE WINDFARM ON DOGGER BANK. ENVIRONMENTAL IMPACT ASSESSMENT (EIA) SCOPING OPINION

Thank you for your EIA Scoping consultation letter dated 22 May 2012 concerning the above mentioned development proposal. We are of the general view that the EIA Scoping report has comprehensively considered the potential environmental impacts of the scheme and appears to follow good practice guidance for undertaking EIA. We would however wish the applicant to consider the additional matters raised below within the forthcoming EIA.

Chapter 7: Marine Water and Sediment Quality

The cable route and area for construction in the intertidal zone should be tested for heavy metal contamination. The results of the 2012 surveys should be made available to the Environment Agency for assessment.

Chapter 9: Intertidal and Subtidal Ecology

A study of the intertidal area that will be affected by cabling and construction of substations should be surveyed. BAP habitats such as saltmarsh and mudflats should be avoided when considering preferred routes. Measures should be agreed with us prior to construction to prevent disturbance of the intertidal zone.

Chapter 10: Fish and Shellfish

Migratory fish such as salmon and sea trout use the study area to transit through. Consideration must be given to these when assessing the impact of the works on fish.

Chapter 21 – Geology, Water Resources and Land Quality

Water Framework Directive
The study should take into account the Water Framework Directive in terms of maintaining good ecological and chemical status of surface and groundwater's within the study area. The developers should identify at the earliest stage possible any proposed aspects of the development likely to have significant impacts on water bodies. This could be part of the Environmental Impact Assessment, and could include:

- Preliminary Assessment of need for WFD assessment
- Design measures to meet WFD requirements (if required)
- Detailed assessment of WFD compliance (if required)
- A justification for physical modifications that cause deterioration or prevent achievement of water body ecological objectives (Article 4.7) (if required)
- Proposed Mitigation (if required)

Bathing waters
It is also noted that the areas under consideration for the cable corridor / pipeline landfall are within the vicinity of designated bathing waters, which extend up and down the North East Coast. The Designated Bathing Water Season runs from May to September of each year when samples of water are sampled for bacteriological compliance against set standards. Consideration should be given to minimising any potential for impact upon bathing water quality within this period.

Onshore land contamination and groundwater considerations
The EIA scoping report submitted indicates that a preliminary risk assessment (PRA) will be undertaken based on our guidance CLR11 Model Procedures for the Management of Land Contamination (2004). The PRA should outline all the potential pollution linkages within the areas of development based on the source-pathway-receptor principle. The PRA should be carried out in conjunction with the EIA so that the risk to groundwater from any existing contamination is understood and that any next stages for further investigation and mitigation can be outlined within the EIA.

We would agree with the statement that the sensitivity of the aquifers in this area are generally of low sensitivity. The EIA must consider the impacts of land contamination to groundwaters, however as plans develop, if works are limited to low sensitivity areas that we may no provide bespoke land contamination advice with respect to this development.

The EIA should assess the potential to detrimentally impact groundwater during the construction phase (e.g. use/storage of hazardous substances, dewatering, discharge, drainage, physical disturbance of sub surface, dealing with sediment fines etc). An outline of how construction will be carefully managed should be provided. This should include an outline of the mitigation methods to be used and appropriate guidance to be followed to ensure against pollution of the groundwater

Flood risk
It is noted within Section 21.6.8 of the Report that a desk study will be undertaken to establish the key hydrological constraints to the development. We welcome that this will be undertaken in liaison with the Environment Agency.

Cont/d..

The information submitted at 21.6.9 indicates that an FRA will be commissioned dependant upon the location of the infrastructure associated with this development. We would highlight that any flood risk assessment should comply with and reference the newly issued Planning Policy Framework (NPPF) and accompanying technical guidance on flood risk. We would draw attention to the fact that the need for a flood risk assessment (FRA) is not only dependant on the location of the development but, where the proposal lies within Flood Zone 1, also the size of the development site. An FRA will also need to be undertaken for development proposals on sites comprising one hectare and above in flood zone 1, as well as for all development proposal is flood zones 2 and 3.

It appears that 6 potential converter site locations all lie within or partially within flood zones 2 or 3 apart from the three sites furthest south in Figure 1.3. The FRA must consider the flood risk to the site and any mitigation methods required to enable operation of these sites in times of flood. If the flood risk is tidal in nature, it will be unnecessary to provide compensatory storage for the new buildings.

Surface water drainage from these sites should also be considered. If discharge is proposed into tidal stretches of the watercourses, then there will be no restriction on the discharge rate. However, if discharge is proposed into fluvial watercourses, there may be restrictions placed on the discharge rates.

In section 1.4.11 it is indicated that the land fall sites for the cabling routes to the onshore converters are to be buried cable systems to connect to the National Grid substations and in 2.4.8 that horizontal directional drilling technology is to used where major infrastructure has to be passed through or under. There are many sea defences along this coastal stretch, therefore this technique would be preferred to ensure these coastal defences are not affected. On shore, any crossings of designated main river will require an additional consent under the Water Resources Act 1991. Any associated flood risk impacts for ‘over river’ crossings would need to be appropriately assessed within the EIA.

It appears that the landfall location is between South Gare Point and Saltburn with the preferred option being between Redcar and Marske. Any landfall location should be discussed at the earliest time with the Environment Agency due to the new defences being built in these locations.

General Regulatory Requirements

Under the Water Resources Act 1991 and the Land Drainage byelaws any structures or works carried out in, over, under or within 5 metres of the top of a “Main River” bank may require written consent from the Environment Agency.

Under the terms of the Land Drainage Act 1991, the prior written consent of the Local Authority is required for any proposal to divert, culvert or otherwise obstruct the flow in any watercourse (including the provision of a connection to a culvert). This is a separate and additional requirement to planning permission.

Under the Environmental Permitting Regulations 2010 any proposals to deposit, treat, store or dispose of any waste material may require an Environmental Permit or specific Exemption obtained from the Environment Agency.

Cont/d..

Under the terms of the Environmental Permitting Regulations (England and Wales) 2010, anyone intending to discharge volumes of sewage effluent of 5 cubic metres per day or less to controlled waters or 2 cubic metres per day or less to ground may be eligible for an exemption and will need to register before they commence making the discharge. An Environmental Permit from the Environment Agency is normally required for discharges above this volume. It is illegal to discharge sewage effluent without either an exemption registration or an environmental permit. In addition no discharge to an aquifer should be made without prior consultation with the Environment Agency.

Under the Water Resources Act 1991 (as amended by the Water Act 2003) any abstraction of water or de-watering from underground strata may require an Abstraction Licence from the Environment Agency.

Under the Environmental Permitting Regulations 2010 any listed activity requires a permit from the Environment Agency. Furthermore under the Radioactive Substances Act 1993 the keeping or use of radioactive substances requires a formal registration with the Environment Agency.

Under the E.C. Habitat Directive any Environmental Impact Assessment should seek to address the requirements of the 1994 Habitat Regulations. We would advise you contact Natural England for further information.

Other Matters

Waste

The project will require the preparation of a Site Waste Management Plan in accordance with the Site Waste Management Plan Regulations 2008. Help with Site waste management Plans, including tools and templates, is widely available on line. Below is a selection of links to further information.

Net Regs SWMP Guide
http://www.netregs-swmp.co.uk/simple-guide.pdf

SWMP tool developed in conjunction with wrap
http://www.smartwaste.co.uk/

Guidance for Construction Contractors and Clients VOLUNTARY CODE OF PRACTICE
http://www.wrap.org.uk/downloads/site_waste_management_plan.86be623f.2323.pdf

Envirowise Intro to site waste management plans
http://envirowise.wrap.org.uk/uk/Our-Services/Publications/GG642-An-Introduction-to-Site-Waste-Management-Plans.html

Defra non Statutory Guidance
www.defra.gov.uk/environment/waste/topics/construction/pdf/swmp-guidance.pdf

The developer is encouraged to commit to the Government's and WRAP's Halving Construction and Demolition Waste to Landfill by 2012 policy, if they have not already done so.

The developer should consider how they can incorporate recycled/recovered materials into the building programme, including the use of secondary and recycled aggregates. This is part of the first stage of site waste management planning.

Cont/d..

Attention to detail during site waste management planning will also assist the developer in complying with other waste legislation including Duty of Care and Hazardous waste Regulations.

We recommend our new PPG6 Pollution Prevention Guidance on construction sites which is also available on line.

New PPG6
http://publications.environment-agency.gov.uk/pdf/PMHO0410BSGN-e-e.pdf

Should you or the applicant require any further clarification on the matters raised above, or wish to engage with us directly with regards to other aspects of this development, please don't hesitate to contact me using my details provided below. Please note that any correspondence with regards to the Teesside element of the development should be directed to this area office.

Yours faithfully

Sarah Jennings
Planning Officer – Sustainable Places Team

Direct dial 0191 203 4284
Direct fax 0191 203 4004
Direct e-mail sarah.jennings1@environment-agency.gov.uk

End

From: Alan Slee [mailto:alans@espipelines.com]
Sent: Wednesday, May 23, 2012 3:41 PM
To: Environmental Services
Subject: Dogger Bank Teesside Offshore Windfarm

For the attention of Will Spencer

Dogger Bank Teesside Offshore Windfarm
Your reference: 120521_1239913

Further to your letter communication dated 22 May 2012 I can confirm that E S Pipelines Ltd, ESP Networks Ltd, ESP Pipelines Ltd, ESP Electricity Ltd and ESP Connections Ltd businesses do not have any comments to make.

Regards,

Alan Slee
Operations Manager

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

ES PIPELINES
Hazeldean,
Station Road,
Leatherhead
KT22 7AA
☎ 01372 227560 01372 377996

MAP

http://www.espipelines.com

Guisborough Town Council

Clerk of the Council:
MISS T. MANGOLD

SUNNYFIELD HOUSE,
36 WESTGATE,
GUISBOROUGH,
NORTH YORKSHIRE, TS14 6BA.
Tel.
Guisborough (01287) 610193
E-mail:
guisborough_town_council@redcar-cleveland.gov.uk

11/06/12

Mr Will Spencer
EIA and Land Rights Advisor
On behalf of the Secretary of State
Eagle Wing
Temple Quay House
2 The Square
Bristol
BS1 6PN

Proposed Dogger Bank Teesside Offshore Windfarm
Your Ref:120521_1239913

Dear Mr Spencer,

Guisborough Town Council wish to comment only on the environmental issues around the Dogger Bank itself; the Town Council consider them so important that it does not wish to dilute its contribution by touching on other topics.
Fishing and associated activities have been a vital part of the coastal economy and in recent years our local industry has been damaged by necessary legislation. However there has always been the hope that conservation would allow fish stocks to be replenished by limiting fishing and that one day the industry would revive. The Town Council would suggest that the damage to the Bank itself caused by excavation and vibration during installation and operation would be significant.
Therefore it seems essential to the Town Council that before any invasive work takes place the current environmental status is established. This should cover estimates of the range and variety of fish and other flora and fauna in their various life cycles.
The Town Council can find no reference to this topic in the *Forewind* proposal nor is there any suggestion the EU Commission concerned with fishing and fish stock conservation has been consulted; surely this is an essential precursor to any work.
In summary the Town Council suggest that the proposal is modified to include in section 4 "environmental impact assessment, pp27-28," a consultation with the relevant EU Director General to ensure that the status quo is established in a non-invasive manner before work commences.

Yours sincerely,

[redacted]

Clerk of the Council

HSE
Health and Safety Executive

HID Policy - Land Use Planning
NSIP Consultations
Building 5.S.2
Redgrave Court
Merton Road
Bootle
Merseyside
L20 7HS

Your ref: 120521_1239913
Our ref: 4.2.1.2950

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

FAO Will Spencer
EIA and Land Rights Advisor
The Planning Inspectorate
Eagle Wing
Temple Quay House
2 The Square
Bristol
BS1 6PN

Dear Mr Spencer

13th June 2012

PROPOSED DOGGER BANK TEESIDE OFFSHORE WINDFARM (the project)
PROPOSAL BY FOREWIND Ltd (the developer)
INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2009 SI 2263 (as amended) (the EIA Regulations)

Thank you for your letter of 22nd May 2012 regarding the information to be provided in an environmental statement relating to the above project. The HSE does not have any comments on the EIA however there are some observations which it would seem sensible to pass on to Forewind Ltd.

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

Major Hazard Installations

The possible location of onshore cabling and converter station sites has been determined using Figure 14 of the Non-Technical Summary Document.

This identifies that the indicative area for buried onshore cabling is crossed by three natural gas pipelines and an ethylene pipeline.

As part of the proposed project is within the Consultation Distances of several major hazard pipelines, the developer should consider contacting the pipeline operators, Northern Gas Networks and SABIC UK, during this stage of consultation. There are two particular reasons for this:

- The operator may have a legal interest in the vicinity of the pipeline. This may restrict certain developments within a certain proximity of the pipeline.
- The standards to which the pipeline is designed and operated may restrict occupied buildings or major traffic routes within a certain proximity of the pipeline. Consequently there may be a need for the operator to modify the pipeline, or its operation, if the development proceeds.

The shortlisted converter station sites S1 - S6 are within HSE's consultation distance of at least one major hazard site or pipeline. This consultation has been considered using PADHI+, HSE's planning advice software tool, and is based on the details input by HSE.

For the benefit of the developer, further guidance on this may be found on HSE's website via the following link: http://www.hse.gov.uk/landuseplanning/padhi.htm

The details used by HSE were obtained from the description of the converter stations given in sections 10.3 to 10.17 of the document: Appendix A - Project Description. This indicates that:

- Each converter station will include offices and welfare facilities for the maintenance staff and visitors, and
- The converter stations will generally be unmanned; however access will be required throughout the lifetime of the projects for monitoring and planned maintenance.

On the basis of a preliminary assessment and the assumption that manning levels at the converter stations will be low, we think it unlikely that we would advise against the proposals for converter stations.

However we request that the number of occupants likely to be present in each of the occupied buildings on the converter station sites as well as the number of occupied storeys of any site buildings are confirmed in the environmental statement the developer intends to submit. HSE will review its land use planning advice on the basis of an assessment of the data available when the environmental statement is submitted.

Hazardous Substances Consent (HSC)

Any site that wants to hold certain quantities of Hazardous Substances, on, over or under land, must obtain consent from the Hazardous Substances Authority, in accordance with the Planning (Hazardous Substances) (Amendment) (England) Regulations 2009.

Hazardous Substances Consent would be required if the developer is intending to store or use any of the Named Hazardous Substances or Categories of Substances & Preparations at or above the controlled quantities set out in Schedule 1 of these Regulations, at a site within the Onshore Scoping Area.

The Dogger Bank Teesside Wind Farm EIA Scoping documents do not make reference to the onshore storage of hazardous substances and, in view of the nature of the proposal, such storage seems unlikely. However the developer is advised to consider whether storage of hazardous substances is required and, if so, whether consent would be required.

Explosives sites

The proposed Dogger Bank Teesside Offshore Wind Farm, offshore turbines, do not impinge on the separation distances of any explosive site licensed by the HSE.

For the onshore study area the HSE licence the following ports to handle explosives; Teesport Container Terminal and PD Teesport at Tees Dock.

Stage 6 Section 5.50 of the Non-Technical Summary states "onshore cable corridors have not yet been defined". The HSE Explosives Inspectorate would like to have the opportunity to comment further when more accurate cable route details are available.

Electrical Safety

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

Design Standards

As well as satisfying general UK health and safety legislation (i.e. Health and Safety at Work etc Act 1974 and supporting regulations) the promoter should consider providing a summary of the design standards that will be specified at the wind turbine procurement stage. For example the relevant standards include EN 61400-1:2005 *(Wind Turbines – Design Requirements)*, EN 50308:2004 *(Wind Turbines – requirements for design, operation and maintenance)*, EN 62271-200:2004 *(High-voltage switchgear and control gear)*.

In particular, HSE would prefer any high voltage switchgear to be at a separate level to the entry point for each turbine. Likewise details of the various EU product safety Directives that the turbines will be certified ("CE-marked") in accordance with, for example the Machinery Directive (2006/42/EC). We would expect each turbine to be equipped with an access lift complying with the same Directive in view of the access height to the nacelle. The guidance in Planning for Renewable Energy, A Companion Guide to PPS22 also sets out other relevant issues.

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

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

Yours sincerely,

[redacted]

Laura Evans
HID Policy - Land Use Planning

Centre for Radiation, Chemical and Environmental Hazards

FAO: Will Spencer
The Planning Inspectorate
Eagle Wing
Temple Quay House
2 The Square
BRISTOL BS1 6PN

Health Protection Agency

Centre for Radiation, Chemical and Environmental Hazards

Chilton, Didcot
Oxfordshire OX11 0RQ

Tel +44 (0) 1235 822629
Fax +44 (0) 1235 833891
www.hpa.org.uk/radiation

13 June 2012

Your Ref: 120521_1239913
Our Ref: EN_RE_WF_120523_146

Dear Mr Spencer

Thank you for your letter, dated 22 May 2012, advising of Forewind Ltd's intention to make an application to the The Planning Inspectorate for consent for the proposed Dogger Bank Teesside Offshore Wind Farm.

The attached response provides a framework for considering the health impact, including the direct and indirect effects associated with power frequency electric and magnetic fields. This guidance is also provided on the HPA website http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1284473361539).

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

Yours sincerely

[redacted]

Dr JILL MEARA

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

Encl: HPA position statement for onshore / offshore wind farms

Planning Act 2008: HPA position in relation to applications for onshore and offshore wind farms

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

Background

The HPA is a statutory consultee at the pre-application **and** application stages for NSIPs "which are likely to involve chemicals, poisons or radiation which could potentially cause harm to people"[1]. The HPA is also required to consider other related planning documents such as Environmental Impact Assessments (EIA), where these accompany a NSIP application.

The HPA response to NSIP consultations covers chemicals, non-ionising and ionising radiation. The HPA will not comment upon wider health determinants as these are outside the HPA's remit as a statutory consultee. Promoters should ensure that they consult other health bodies: Strategic Health Authorities (SHAs), Primary Care Trusts (PCTs), and Health Boards (HBs) (in Wales) are statutory consultees to NSIP. Whist SHAs are directly named as a consultee for NSIPs in the Regulations[2], PCTs and HBs come under the wider definition of "statutory undertakers."

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

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

Wind farms: chemicals

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

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

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

---

[1]Cited in the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 http://www.opsi.gov.uk/si/si2009/uksi_20092264_en_1

[2]The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 http://www.opsi.gov.uk/si/si2009/uksi_20092264_en_1

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

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

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

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

Wind farms: summary of HPA requirements

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

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

[3] Wind Power: 10 Myths Explained
http://webarchive.nationalarchives.gov.uk/+/http://www.berr.gov.uk/energy/sources/renewables/explained/wind/myths/page16060.html#MythTurbinesareahealthhazard

[4] Moorhouse, A. et al. (2007) Research into Aerodynamic Modulation of Wind Turbine Noise: Final Report. July 2007. Contract no NANR233. Department for Business, Enterprise and Regulatory Reform, University of Salford. URN 07/1235.

Annex

HPA advice regarding static and power frequency electric and magnetic fields

In March 2004, the National Radiological Protection Board, NRPB (now part of the HPA), published advice on limiting public exposure to electromagnetic fields. The advice was based on an extensive review of the science and a public consultation on its website, and recommended the adoption in the UK of the EMF exposure guidelines published by the International Commission on Non-ionizing Radiation Protection (ICNIRP):-

http://www.hpa.org.uk/Publications/Radiation/NPRBArchive/DocumentsOfTheNRPB/Absd1502/

The ICNIRP guidelines are based on the avoidance of known adverse effects of exposure to electromagnetic fields (EMF) at frequencies up to 300 GHz (gigahertz), which includes static magnetic fields and 50 Hz electric and magnetic fields associated with electricity transmission.

HPA notes the current Government policy is that the ICNIRP guidelines are implemented in line with the terms of the EU Council Recommendation on limiting exposure of the general public (1999/519/EC):

http://www.dh.gov.uk/en/Publichealth/Healthprotection/DH_4089500

For static magnetic fields, the latest ICNIRP guidelines (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 as advised by the International Electrotechnical Commission.

At 50 Hz, the known direct effects include those of induced currents in the body on the central nervous system (CNS) and indirect effects include the risk of painful spark discharge on contact with metal objects exposed to the field. The ICNIRP guidelines 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). If people are not exposed to field strengths above these levels, direct effects on the CNS should be avoided and indirect effects such as the risk of painful spark discharge will be small. The reference levels are not in themselves limits but provide guidance for assessing compliance with the basic restrictions and reducing the risk of indirect effects. Further clarification on advice on exposure guidelines for 50 Hz electric and magnetic fields is provided in the following note on the HPA website:

http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1195733805036

The Department of Energy and Climate Change has also published voluntary code of practice which set out key principles for complying with the ICNIRP guidelines for the industry.

http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/consents_planning/codes/codes.aspx

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) was then set up to take this recommendation forward, explore the implications for a precautionary approach to extremely low frequency electric and magnetic fields (ELF EMFs), and to make practical recommendations to Government. In the First Interim Assessment of the Group, consideration was given to mitigation options such as the 'corridor option' near power lines, and optimal phasing to reduce electric and magnetic fields. A Second Interim Assessment addresses electricity distribution systems up to 66 kV. The SAGE reports can be found at the following link:
http://sagedialogue.org.uk/ (go to "Document Index" and Scroll to SAGE/Formal reports with recommendations)

The Agency has given advice to Health Ministers on the First Interim Assessment of SAGE regarding precautionary approaches to ELF EMFs and specifically regarding power lines and property, wiring and electrical equipment in homes:

http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1204276682532?p=1207897920036

The evidence to date suggests that in general there are no adverse effects on the health of the population of the UK caused by exposure to ELF EMFs below the guideline levels. The scientific evidence, as reviewed by HPA, supports the view that precautionary measures should address solely the possible association with childhood leukaemia and not other more speculative health effects. The measures should be proportionate in that overall benefits outweigh the fiscal and social costs, have a convincing evidence base to show that they will be successful in reducing exposure, and be effective in providing reassurance to the public.

The Government response to the SAGE report is given in the written Ministerial Statement by Gillian Merron, then Minister of State, Department of Health, published on 16th October 2009:

http://www.publications.parliament.uk/pa/cm200809/cmhansrd/cm091016/wmstext/91016m0001.htm

HPA and Government responses to the Second Interim Assessment of SAGE are available at the following links:

http://www.hpa.org.uk/Publications/Radiation/HPAResponseStatementsOnRadiationTopics/rpdadvice_sage2

http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_130702.pdf

The above information provides a framework for considering the health impact associated with proposed developments, including the direct and indirect effects of the electric and magnetic fields as indicated above.

Joint Nature Conservation Committee

Inverdee House, Baxter Street,
Aberdeen, AB11 9QA, United Kingdom

Email: jncc.aberdeen@jncc.gov.uk
Tel: +44 (0) 1224 266550
Fax: +44 (0) 1224 896170
jncc.gov.uk

Will Spencer
EIA and Land Rights Adviser
Planning Inspectorate
Temple Quay House
2 The Square
Bristol
BS1 6PN

Your reference: 120521_1239913

JNCC OIA ref: 8651
NE ref: 54396 NE comments to JNCC

Date: 19th June 2012

BY EMAIL ONLY to environmentalservices@infrastructure.gsi.gov.uk

cc: Kelly Rose (Natural England)

Dear Will,

PROPOSED DOGGER BANK TEESSIDE OFFSHORE WINDFARM (the project)
PROPOSAL BY FOREWIND Ltd (the developer)
INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2009 SI 2263 (as amended) (the EIA Regulations)

Thank you for your recent consultation requesting our scoping advice on the proposed Teesside Dogger Bank Offshore Wind Farm projects. The Teesside projects involve development activities onshore, within English territorial waters, and also in UK offshore waters, beyond 12 nautical miles. Therefore this is a joint response between the Joint Nature Conservation Committee (JNCC) and Natural England (NE).

Natural England is responsible for the provision of statutory advice on nature conservation issues within English territorial waters (inside 12 nautical miles). Natural England is a non-departmental public body. NE's 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.

The JNCC are the statutory advisor to the UK Government and devolved administrations on issues relating to nature conservation in UK offshore waters (beyond 12 nautical miles). Our work contributes to maintaining and enriching biological diversity, conserving geological features and sustaining natural systems. JNCC's role is to provide evidence, information and

advice to inform good policy making, planning, development and risk management leading to the protection of our natural resources.

The advice provided by NE and JNCC in this letter is made for the purpose of this present consultation only. Under the relevant legislation, NE and JNCC expect to be included as consultees in relation to any additional matters to be determined by the consulting body that may arise as a result of, or in relation to, the present proposal. NE and JNCC retain their statutory discretion to modify their present advice or opinion in view of any or all such additional matters or any additional information related to this consultation that may come to our attention.

Please also note that due to the substantial nature of the scoping report and JNCC's current shortage in casework advisors it has not been possible for JNCC to undertake a comprehensive review of the information presented in the report. JNCC retain their statutory discretion to modify their present advice following a more comprehensive review of the scoping report or any additional information related to this consultation that may come to our attention.

Project Description

The Dogger Bank offshore wind farm zone (Zone 3) is located in the North Sea off the east coast of Yorkshire. Forewind's delivery strategy is focussed on achieving development consent for a target installed capacity of 9 GW within the Dogger Bank wind farm zone. Dogger Bank Teesside, the subject of this consultation, is the second stage of development. It will comprise up to four wind farms, each with a generating capacity of up to 1.2 GW, which will connect into the national grid just south of the Tees Estuary. An export cable envelope has been identified, which runs from the Tranche A and Tranche B areas to the Teesside coastline. A broad onshore study area has also been selected. Within each of these areas the projects are likely to comprise of the following main components:

Offshore

- Up to four offshore wind farm arrays to generate up to 1.2 GW each (wind turbines and their support structure/foundations as well as scour protection, if required);
- Offshore collector and converter substations (with foundations and scour protection measures);
- Offshore operations and maintenance infrastructure (such as offshore accommodation platform, navigational buoys and permanent moorings);
- Subsea inter-array and inter-platform cables; and
- Subsea export cables to landfalls at the Teesside coastline (which may require pipeline and cable crossings).

Onshore

- Up to four converter stations;
- Up to four cable systems from the landfall areas to the onshore converter stations;
- Up to four cable systems from the onshore converter stations to the National Grid Electricity Transmission substation or substations; and
- Ancillary cable ducts running adjacent to the cable systems.

Aim of this Scoping Opinion

The purpose of this scoping opinion is to provide the Planning Inspectorate with advice on the suitability of the scoping report submitted by the developer in presenting the range of issues that will be considered in the Environmental Impact Assessment (EIA) for the Dogger Bank Teesside projects.

This response focuses on the content of the scoping report, following the order of topics presented within the report, with reference to other relevant discussion where appropriate. We aim to inform the Planning Inspectorate of where we feel the developer needs to strengthen their on-going EIA process to produce an Environmental Statement that is fit for purpose.

For this offshore wind farm proposal we highlight the key nature conservation interests and visual impacts that we consider should be scoped into the EIA. Our full advice on these interests is provided in the following appendices:

- **Appendix A1 - Advice relating to the development in general.**
- **Appendix A2 - Advice relating to the offshore elements of the development.**
- **Appendix A3 - Advice relating to the onshore elements of the development.**

We note that information and assessment in accordance with regulation 61 of The Conservation of Habitats and Species Regulations 2010 and regulation 25 of The Offshore Marine Conservation (Natural Habitats &c.) Regulations 2007 (as amended) is not included in this scoping document and will be subject to its own formal screening exercise (paragraph 3.1.24), which we expect will also include scoping. As such, we have made limited specific comments with regard to Habitats Regulations Assessment in this letter and will provide relevant advice when consulted.

As part of our scoping advice we include the range of interests and potential impacts that may need to be considered in relation to regulation 61 of The Conservation of Habitats and Species Regulations 2010), and regulation 25 of The Offshore Marine Conservation (Natural Habitats &c.) Regulations 2007 (as amended), a process commonly referred to as the Habitats Regulations Assessment (HRA). More detail on the legislation relevant to this proposal, legislative requirements and the HRA process are given in:

- **Appendix B1 - Relevant legislation & planning policies.**
- **Appendix B2 - Advice on HRA for relevant SPAs.**
- **Appendix B3 - Advice on HRA for relevant SACs.**

Key Issues

We note that along with the other Round 3 plans, the proposals are of a scale that has not been encountered before and there are likely to be significant challenges assessing the

environmental effects, particularly through the HRA process. The key issues which we would like to highlight for the Planning Inspectorate at this stage are:

1. Potential effects on marine mammals from noise during construction, both at a project-level and cumulatively.
2. The potential effects of this development proposal on birds during all phases of development encompassing displacement, indirect effects (through impacts on prey species) and collision mortality, both at a project level and cumulatively.
3. The potential effects of the offshore elements of this development proposal on the qualifying submerged sandbank habitat of the Dogger Bank candidate Special Area of Conservation, both at a project level and cumulatively.

JNCC and Natural England recognise the complexities of the development proposal and highlight that if the Planning Inspectorate would like to discuss any of the issues raised within this letter we would be happy to do so.

If you have any questions regarding the above comments or want to discuss further any of the issues we have raised please contact the following:

Simone Pfeifer - simone.pfeifer@jncc.gov.uk at JNCC; and
Kelly Rose - kelly.rose@naturalengland.org.uk at Natural England.

Yours sincerely,

Simone Pfeifer
Offshore Industries Advisor

On behalf of:

Joint Nature Conservation Committee

Kelly Rose
Marine Advisor

On behalf of:

NATURAL ENGLAND

Appendix A1 - Advice relating to the development in general

JNCC and NE would like to make the following comments on what should be provided in the Environmental Statement (ES), in addition to what is presented in the scoping report. This should not be considered a definitive list of what we deem necessary, as we hope the EIA process will evolve as the data acquisition and analysis phase of the proposal progresses.

1. General Advice

1.1. We feel it is important that the EIA of the development proposal builds upon the lessons learnt during the development of other offshore wind farms, ensuring that the assessment is sufficiently detailed and targeted to both fulfil the requirements of the EIA Directive (EC Directive 85/337/EEC) and any Appropriate Assessment required under the Habitats Regulations (The Conservation of Habitats and Species Regulations 2010) and the Offshore Marine Regulations (The Offshore Marine Conservation (Natural Habitats &c.) Regulations 2007 (as amended)).

1.2. We support the developer's proposal of utilising the Rochdale envelope approach to impact assessment but we would advise Forewind not to assume all possible impacts will be identified and can be potentially mitigated against through this approach. Where a favoured technical solution is likely to be adopted it is preferred that a full environmental assessment be made of that solution alongside an assessment of any worst case scenario. With a broad 'Envelope' the survey requirement cumulatively would be significant. In terms of reducing costs and efficiency, it is advisable that the projects are finalised as much as possible as early in the life of the project to limit the complexity of the EIA in terms of identifying 'worst-case scenarios' for environmental receptors. To ensure the maximum efficiency of this approach we would advise the developer to maintain discussion with JNCC and NE throughout the development process.

1.3. The scoping report is a large document (241 pages), which is of use, but please note that we feel it is generic and high level. JNCC and NE would wish to have further discussions about the details of specific surveys and assessment approaches to ensure that all of the information that is/isn't required for the EIA is provided. JNCC and Natural England acknowledge that Forewind have already started detailed consultation with JNCC and Natural England on the assessment methodologies for individual receptor groups, and we would welcome the opportunity to continue to consult with Forewind on these issues as the EIA progresses.

1.4. We advise the applicant in the scoping phase of the EIA to conduct a full audit of available information from both public and private sources. This data should be analysed comprehensively before any new information is collected to increase the efficiency and relevance of any assessment or survey programme. In addition there needs to be full consideration of all activities which both take place in the area, or are likely to take place in the surrounding area, to test the possible cumulative/in-combination effects of the proposed development(s).

1.5. We advise that in order to fully assess and advise on the environmental impacts and possible needs for appropriate assessment relating to the cable route this will need to be narrowed down and defined for the ES. It is not possible to fully consider all the impacts of a development in its entirety without a defined cable route (or several specific options whose impacts can be assessed and the preferred option discussed). We would welcome further discussion with the developer on potential cable routes.

2. Chapter 2 Project Description

2.1. In their Environmental Statement, the applicant should address the following phases of wind farm development:

- **Construction.** The ES should include details on proposed construction methods including information on project management (contractor arrangements, 'chain of command', roles and responsibilities of key staff), and timetabling (the phasing/sequencing of the proposed works and their interaction with other proposed projects within the Dogger Bank R3 zone), especially if this has been identified as a mitigation measure for environmental, visual or other effects. Information should also be included on the proposed construction equipment, and intended delivery routes and port facilities.
- **Operation & Maintenance.** The ES should include details of operation and maintenance activities and an assessment of any impacts that could arise, such as further requirements for scour protection and cable reburial, considering any potential environmental, navigational and/or other effects.
- **Decommissioning.** The process and methods of decommissioning should also be considered, and reviewed, at this (pre-application) stage, with an options appraisal presented in the ES.

2.2. Scoping Report 2.3.36 identifies that offshore construction and installation may take place 'over several years; while section 1.6.1 identifies an overall 6 year construction period from 2016-2021. More detailed timelines and potential construction scenarios should be provided in the ES, particularly with regard to more disturbing construction activities such as piling, to allow for sufficient assessment particularly with regard to sensitive species of bird and marine mammals.

2.3. Scoping Report, Chapter 2 Project Description identifies hard infrastructure which will be introduced to the marine environment and as such the design and construction methods should be planned to avoid effects and minimise the disturbance footprint as much as possible. Environmental factors including noise and disturbance during installation and any potential requirement for scour protection should be taken into account in foundation design and selection. The EIA must identify, explain and address effects which cannot be designed out. More specific comments are given below and should be addressed through an iterative approach to the project design, EIA and consultation.

2.4. Figures illustrating the turbine dimensions, including bases and scour protection would be helpful.

2.5. Scoping Report, 2.3.13 Spoils, identifies potential disposal of spoils on site and that these will be 'subject to assessment and licensing'. The available options for spoil disposal should be assessed in the EIA. Any proposition to leave arisings or spoil on site should be fully addressed in the EIA for the effect upon benthic habitats and communities, turbidity and general water quality, and the potential for increasing or inhibiting sediment transport. Particular thought should be given to the impact of arisings from drilling into chalk as these have been seen to persist in the marine environment at other sites.

2.6. Scour protection is identified as a potential requirement in the ES and we highlight that potential environmental impacts include, but are not limited to:

- Direct loss of habitat by smothering of benthic species & habitats;
- Interruption of sediment (bedload) transport therefore affecting both near-shore geomorphological processes and ecosystem functionality;
- Creation of a substrate for marine communities which would not naturally occur in a particular region; and
- Facilitation of the spread of species associated with hard substrates around the coastline, particularly non-natives, and in response to climate change.

2.7. Scoping Report, 2.3.15 Scour Protection - Due to the potential for scour protection to alter seabed habitats, JNCC and Natural England would like to see full justification for the use of scour protection. The ES should identify and explain the requirement for scour protection and the type used, and address the environmental effects.

2.8. Where possible the construction should be designed and planned to reduce the footprint of disturbance on the sea bed; and scour protection should be installed only if the structural integrity of the foundations are at risk (OSPAR 20081). This approach should also be applied to the protection of cables or any other infrastructure.

2.9. Full consideration should be given to all the available and best environmental options for scour protection, rather than a generic application for rock armouring and cable mattressing. Consideration should also be given in the ES to the potential to remove scour protection during decommissioning (e.g. use of removable fibre mattressing instead of rock dumping), to allow the habitat to return to its original form. Changes in design that reduce the need for scour protection such as increased driven depth and wall thickness of monopiles (Westernmost Rough Environmental Statement 2009, p21), design changes to J-tubes and strengthening of cables or the use of jacket/ quadrapod foundations which minimises the amounts of scour protection required are encouraged and should be considered.

2.10. Any assessment should incorporate the potential effects of the development with and without scour protection, and using different types of scour protection, in particular the use of removable fibre mattressing.

2.11. The ES should outline the scour modelling undertaken to indicate the amount of

protection required, for foundations, cables and any other infrastructure. We advise that where scour modelling proves inconclusive or indicates the potential for only moderate scour, no, or minimal, scour protection be used initially. Post construction surveys should then be used to evaluate the true scour potential and need for protection.

2.12. However, we urge the developer to consider up front the true likely and realistic potential need for scour protection (on turbines and cables) and the best environmental options. Experience at other developments to date has shown that full consideration has not been given to these issues in the ES, leading to requests for licensing large amounts of rock dumping at a stage in the development when it is not possible to consider other options. We wish to avoid this scenario by limiting the likely need for rock placement up front through full and early consideration of all the options. Particular consideration should be given to the direct and indirect impacts of scour protection on the qualifying sandbank habitats of the Dogger Bank cSAC.

2.13. Any proposal to use scour protection in the Dogger Bank cSAC, or any other notified or designated SAC (cSAC, SCI, SAC), will be subject to The Offshore Marine Conservation (Natural Habitats &c.) Regulations 2007 (as amended) or The Conservation of Habitats and Species Regulations 2010. No scour protection will be permitted without demonstration that there will be no adverse effect on the site features or site integrity either alone or in combination. Developers should carry out modelling studies (as advised above) which provide clear evidence that scour protection is necessary to prevent scour pit formation that would impact on the project. At this point other engineering options should also be investigated that avoid the use of scour protection. If there is no alternative to using scour protection then the options that have least environmental impact should be submitted to and assessed by the competent authority.

2.14. Every effort should be made to reduce the differentiation between the scour protection and the surrounding substrate. Where the use of scour protection would lead to artificial 'hard' substrate overlaying soft natural sediment, options should be explored and assessed to increase the level of sediment deposition in and around the scour protection. Attention should be paid to avoiding any possible impacts on natural sediment transport patterns, leading to impacts on designated sites when considering these approaches. To implement this approach, the use of techniques such as frond mats as a replacement to rock armouring should be investigated. We would be more amenable to 'softer' forms of scour protection such as frond mattressing, and scour protection which could be removed on decommissioning, and could therefore be considered as temporary. An assessment should be made and agreed at the time of decommissioning as to the relative benefits of removing scour protection or leaving it in situ.

2.15. A similar approach should be applied to the use of scour protection in sites which are currently have draft or proposed Special Area of Conservation (dSAC, pSAC) status. Whilst notified and designated sites are currently afforded the highest level of protection, there are responsibilities under other legislation, which require Natural

England's and JNCC's stance on the use of scour protection to be applied within the wider marine environment. Therefore, although not subject to the Habitats and Offshore Marine Regulations, following the same procedure and considerations for the use of scour protection as if it is within a notified or designated site is considered best practise in any situation.

2.16. Scoping Report, 2.3.40, with regard to Cabling identifies that 'in some cases additional protection... may be required after the installation of a cable'. The potential for exposure of cables and requirement for protection should be identified and assessed through the EIA. Experience from other developments has shown that whilst cabling activities were considered as a one off activity in the ES, and the impacts assessed as such, they have rarely been this in reality with many developments needing to undertake further remedial works to replace, repair, rebury or add additional scour protection at a point in the future, when the best environmental options are limited. Therefore we advise that scour and its associated impacts around export and inter-array cables that have the potential to become uncovered due to changes in seabed morphology should be fully explored in the ES in order to achieve the best environmental option and long-term solution from the start, as well as full consideration of the impacts over the lifetime of the development. In addition cabling activities should not be considered as a one off activity.

2.17. Scoping Report, 2.3.32 Landfall Works, provides limited detail of the installation method or approach to impact assessment. The landfall will be in the vicinity of sensitive coastal and terrestrial habitats and designated sites; it also has the potential to affect far reaching coastal processes. As such this topic must be fully addressed in the EIA and Natural England recommends further engagement on this aspect.

2.18. Scoping Report 2.3.46 Decommissioning and Replanting should be detailed and assessed as fully as possible in the ES, to allow identification of impacts that could have a significant effect and therefore require alteration of the initial design. If such assessment was left until after construction, potential impacts may be identified at too late a stage to mitigate, or design them out.

2.19. Scoping Report 2.3.47 Offshore Decommissioning and Replanting identifies the potential need for 'replacing some of all components with new parts, to a partly or wholly new project design' and that at this stage consents and licences will be applied for. It is advised that the likelihood and scale of this as well as the potential environmental effects be addressed in this EIA, to provide a full picture of effects over the intended and potential lifetime of the project.

2.20. Scoping Report 2.3.48 identifies that a decommissioning plan will be required at the request of the Secretary of State. We advise that a decommissioning plan be requested and as much detail as possible be included in the current EIA.

2.21. Scoping Report 2.3.49 identifies that the 'necessity to remove cables will be reviewed at the time'. We highlight that the intention or potential of either removing cables or leaving them permanently in-situ should be included in this EIA to provide a full picture

of potential effects.

2.22. Scoping Report, 2.4.3, Onshore Joint Transition Bays requires more detail to provide a better understanding of the proposed works. While it clearly states this will be provided on detailed design, sufficient information is required in the EIA to allow assessment. As outlined in the Rochdale Envelope comments above, the realistic worst case scenario should be presented, rather than many general scenarios. For example, the indicative size of the transition bays and whether these, while above Mean High Water, are on the shore or on land. The effects of this location and the requirement for access over the lifetime of the project must be considered against coastal processes, coastal change and in line with the Shoreline Management Plans and coastal defences and no active intervention areas; as well as against designated sites and their interest features.

3. Chapter 3 The Consents Framework and EIA Methodology

3.1. JNCC are encouraged by the consultation which has been initiated by Forewind on the EIA methodology for the Dogger Bank wind farm development proposals, and would welcome the opportunity to continue to work with Forewind on this topic including Forewind's strategy for identifying worst-case scenarios and assessing inter-relationships and cumulative impacts.

3.2. As acknowledged in the scoping report, Forewind will need to produce a Habitats Regulation Assessment (HRA) report in support of its planning application which should include all of the information that the competent authority might need to undertake an HRA. It is advised that Forewind consult with us specifically on the scoping stage of the HRA prior to submission of any draft ES, and on the content of the HRA report prior to submission of the application to the Planning Inspectorate.

3.3. It is important to be clear on the distinction between the test for 'likely significant effect' pertaining to appropriate assessment, and measuring the significance and magnitude of impacts relevant to EIA. Adequate scoping with direct engagement of JNCC and NE will enable the potential need for appropriate assessment for a project, or aspects of a project, to be addressed at the earliest opportunity. If appropriate assessment is anticipated, early engagement and planning will enable the developer to undertake a suitably robust EIA, for example, developing applicable survey methodologies, and presenting results as part of the EIA process that will address the competent authority's information needs. This will minimise the risk of the competent authority being presented with insufficient information to address their responsibilities under the Habitats Regulations and Offshore Marine Regulations, and subsequent delays to the consenting process and in addition, will allow the appropriate assessment process to be considered throughout EIA. We would urge the developer to discuss the scope of any Habitat Regulations Assessment with Natural England and JNCC at the earliest possible opportunity.

3.4. Scoping Report, 3.3 EIA Framework, outlines the preferred approach to terminology of 'effect and 'impact'. We advise that this explanation should be included in the ES, but

thought be given to potential confusion caused by the proposed use of ‘effect’ in the ES and the Habitats Regulations Assessment terminology of ‘Likely Significant Effect’ and ‘Adverse effect on the integrity of the European designated site’.

3.5. Forewind proposes to assess impacts associated with the construction, operation and decommissioning of the Dogger Bank Tranche B and Teesside projects by identifying the sensitivity of each receptor and the magnitude of each effect and combining both metrics together through a matrix analysis to determine impact significance. Effect magnitude will be defined via the extent, duration, frequency and severity of effects, and receptor sensitivity will be determined through the adaptability, tolerance, recoverability and value of each receptor.

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

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

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

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

3.10. Scoping Report, 3.4 Rochdale Envelope: Please see our general comment above (A.2) regarding the Rochdale envelope approach. We advise the developer to present a

realistic worst case scenario in the ES with regards to what is likely and achievable from a project point of view.

3.11. We acknowledge that decisions have yet to be made regarding the final design parameters of the projects, including turbine layout, foundation type, turbine model, cabling array and installation methods. Due to the uncertainties in the final design parameters, impacts will be assessed against „worst-case" scenarios or options, which will be specified in the Rochdale Envelope. We would like to emphasise that the worst-case scenario may differ depending on the impact type. For example, for benthic habitats one foundation type may represent the worst case scenario in relation to increased suspended sediment concentrations while the worst case scenario considering loss of habitat may be another foundation type. JNCC and Natural England recognise the difficulty in trying to assess every design permutation in its entirety but would like to highlight the importance of ensuring every option is assessed sufficiently to be confident the likely worst-case scenario is identified and adequately assessed.

3.12. In addition, it is understood that decisions have yet to be made regarding the timing and phasing of the construction programme of the Dogger Bank Tranche B and Teesside, and Creyke Beck, projects. The EIA will need to fully assess the effects associated with the potential delivery scenarios of these projects.

3.13. JNCC and Natural England emphasise the value of a scientific evidence base in justifying the environmental assessment process. We understand that the developer will submit technical reports for all main environmental receptor groups to support the application and welcome this work. We advise that the results of these reports should be adequately integrated into the application. This would enable understanding of the implications of the technical reports within the context of answering questions posed by the regulatory framework, facilitating review and improving the robustness of conclusions drawn. Further, where the interaction of the proposed development is determined or informed from scientific literature the relevant citation should be presented within the ES and the key results and conclusions of the evidence used presented and discussed.

3.14. Scoping Report, 3.5 Inter-Relationships, we fully encourage the developer to take an ecosystem approach and consider inter-relationships when looking at impacts. We recommend that the Marine Management Organisation is consulted with regards to any future marine plans for the area. In addition the developer should have regard for the marine policy statement which will guide the marine planning process.

3.15. While acknowledging that none of the projects currently being conducted under the Strategic Ornithological Support Secretariat (SOSS) are complete, it is anticipated that many of these will have reported before submission of the Dogger Bank Tranche B and Teesside ES. The ES should take account of any guidance contained in these project reports regarding the assessment process.

3.16. Emphasis should be placed on ensuring where possible and practicable that all significant effects are avoided by avoiding designated sites in the first place or building

appropriate mitigation into the scheme.

3.17. An area of concern for this development, and all other Round 3 development, in environmental terms is the potential for cumulative impacts arising with other operational, planned and in-construction marine activities in the area. It is therefore critical that cumulative impact assessment is thoroughly considered at the scoping stage, so that it can be undertaken robustly considering both spatial and temporal aspects. It may be useful to present this for each phase of development (i.e. construction, operation and decommissioning) as this would clearly set out which effects are likely to be short-term in nature, and which are more likely to be lasting effects.

3.18. We would also recommend that the ES includes a chapter/section dedicated to cumulative and in-combination effects which summarises and discusses all the issues identified under each topic heading, and presents the topic in its entirety.

3.19. It is important that the impacts of the proposed wind farm are cumulatively assessed with those of other projects and activities on land and at sea. This should include:

- Existing completed projects
- Approved but uncompleted projects
- Ongoing activities
- Plans or projects for which an application has been made and which are under consideration by the consenting authorities
- 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.

3.20. With respect to cumulative and in-combination issues relating to birds and marine mammals, it is clear that due to the wide ranging and mobile nature of such species, both the assessment and potential mitigation would be more easily addressed at a wider level.

3.21. JNCC and Natural England are aware that Forewind is currently establishing a CIA strategy for the Dogger Bank Zone in consultation with the developers of the Hornsea and East Anglia Offshore wind farm zones. We would welcome detailed discussion about the proposed CIA approach with Forewind in the near future.

3.22. We recognise the difficulties in the forward-planning of monitoring programmes. However to ensure effective monitoring, and so as to inform the EIAs of future Tranches in Zone 3, monitoring needs to be comparable to both pre- and post-construction and not necessarily focused on ‘baseline’ information. Characterisation should provide a broad overview of the species and physical processes present in the development site, including any cable routes. The methodology for monitoring surveys should follow that used for the pre-construction survey and enable assessment of the

effects predicted within the EIA. It is important, therefore that the methodology for monitoring is discussed early in the project so that it can be paired with any pre-construction survey work to allow testing of impact hypotheses.

3.23. We welcome the intention of Forewind to work closely with the relevant stakeholders to develop the most appropriate mitigation and monitoring programme and suggest that discussions regarding survey strategies are held in the near future.

4. Chapter 4 Consultation

4.1. We would welcome further consultation as the development moves through the EIA process.

4.2. Natural England appreciates the effective consultation which has been undertaken on terrestrial aspects of the development proposal and would welcome increased consultation regarding landfall and offshore elements of the project. JNCC is recognised as the lead offshore conservation adviser on this development, however it will aid Natural England, if we are kept fully informed and consulted to ensure that all aspects related to our remit are addressed throughout the process, particularly as the offshore, inshore and onshore environmental effects of the project cannot be wholly separated from each other.

4.3. JNCC appreciates the effective consultation programme which has been initiated on the impact assessment approach, and ornithological and marine mammal issues. Natural England and JNCC are encouraged to see that Forewind is committed to continue to consult stakeholders on relevant issues as they may arise. As highlighted previously, JNCC and Natural England would urge the developer to consult us on the HRA approach and HRA scoping for this development proposal in the near future.

5. Chapter 5 Designated Sites

5.1. As stated in the cover letter, we note that information and assessment in accordance with regulation 61 of The Conservation of Habitats and Species Regulations 2010 and regulation 25 of The Offshore Marine Conservation (Natural Habitats &c.) Regulations 2007 (as amended) is limited in this EIA scoping document and will be subject to its own formal screening exercise (paragraph 3.1.24), which we expect will also include scoping. As such, we have made limited specific comments with regard to Habitats Regulations Assessment in this letter and will provide relevant advice when consulted.

5.2. Scoping Report 5.3.6 Special Areas of Conservation identifies 'SACs considered to be of potential relevance to Dogger Bank Teesside' and listed the documents which informed this decision. A description of how the information has been interpreted and applied to identify the SACs included in the EIA should be provided. This ideally should be provided at this early scoping stage. JNCC and Natural England advise that the inclusion of SACs in the EIA and HRA should be based on the potential effects of the development.

5.3. Scoping Report, 5.3.11 SPAs and Ramsar sites, states 'the area of onshore interest for the purpose on this Scoping Report is restricted to the Teesside coastline and the SPA between Redcar and the mouth of the Tees Estuary. Offshore environmental effects may well give rise to impacts on migratory bird species associated with designated sites far inland, for example many migrant species which breed on designated sites far inland may well be impacted by collisions with offshore infrastructure. Therefore we request clarity on the meaning of this statement and whether it relates to onshore designated sites that will be considered for impacts of marine works. The EIA should set out the species potentially affected by the development and their potential links to designates sites, such as foraging ranges and migration routes, then base the assessment of SPA impacts on these links. The delineation of the study area with regards to avian designations should consider the findings of a desk based review in addition to project specific bird survey data. We note, and welcome, that Forewind has recently initiated consultation with JNCC and Natural England on how to define the scope of the HRA for SPAs from the data collected and collated, and whether the assessment methodology being proposed is sufficient.

5.4. Please note that Defra has determined that from the point that recommended MCZs (rMCZs) are released for public consultation, they will need to be considered within all development applications.

5.5. Scoping Report 5.3.18, 5.3.19 and 5.6.8 identifies three recommended MCZs of most relevance to the development, and that two of these overlap with the export cable corridor scoping area, but proposes to scope these out of the assessment, as it is not anticipated that they will be impacted. These sites should remain within the scope of the EIA until it can be demonstrated, rather than anticipated, that they will not be impacted. Other rMCZs that are currently scoped out should be justified, explaining how they won't be affected by changes in marine processes.

5.6. Scoping Report, 5.4 Statutory National Designations and 5.5 Local and Regional Designations, identifies sites which are 'considered to be of potential relevance to the

Dogger Bank Teesside'. Natural England requests further information on the selection of these sites and further consultation be undertaken to agree their suitability, as outlined for the European designated sites. Again we advice that the inclusion of designated sites in the EIA should be based on evidence of the potential affects upon the sites and their receptors.

5.7. We feel it is important that all habitats which have the potential to be impacted are identified early. There is the need for the applicant to ensure, and prove, that habitats important on both an international, national and regional scale are not lost or degraded. As a result we advise that in its assessment the applicant refer to any habitats relevant to The Offshore Marine Conservation (Natural Habitats &c.) Regulations 2007 (as amended), The Conservation of Habitats and Species Regulations (2010), Wildlife and Countryside Act (1981), BAP and OSPAR convention on the protection of marine environment.

5.8. We welcome further discussion as soon as possible as to sites and species that may be affected and the likely requirements for a Habitats Regulations Assessment. As a general point, in assessing the potential for environmental impacts on birds, consideration should be given not only to populations associated with European designated sites, or indeed only to those species listed on Annex 1 of the Birds Directive, but to all regularly occurring migrants (also afforded protection under the Birds Directive) and indeed to all species of naturally occurring birds in the wild state in the European territory of the Member States to which the Birds Directive applies. Information should also be presented in the ES to enable the regulator to give due regard to the conservation of UK populations of all species of bird that may be found to be subject to impact from the proposed development i.e. to allow the regulator to fulfil their duty under e.g. the NERC Act to have due regard to the conservation of biodiversity in general.

Appendix A2 - Advice relating to the offshore elements of the development

6. Chapter 6 Marine Physical Processes

6.1. Scoping Report, 6.2.2, Effects on geology, proposes to scope out the effect on underlying offshore geology. As highlighted in section 28.3.3 of the Scoping Report any topics to be scoped out must be properly justified. This should include specification of what is being considered the 'underlying geology' and explanation of why and how this won't be affected, including depth below shallower geology and sediments. Should any effects upon geology be identified further information on the secondary effect upon other marine processes or ecology should be outlined.

6.2. Scoping Report, 6.2.3, Effects on hydrodynamic processes, proposes to scope out the effect of construction infrastructure upon the hydrodynamic regime. As highlighted in Section 28.3.3 of the Scoping Report any topics to be scoped out must be properly addressed and justified and this should include detail of the construction infrastructure including dimensions, location, length of time that it will be left in place and movements, as well as any associated infrastructure such as moorings. Interaction between the infrastructure and hydrodynamic regime should be provided with an explanation of why the regime isn't affected.

6.3. Scoping Report,6.2.6 Effects on hydrodynamic processes and 6.2.7 Effects on sediment transport processes propose to assess the operational effects on the hydrodynamic and sediment transport processes. We are encouraged that the EIA will consider both near-field and far-field effects on hydrodynamic conditions. This assessment should be informed by appropriate hydrodynamic information for the development area and modelling studies. In-combination effects need also be considered, especially given the large number of turbines proposed and the overlap of the project with the Annex I sandbank habitat of the Dogger Bank cSAC. JNCC also advise that screening for an Appropriate Assessment in relation to potential effects on hydrodynamic and sedimentary processes will be required.

6.4. The assessment on hydrodynamic processes should also consider the potential effects of the development propsal upon the coastline, coastal processes and designated sites by impediment to sediment transport; and the interaction of turbines and their effect upon hydrodynamic and sediment processes as a group, as well as individually.

6.5. Scoping Report, 6.2.9 states that decommissioning and construction impacts will be similar and therefore proposes to scope out geology and hydrodynamic processes out of the EIA. The decommissioning effects must be addressed, particularly as this will include the removal of structures with a resultant change to the marine environment, hydrodynamic and sediment processes and potentially the remobilisation of sediments which have built up around infrastructure.

6.6. As stated earlier in this letter, the effect of Spoils (Scoping Report, 2.3.13) should be addressed in the EIA for the effect upon benthic habitats and communities; turbidity and general water quality; and the potential for increasing or inhibiting sediment

transport. Particular thought should be given to the impact of arisings from drilling into chalk as these have been seen to persist in the marine environment at other sites.

6.7. Scoping Report, 6.5.1 states that there is an aggregate extraction licence area located on the south-western edge of Tranche A. The aggregate area referred to is still in the application process (i.e. not licensed), but as Forewind pointed out that does not mean that extraction activities will not occur at this site in the future. Potential future extraction activities within Tranche A should be assessed within the cumulative impact assessment.

6.8. Scoping Report, Chapter 6, Marine Physical Processes, contains limited, to no scope for the assessment of the export cable and landfall effects. As such we would welcome early consultation. Provided below is an outline of issues that should be addressed along with the general comments provided at the beginning of this letter, as well as the comments under Intertidal and Subtidal Ecology Chapter 9. However this is not exhaustive and further consultation is required.

6.9. Scoping Report must consider construction and operation impacts upon short and long-term coastal management, the shoreline management plans, potential changes in the coastline and associated requirements for coastal defences. The effects of any such requirements must be included and assessed by the EIA.

6.10. Scoping Report, 9.2.17, Potential Impacts during Decommissioning, Disturbance to intertidal habitats, identifies the intention to leave cables in situ in the intertidal. This proposal should be considered in detail within the ES and encompass on-going coastal changes, coastal retreat and beach/seabed lowering. The potential for exposure of the cables and effects upon coastal processes as well as the requirement for later protection or removal of the cables should be included. The ES must consider the potential need for a monitoring plan for exposure, or effects upon the coastal processes caused by cables, over the lifetime of the project and if left permanently in situ.

6.11. Scoping Report, 9.2.18, Impacts upon Subtidal ecology, (Decommissioning) identifies that decommissioning impacts on the subtidal will be similar to the construction phase. As with the intertidal, any intention to leave infrastructure in situ must be clearly outlined and assessed in the ES. Additionally, specific consideration of the decommissioning will be required particularly related to coastal changes which are expected to occur during the operational phase.

7. Chapter 7 Marine Water and Sediment Quality

7.1. JNCC and Natural England defers to Cefas as the lead adviser on marine water and sediment quality and advises that any effects upon these should also be related to ecology, including an assessment of the potential impacts of potential changes in water and sediment quality on the qualifying sandbank habitat of the Dogger Bank cSAC.

8. Chapter 8 Marine and Coastal Ornithology

8.1. Scoping Report 8.1.3 Coastal Waters, should be carefully cross checked against the SPA review (Stroud et al. 2001 – see JNCC SPA pages). The features of the Teesmouth & Cleveland Coast SPA as presented in the scoping document are those on the N2K form; however, all features on both the SPA review and the N2K classification should be considered.

8.2. Scoping Report although containing a comprehensive list of SPAs in Chapter 5, does not appear to include any specific mention of Northumbria Coast SPA in Chapter 8 Marine and Coastal Ornithology. For both this SPA, and the Teesmouth & Cleveland Coast SPA, migration of birds and potential interaction with operational wind farms should be considered. The recent SOSS 05 project can provide some ideas as to how to tackle the issue, but there is of course no substitute for well-planned empirical evidence.

8.3. Scoping Report, 8.1.7 identifies changes in survey resolution; we request further information on the consequences of changing the resolution. If video footprint also changes over time, it will be important to ensure sufficient survey coverage to generate precise enough population estimates. Power analysis / assessment of precision for Tranche A can inform the adequacy of the sampling regime for Tranche B.

8.4. Scoping Report 8.1.9 proposes that 'during the summer ... species will be at their breeding colonies and presumably restricted in their foraging ranges'. Methods of establishing connectivity (or not) for potential SPA species that are recorded in the OWF in the breeding season should be considered in the EIA

8.5. Scoping Report 8.1.10 Table 8.1 identifies Key Species for assessment, and international and international population thresholds. The criteria employed to arrive at this list of key species should be provided and consulted on at an early stage of the EIA. We are encouraged that Forewind have already started detailed consultation with JNCC and Natural England on the assessment methodologies for ornithological receptor, and would welcome the opportunity to continue to work with Forewind on further developing the methodologies as the EIA progresses.

8.6. Scoping Report 8.2.2 Direct and indirect disturbance and displacement proposes that sensitive bird species do not use the Export Cable Corridor Scoping Area. The data that will inform this assumption should be outlined at the scoping stage and provided in the EIA.

8.7. Scoping Report, 8.1.3 identifies the importance of the Tees area for birds protected nationally and internationally, but section 8.2.2 considers that the export cable scoping area is not considered to pass through areas utilised by birds sensitive to disturbance events, while landfall works, which will occur in the coastal zone, are not outlined nor are potential affects upon coastal birds or designated sites identified. The ES must provide a detailed assessment of impacts to birds by the development including the export cable, landfall and coastal terrestrial works during the construction, operation

and decommissioning stages of this project. This should also consider changes to sediment and coastal processes with affects upon bird habitats and noise and visual disturbance through the construction, operation and decommissioning of the works, or on-going should infrastructure be left in situ.

8.8. Scoping Report 8.2.8 Direct and indirect disturbance and displacement, should include displacement of prey resources, which would affect generalists and specialists alike. We encourage a collaborative approach to this assessment, in conjunction with the work on impacts on Fish and Shellfish, and Intertidal and Subtidal Ecology.

8.9. Scoping Report 8.2.10 identifies species considered most susceptible to barrier effects. This list should be extended to include regularly commuting birds (Speakman et al. 2009), which therefore includes species potentially linked to coastal SPAs such as gannet, and potentially kittiwake, that should also be considered of importance when judging barrier effects.

8.10. Scoping Report 8.6.2 outlines key data sources and literature, which should be extended to include JNCC Seabird Monitoring Programme which can also provide up to date information on population sizes of some breeding seabirds.

8.11. Scoping Report 8.6.6 outlines data which will be drawn upon to inform the impact assessment. This should be extended to include data from Round 3 Offshore Wind Farms. It is also important to note that boat and aerial surveys may not be sufficient to provide information on certain ornithological issues, such as migratory/ passage species and connectivity between protected sites and Tranche A and Tranche B. Complimentary survey methods may be necessary to inform these issues (such as tracking, radar etc), and we would welcome early engagement with JNCC and other relevant stakeholders to work towards a suitable approach.

9. Chapter 9 Intertidal and Subtidal Ecology

9.1. Scoping Report, 9.1.3 Intertidal Habitats and Species states that there are no habitats or species of conservation importance identified in the intertidal area of the Scoping Envelope to date, then goes onto identify the important habitats in the Tees Estuary, which is part of the Scoping Envelope as illustrated by Figure 1.1 and 8.1 of the Scoping Report. The scoping envelop also includes the Teesmouth and Cleveland Coast SPA (and European Marine Site) for which the intertidal are sub-features and a number of SSSI for which the intertidal Level 1 Feature. As such, the scoping envelope should be precisely illustrated, this section updated with habitats and species which may be affected and therefore will be assessed within the EIA.

9.2. Scoping Report, 9.1.12 outlines ‘key habitat types’. These are also Biodiversity Action Plan Priority Habitats and should be identified as such within the ES.

9.3. Scoping Report, 9.2.2 Temporary Loss of Intertidal Habitats, identifies potential loss of intertidal habitat and considers this a ‘temporary loss of habitats’. We highlight that these losses may occur within designated sites, or have the potential to affect

designated sites or their interest features, therefore the loss should be assessed considering area of loss, recovery period and effects upon the intertidal and the ecology and interest features it supports. The ES would also benefit if collected survey data was presented and discussed in relation to far-field regional data to set the site-specific data into context.

9.4. Scoping Report, 9.2.4 Loss of Subtidal Habitats, states that the installation of turbine foundations, scour protection and ancillary structures will cause direct physical disturbance. We highlight that the installation of these structures will also lead to direct loss of sediment habitat. Any loss should be assessed considering area of loss, and effects upon the subtidal habitat and the ecology and interest features it supports.

9.5. The construction and operation impacts must consider short and long-term coastal management, the shoreline management plans, potential changes in the coastline and associated requirements for coastal defences. The effects of any such requirements must be included and assessed within in the EIA.

9.6. Scoping Report, 9.2.9, Disturbance to Intertidal Habitats (Operational) proposes that maintenance activities will have a short-term localised impact upon the intertidal habitats. Detail on the realistic requirements for maintenance operations should be provided in the ES along with an assessment of their potential impacts considering area of loss, recovery period, frequency of disturbance and effects upon the intertidal, and subtidal, and the ecology and interest features it supports. As identified above (2.2) experience from other developments has shown that whilst cabling activities were considered as a one off activity and maintenance impacts considered temporary, they have rarely been this in reality with many developments needing to undertake further remedial works to replace, repair, rebury or add additional scour protection at a point in the future, when the best environmental options are limited.

9.7. Based on the above, we advise that detailed consideration be given to best construction methods and best project design to allow minimal operational disturbance. The ES should fully explore the options to achieve the best environmental option and long-term solution from the start. Additionally it should identify the realistic maintenance requirements and associated disturbance and effects to give full consideration of the impacts over the lifetime of the development.

9.8. Scoping Report, 9.2.10 Impact on subtidal ecology as a result of changes in physical processes, identifies the effects of foundation structures, but should be extended to include all other infrastructure (e.g. collector substations, converter stations, platforms, moorings etc) and scour protection on the foundations and cables. The impacts of maintenance should also be included and the points raised above in 9.4 to 9.6, as well as in point 2.2 of this letter should be applied, which particularly refers to identifying the realistic requirements for maintenance and fully exploring the best options and potential impacts through the EIA.

9.9. Scoping Report, 9.2.11, Impact on subtidal ecology as a result of operations and maintenance activities proposes a narrow assessment of the impacts of vessel

movements and jack-up vessels. It also determines that the only pathway for assessment is by a pollution event. As highlighted above detailed consideration should be given to operational and maintenance effects, identifying all works required and their frequency. The assessment should identify and assess the impacts of all maintenance activities, such as the addition or removal of scour protection; increased noise from maintenance works etc, and should not restrict this to pollution incidents from vessel movements only.

9.10. Scoping Report, 9.2.12, as stated above, noise generated by maintenance activities should be assessed as well as operation of the turbines.

9.11. Scoping Report, 9.2.13, Impact on Subtidal ecology as a result of electromagnetic fields, identifies a lack of evidence regarding the effects of electromagnetic fields upon the benthic community and therefore proposes to scope this topic out of the EIA. Due to this lack of knowledge about impacts, this topic should be scoped into the EIA. High Voltage Direct Current (HVDC) is a new technology and the topic will require further assessment or monitoring and the approach consulted upon in more detail in the early stages of the EIA.

9.12. Scoping Report, 9.2.14 identifies potential colonisation of the foundations. The assessment should identify changes in the natural substrate by introduced structures, foundations and scour protection. This should include potential positive and negative impacts through increasing biodiversity; introduction of species and creation of habitat for species that would not naturally occur in that region; and facilitation of the spread of non-native species. The wider effects of this upon the ecological functioning of the surrounding sedimentary habitats should also be addressed.

9.13. Scoping Report, 9.2.17 Disturbance to intertidal habitats (Decommissioning) identifies the intention to leave cables in situ in the intertidal. This proposal should be considered in detail within the ES and encompass on-going coastal changes, coastal retreat and beach/seabed lowering. The potential for exposure of the cables and effects upon coastal processes as well as the requirement for later protection or removal of the cables should be included. The ES must consider the potential need for a monitoring plan for exposure, or effects upon the coastal processes caused by cables, over the lifetime of the project and if left permanently in situ.

9.14. Scoping Report, 9.2.18, Impacts upon subtidal ecology, (Decommissioning) identifies that decommissioning impacts on the subtidal will be similar to the construction phase. As with the intertidal, any intention to leave infrastructure in situ must be clearly outlined and assessed in the ES. Additionally, specific consideration of the decommissioning will be required particularly related to coastal changes which are expected to occur during the operational phase.

9.15. Decommissioning impacts upon subtidal ecology should also consider the potential impacts upon habitat and species that have developed and been supported by these structures.

9.16. Scoping Report, 9.5. Cumulative Impacts should also consider the cumulative effects within the project that is the potential for a number of various activities or structures from the project to combine to have an adverse impact, rather than assessing each activity or structure independently.

9.17. Scoping Report, 9.6.2 Approach to EIA, identifies Cefas 2004 guidance to be used. All guidance should be checked against the most current, which in this case is the 2011 Guidelines for the Conduct of Benthic Studies at Marine Aggregate Extraction Sites, 2nd Edition.

10. Chapter 10 Fish and Shellfish

10.1. JNCC and Natural England defer to Cefas as the lead adviser on fish and shellfish and provide the following comments in addition.

10.2. Impacts on Biodiversity Action Plan (BAP) species http://www.ukbap.org.uk/ should be considered.

10.3. Scoping report, 10.2.8, Electromagnetic Fields, identifies the proposed use of High Voltage Direct Current (HVDC) system for export cables. We highlight that this is new technology and as such there is limited expertise and existing knowledge on the electromagnetic impacts upon fish and shellfish. Therefore we agree this should be assessed in detail within the ES. We recommend that further consultation is undertaken to agree the detail and scope of that assessment.

10.4. Scoping report, 10.2.10 identifies the provision of artificial habitat for fish and shellfish. As outlined in our former comments on Benthic ecology the assessment should consider the potential facilitation of spread of species not previously found in the area, including non-native species. In addition, the removal of this habitat during decommissioning and impacts upon the habitats and species it supports should be addressed.

11. Chapter 11 Marine Mammals

11.1. We welcome the recognition of the Industry Nature Conservation Association (INCA) (Scoping Report 11.1.8) and would recommend them as a important consultee on marine and terrestrial aspects of the project.

11.2. Scoping Report 11.2.2 Construction Related Noise (marine mammals); the ES should set out the approach to noise assessment, including thresholds; units and presentation of data; and the full range of physical impacts including Temporary Threshold Shift and Permanent Threshold Shift, and the zone and duration of marine mammal avoidance / displacement.

11.3. JNCC would like to highlight that discussions have recently been taken place between JNCC and Forewind about Forewind's proposed EIA approach for marine mammals. Further discussion on these issues is planned between Forewind and JNCC in the near

future. As such, we have made limited specific comments with regard to the proposed EIA approach for marine mammals in this letter, and will provide relevant advice when consulted.

11.4. We highlight that potential effects on European Protected Species should be considered at an early stage to ensure that decisions about the need for a licence and possible mitigation to meet the requirements of any approval can be addresses prior to the application. We would therefore strongly encourage Forewind to discuss this issue with the EPS licensing bodies and their statutory advisors in order to establish EPS licensing requirements as early as possible. Further details of the legislation applying to EPS and requirements for licences are given in Appendix B1 of this response.

11.5. As part of the consenting process Forewind should also seek alternatives to pile driving methods and if these alternatives are not found to be satisfactory then a fair justification should be provided to the regulator.

11.6. Scoping Report 11.2.14 Electromagnetic Fields states EMF will be assessed only against cetaceans, because there is no evidence that this will affect pinnipeds. While we understand that EMF is not normally assessed against pinnipeds, due to the lack of knowledge of effects and impacts of High Voltage Direct Current, pinnipeds should be scoped in to the EIA and considered and consulted upon in more detail.

11.7. Scoping Report, 11.2.17, Potential Impacts during Decommissioning, proposes that these are similar to construction. We welcome the proposal to consider this in the EIA and highlight that this is important to understanding the effects of the whole project and that sufficient detail should be included to determine specific impacts of decommissioning, separate from construction. For example, there is potential for entirely different cumulative impacts during decommissioning; and as highlighted in the benthic and fish and shellfish chapters, the infrastructure has the potential to support increased ecology. The secondary effects upon marine mammals prey resources during operation should be addressed by the EIA.

12. Chapter 18 Seascape, Landscape and Visual Character

12.1. Scoping Report, 18.2.20 and 18.3.13 Change to the Dogger Bank seascape. We welcome the consideration of the ‘sea to sea’ visual impacts, such as upon shipping, commercial and passenger vessels. However, the Scoping Report doesn’t clearly indicate whether this issue is scoped in or out of the assessment. This should be clarified. We recommend that it should be included and impacts assessed, as well as consultation undertaken with those groups which may be affected. The Scoping Report assertion that there will be only a small number of visual receptors should be quantified and the data provided alongside the identification of users in the vicinity.

12.2. A good seascape, landscape and visual impact assessment document will demonstrate how the impact assessment process was carried out iteratively with the positioning and design process. Bearing this in mind we would welcome discussions on seascapes throughout this iterative process to ensure any negative impacts are

minimised.

12.3. Concerning landscape/seascape and visual effects of development, the key issues that we need to focus on will be:

1. Direct effects, or physical change, to the landscape and/or seascape (i.e. impacts on the fabric/elements of the landscape/seascape, for example landform changes, vegetation changes);
2. Indirect effects on the character and quality of the landscape/seascape, for example through the introduction of very large buildings/structures, power lines, masts, etc. (introduction of features alien to the character of the landscape/seascape) causing changes to the character of the landscape/seascape;
3. Direct effects on the visual amenity of visual receptors, for example changes in views and their content for stakeholders (walkers, tourists etc.) caused by the development;
4. Indirect effects on visual receptors in different places, for example an altered visual perception leading to changes in public attitude, behaviour and how they value or use a place.

13. Chapter 27 Air Quality

13.1. Scoping Report Chapter 27 Air Quality proposes to scope out offshore sources of air pollution due to the distance form receptors, presumably meaning terrestrial Air Quality Management Area and sensitive habitats. However, it would be helpful to have the contribution of the construction and maintenance works, to wider air quality and climate change, outlined and quantified in the EIA. Best practice for minimising this contribution through all works and materials should also be considered.

Appendix A3 - Advice relating to the onshore elements of the development

14. Chapter 5 Designated Sites

14.1. Part of the onshore scoping area is within South Gare and Coatham Sands SSSI, part of which is also designated as Teesmouth & Cleveland Coast SPA and Ramsar site. Redcar Rocks SSSI is also adjacent to the scoping area. Further information on the SSSIs and their special interest features can be found at www.natureonthemap.naturalengland.org.uk. The Environmental Statement should include a full assessment of the direct and indirect effects of the development on the features of special interest within the site and should identify such mitigation measures as may be required in order to avoid, minimise or reduce any adverse significant effects.

14.2. European sites (e.g. designated Special Areas or Conservation, Special Protection Areas and/or Ramsar Sites) fall within the scope of the Conservation of Habitats and Species Regulations 2010. Paragraph 169 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.

14.3. Under Regulation 61 of the Conservation of Habitats and Species Regulations 2010 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.

14.4. In this case the proposal is not directly connected with, or necessary to, the management of a European site. In our view it is likely that it will have a significant effect on internationally designated sites and therefore will require assessment under the Habitats Regulations. We welcome the proposal to assess impacts upon European and Ramsar sites as part of the EIA as outlined in section 5.7 of the Scoping Report. We would advise that this assessment should be included in a separate section of the Environmental Statement entitled 'Information for Habitats Regulations Assessment' and should include information from the proposed ornithological studies outlined in section 22.6.22. Ornithological studies should include surveys of wintering, breeding and passage species which are qualifying features of the SPA, and impacts including direct habitat loss, displacement and disturbance should be considered.

15. Local Wildlife or Geological Sites

15.1. The EIA will need to consider any impacts upon local wildlife and geological sites. Local Sites are identified by the County ecologist, local wildlife trust or a local forum established for the purposes of identifying and selecting local sites; they are of county importance for wildlife or geodiversity. The Environmental Statement should therefore include an assessment of the likely impacts on the wildlife interests of the site[s]

identified above. The assessment should include proposals for mitigation of any impacts and if appropriate, compensation measures. Contact the County ecologist, local wildlife trust or Local Sites body in your area for further information.

16. Species protected by the Wildlife and Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2010

16.1. Scoping Report 22.6 Terrestrial Ecology, Approach to EIA sets out the proposed surveys for protected species within the area affected by the development which we welcome. If any protected species are found the Environmental Statement should include details of:

- The species concerned;
- The population level at the site affected by the proposal;
- The direct and indirect effects of the development upon that species;
- Full details of any mitigation or compensation that might be required;
- Whether the impact is acceptable and/or licensable.

16.2. 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.

17. Other features of nature conservation interest, e.g. habitats and species identified within the UK and County Biodiversity Action Plans.

17.1. Scoping Report 22.6 Approach to EIA proposes to carry out a habitat survey in order to identify any important habitats present, and further ornithological and invertebrate surveys, which we welcome. We would also advise that a botanical survey should be carried out at an appropriate time 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 BAP priority 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.

17.2. The development should avoid adversely impacting sensitive areas for wildlife within the site, and should if possible provide opportunities for overall wildlife gain.

18. Access and Recreation

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

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

19.1. 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 Cleveland Way 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.

20. Chapter 18 Seascape Landscape and Visual Character

20.1. As the onshore scoping area is adjacent to the designated landscape of North Yorkshire & Cleveland Heritage Coast, 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.

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

20.3. The EIA should include a full assessment of the potential impacts of the onshore aspects of the development on local landscape character using landscape assessment methodologies. It should also consider the impact of the proposed turbines on views out to sea from the coast. We therefore welcome the proposed Seascape, Landscape and Visual Impact Assessment. We strongly advocate the use of Landscape Character Assessment (LCA), based on the good practice guidelines produced jointly by the Landscape Institute and Institute of Environmental Assessment in 2002. LCA provides a sound basis for guiding, informing and understanding the ability of any location to accommodate change and to make positive proposals for conserving, enhancing or regenerating character, as detailed proposals are developed. Guidance on LCA is available here.

20.4. 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 2002 (2nd edition). The methodology set out is almost universally used for landscape and visual impact assessment.

20.5. In order to foster high quality development that respects, maintains, or enhances, local landscape character and distinctiveness, Natural England encourages all new development to consider the character and distinctiveness of the area, with the siting and design of the proposed development reflecting local design characteristics and, wherever possible, using local materials. The Environmental Impact Assessment process should detail the measures to be taken to ensure the design of the converter station 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.

20.6. The ES should consider whether there is land in the area affected by the development qualifying for conditional exemption from capital taxes on the grounds of outstanding scenic, scientific or historic interest. These are considered to be designated landscapes of national importance and the impact of your plan on these should be assessed where appropriate. 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.

Appendix B1 - Relevant legislation and planning policies

1. Habitats and Birds Directives

1.1 Background

The two most influential pieces of European legislation relating to nature conservation are the Habitats and Birds Directives. The 'Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora' was adopted in 1992 and is commonly known as the Habitats Directive. It complements and amends Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (this is the codified version of Directive 79/409/EEC as amended), commonly known as the Birds Directive

The main aim of the Habitats Directive is to achieve favourable conservation status (FCS) for the habitats and species listed in its annexes. It is built around two pillars:

1) The **Natura 2000 network** of protected sites; and
2) The strict system of species protection.

The aim of the Natura 2000 network is to assure the long-term survival of Europe's most valuable and threatened species and habitats. The network is comprised of Special Areas of Conservation (SACs) designated by Member States under the Habitats Directive, and Special Protection Areas (SPAs) classified by Member States under the Birds Directive.

The provisions for species protection apply to the whole of a Member State's territory and concern the physical protection of specimens as well as their breeding sites and resting places.

1.2 Natura 2000 - SACs and SPAs

Under the EC Habitats Directive, Member States are required to nominate sites to be designated as Special Areas of Conservation (SACs) for the conservation of natural habitats and the habitats of species. Once nominated sites have been adopted by the European Commission, they become Sites of Community Importance (SCIs) and must then be designated by the nominating Member State as SACs as soon as possible and within six years at most. Under the EC Birds Directive Member States are required to classify sites as Special Protection Areas (SPAs). These SACs and SPAs comprise the Natura 2000 network, a European-wide network of sites designed to promote the conservation of habitats, wild animals and plants, both on land and at sea. Sites are designated following a consultative process managed by the statutory nature conservation agencies (SNCAs) and Government.

The Conservation of Habitats and Species Regulations 2010 (the "Habitats Regulations") transpose the EC Habitats Directive into domestic legislation, and apply to the terrestrial areas and territorial waters (from the baseline out to 12nm) of England, Wales and Scotland. Northern Ireland has its own Regulations with the same territorial coverage.

The Offshore Marine Conservation (Natural Habitats, &c.) Regulations (the “Offshore Marine Regulations;” as amended 2010) came i to force on 21 August 2007. They apply to marine areas where the UK has jurisdiction beyond its territorial sea - broadly from 12 nautical miles to 200 nautical miles from the baseline. These regulations seek to ensure that the UK government manages certain activities that have an effect on species and habitats of community importance in the UK offshore marine area, in a manner that is consistent with the provisions of the Habitats and Birds Directives.

The Habitat Regulations provide for the protection of European sites – cSACs, SACs, SCIs & SPAs. In terms of assessing impacts from proposed activities, as a matter of policy, the UK Government affords the same level of protection to potential SPAs (pSPAs), draft SACs (dSACs) and Ramsar sites (designated under the Ramsar Convention on Wetlands). This policy is detailed in Planning Policy Wales (2002) and Planning Policy Statement 9 (PPS9) together with the government circular 06/2005 for England, and is being applied in relation to offshore renewables projects.

It is important to note that a site with European status is not necessarily a ‘no go’ area to wind farm development. However, developers will have to demonstrate that their activities will not adversely affect the integrity of the site. The Habitats Regulations (Regulations 61, 62, 66) and Offshore Marine Regulations (Regulation 25) set out a process, to be undertaken by the competent (licensing) authority, to evaluate the implications of a plan or project for the site in relation to its conservation objectives. The licensing authority may agree to the plan or project only after determining that it will not adversely affect the integrity of the site (unless, in the absence of feasible alternatives, there are imperative reasons of overriding public interest for carrying out the plan or project, and suitable compensatory measures can be secured).

To fulfil government commitments, the SNCAs are addressing the need to improve the “representativity” of the Natura 2000 network through further proposals for designation of SACs and SPAs, including marine SACs and offshore SPAs. Consultation between the developer and the relevant SNCA will highlight where this may have implications for particular projects. Where project proposals may have implications for biodiversity or habitat features that are being considered for designation, it is advisable that sufficient information is gathered for an appropriate assessment to be undertaken.

1.2.1 Habitats Regulations Assessment

Where a plan or project could affect a Natura site, the Habitats Regulations and Offshore Marine Regulations require the competent authority (the authority with the power to undertake or grant consent, permission or other authorisation for the plan or project in question) to consider the provisions of regulations 61 or 25 respectively. This means that the competent authority has a duty to:

- determine whether the proposal is directly connected with or necessary to site management for conservation; and, if not,

- determine whether the proposal is likely to have a significant effect on the site either individually or in combination with other plans or projects; and, if so, then

- make an appropriate assessment of the implications (of the proposal) for the site in view of that site's conservation objectives.

This process is now commonly referred to as **Habitats Regulations Assessment** (HRA). HRA applies to any plan or project which has the potential to affect the qualifying interests of a Natura site, even when those interests may be at some distance from that development site.

The 'competent authority' (i.e. the authority responsible for giving consent), is responsible for deciding upon, and undertaking, appropriate assessment, following review of the proposal (i.e. subsequent to the submission of an Environmental Statement).

The SNCAs will advise the competent authorities on whether they consider that an appropriate assessment should be undertaken, and it is therefore important that developers discuss any possible implications for Natura 2000 sites with SNCAs during the EIA process (starting as early as possible during the scoping stage).

If the competent authority determines that the project may have a significant effect, or if such an effect cannot be conclusively ruled out, and where measures to avoid such an effect are not available, an appropriate assessment will be necessary to assess the project and its potential impact on the structure and ecological functioning of European site features in greater detail. The SNCAs are statutory consultees on appropriate assessments.

1.2.2 The Appropriate Assessment, Integrity Test, Alternative Solutions, Overriding Reasons of Public Interest & Compensation

The appropriate assessment will be undertaken by the competent authority to ascertain whether the project will have an adverse effect on the integrity of the site. The integrity of a site is defined within EC, UK and Welsh Assembly Government guidance as "the coherence of the site's ecological structure and function, across its whole area, that enables it to sustain the habitats, complex of habitats and/or populations of species for which the site is or will be classified."

If a project is to proceed despite a negative assessment it must first be demonstrated that there are no feasible alternative solutions that would have a lesser effect, or avoid an

adverse effect, on the integrity of the site. If there are no feasible alternative solutions, the competent authority may decide to proceed with the project for imperative reasons of overriding public interest (IROPI). Different tests apply depending on whether the site hosts a priority natural habitat type or species. If the site hosts a priority habitat or species, and there are no feasible alternatives, the only considerations which can justify the grant of permission are those which relate to (a) human health, public safety, or beneficial consequences of primary importance to the environment or (b) other imperative reasons of overriding public interest agreed by the European Commission. The Government may obtain the opinion of the European Commission as to whether any particular reasons may be considered imperative and overriding in the public interest.

Compensatory measures are intended to ensure that the ecological coherence of the Natura 2000 network is protected if a particular European site may be adversely affected. Where the competent authority determines it necessary to proceed with the project on the basis of IROPI, regulation 62 of the Habitat Regulations and regulation 26 of the Offshore Marine Regulations require an authority to notify the Secretary of State (SoS). Permission cannot be granted for a period of 21 days unless the SoS notifies the authority otherwise.

Where, in the absence of feasible alternatives, the importance of the project is judged in accordance with regulation 62 of the Habitat Regulations or regulation 26 of the Offshore Marine Regulations, to outweigh the harm to a European site, it will be necessary for the competent authority to satisfy itself that all compensatory measures necessary for the protection of the Natura 2000 Network can be secured.

1.2.3 Preparing for Appropriate Assessment during EIA

Adequate scoping with direct engagement of the SNCAs will enable the potential need for appropriate assessment for a project, or aspects of a project, to be addressed at the earliest opportunity. If appropriate assessment is anticipated, early engagement and planning will enable the developer to undertake a suitably robust EIA, for example developing applicable survey methodologies, and presenting results as part of the EIA process that will address the competent authority's information needs. This will minimise the risk of the competent authority being presented with insufficient information to address their responsibilities under the Habitats Regulations and Offshore Marine Regulations, and subsequent delays to the consenting process.

Where an adverse effect is anticipated, details on the measures proposed to counteract (mitigation, avoidance, reduction) or compensate for potential adverse effects upon European sites should be outlined to enable assessment of their adequacy. Mitigation (avoidance and reduction) measures should be clearly distinguished from compensatory measures, as only mitigation measures should be taken into account in the appropriate assessment.

Presentation of information applicable to appropriate assessment within an ES should be distinguished as such, and presented separately from EIA assessment. This enables easier dissemination of the conclusions relevant to either process, and demonstrates that the developer understands the distinction between the test for 'likely significant effect' pertaining

to appropriate assessment, and measuring the significance and magnitude of impacts relevant to EIA. Please note that the competent authority may still request further information from the project developer which is deemed reasonably necessary for the appropriate assessment.

1.3 European Protected Species (EPS)

The second pillar of the EC Habitats Directive covers the protection of species by requiring that Member States establish and implement a strict protection regime for species of community interest. In the UK, The Habitats Regulations (as amended) and the Offshore Marine Regulations (as amended) transposed those requirements and ensure the protection of European Protected Species (EPS, species in the Annex IVa of the Habitats Directive that occur naturally in the UK, which includes all cetaceans) from deliberate capture, injury and disturbance throughout their range. They also provide protection to the breeding sites and resting places of EPS and ensure the protection of wild birds, their eggs and nests.

The definition of a disturbance offence was revised and the offence of injury introduced, in amendments to the Habitats Regulations for England and Wales in 2007 and 2009 and the Offshore Marine Regulations, as amended in 2009. The latter regulations also extended both offences to areas of UK jurisdiction beyond 12 nm.

In England, Wales and UK offshore waters (outside 12nm), Regulations 41(1) and 39(1) of the Habitats Regulations and the Offshore Marine Regulations, respectively, provide that a person is guilty of an offence (and would therefore need to be considered for licence) if he:

(a) Deliberately captures, injures or kills any wild animal of a EPS
(b) Deliberatively disturbs wild animals of any such species

(1A) For the purposes of paragraph (1)(b), disturbance of animals includes in particular any disturbance which is likely –

(a) To impact their ability –
    (i) To survive, to breed or reproduce, or to rear or nurture their young; or
    (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate or
(b) To affect significantly the local distribution or abundance of the species to which they belong

1.3.1 Requirement for a Wildlife Licence

If there is a risk of the above offences being committed, and this risk cannot be removed or sufficiently reduced by using alternatives and/or mitigation measures, then an activity may still be able to go ahead under licence, but this should be a last resort. An adequate extent of appropriate alternative habitat (new or restored from an unsuitable state) may be required to demonstrate the maintenance of the populations of the species concerned at a Favourable Conservation Status (FCS).

Whereas, in most cases, it can be assumed that the standard mitigation measures that have been associated with the construction of offshore wind farms will reduce the risk of injury to marine EPS, this is not the case in terms of disturbance as defined in the 2009 amendments to the Habitats Regulations and Offshore Marine Regulations. In particular, the use of techniques such as pile driving may, for wind farms in areas where cetaceans occur frequently, have the risk of causing a disturbance offence as defined by the Regulations and so are likely to need an EPS licence. Any licence application will be followed by a detailed assessment of whether the licence should be granted. This is to be carried out by the relevant regulatory agency with the information provided by the developer and advice from nature conservation agencies. Regulatory agencies are: Marine Management Organisation (MMO), Natural England, Welsh Assembly Government (WAG) and Marine Scotland.

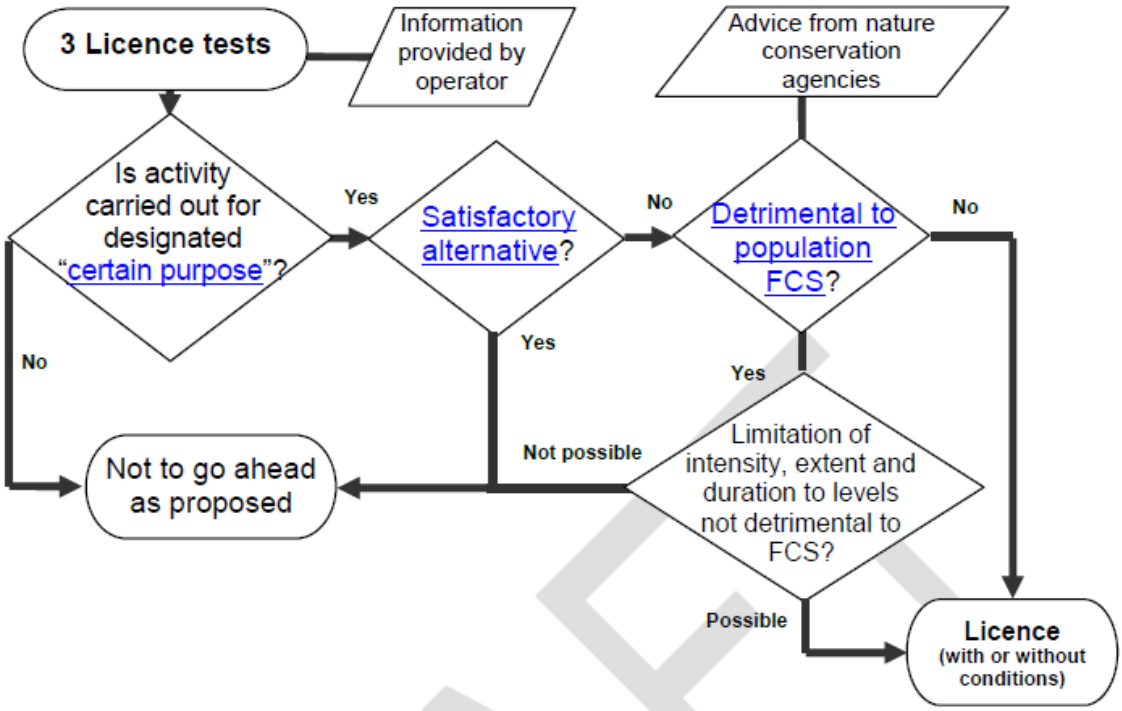
Any licence application (under regulation 53(1) of the HR and 49(6) of the OMR) will necessitate a detailed assessment of whether the licence should be granted. The licence assessment will be comprised of three tests to ascertain:

1) whether the activity fits one of the purposes specified in the Regulations: certain categories of activities or ‘purposes’ can be exempted from the offences; these purposes include “imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences for the environment”, and “scientific and educational purposes”, among others;

2) whether there are no satisfactory alternatives to the activity proposed (that would not incur the risk of offence): Licences can only be granted when there is no satisfactory alternative. The regulatory authority will have to show, based on best available information, that alternatives were sought that would not impact on species and that none were found or they were not satisfactory. An objective demonstration of why they have been discounted will have to be made. While this test is part of the licence assessment, in many cases, "alternatives" to minimise the risk of injury and disturbance should be considered at the level of assessing whether the offence is going to be committed and how it can be avoided or the risk reduced to negligible levels. If no satisfactory alternative is found then the demonstration of this will be provided at the licence assessment level; and

3) that the licensing of the activity will not result in a negative impact on the species‘/population‘s Favourable Conservation Status. The licence assessment will be carried out by the appropriate authority with the information provided by the developer and advice from nature conservation agencies.

A flowchart is included below describing this process:



Guidance has been developed by JNCC for those carrying out activities in the marine environment, to help assess the likelihood of committing an offence, how this can be avoided, and, as a last resort, whether the activity could go ahead under licence.

1.4 Key References and Further Reading

- For the text of the Habitats Directive and associated Annexes see: http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm
- For the text of the Birds Directive and associated annexes see: http://ec.europa.eu/environment/nature/legislation/birdsdirective/index_en.htm
- "Managing Natura 2000 sites - The provisions of Article 6 of the Habitats Directive 92/43/EEC" published by the European Commission in 2000:
- http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm#art6
- Habitats Regulations Guidance Notes published by English Nature and DfT's Planning Policy Guidance Note 9 (PPG9) on "Nature Conservation". Equivalent in Wales is the Planning Guidance (Wales) Technical Advice Note (TAN) 5: Nature Conservation.
- Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (i.e. the Offshore Marine Regulations, OMR) as amended in 2009 can be found at : http://www.opsi.gov.uk/si/si2009/uksi_20090007_en_1; and the Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007 (the Habitat's Regulations) at: http://www.opsi.gov.uk/si/si2007/pdf/uksi_20071843_en.pdf
- JNCC guidance 2009 'The protection of marine European Protected Species from injury and disturbance - Guidance for English and Welsh territorial waters and the UK offshore marine area' (currently in draft form, please request from SNCAs).

- Assessing Projects under the Habitats Directive. Guidance for Competent Authorities. 2008. David Tyldesley & Associates Report for the Countryside Council for Wales.
- Fearnley, H. & Liley, D., 2011 Analysis and presentation of IPF monitoring and projects to inform the Heathland DPD, Footprint Ecology Ltd
- Liley, D., Clarke, R., Tyldesley, D., Underhill-Day, J. & Lowen, J., 2007. Evidence to support Appropriate Assessment of development plans and projects in south-east Dorset, Footprint Ecology Ltd.

2. The Wildlife and Countryside Act 1981 & UK Biodiversity Action Plan

2.1 Wildlife and Countryside Act 1981 / Countryside and Rights of Way Act 2000

The Wildlife and Countryside Act 1981 ("the Act") as amended by the Countryside and Rights of Way Act 2000 provides protection for all wild birds and for animals and plants species listed in the schedules to the Act. Part 1 of the Act (ie the species provisions) extends to the territorial waters adjacent to Great Britain. The Act also allows for the designation of Sites of Special Scientific Interest (SSSI's) to protect flora, fauna, or geological or physiographical features. The statutory nature conservation body should be consulted about all development activities likely to cause damage to a SSSI and a consent may be necessary for some operations under Section 28 of the Act.

In general, SSSI's adjacent to the coast are restricted to above the low water mark although there are some exceptions where the seaward limit includes some parts of neighbouring subtidal areas.

2.2 UK Biodiversity Action Plan

The UK Biodiversity Action Plan (www.ukbap.org.uk) was established following UK government commitments made at the Convention of Biological Diversity in 1992. UKBAP sets out a framework for biodiversity conservation in the UK and is managed by the UK Biodiversity Partnership. Within the framework, each country sets out its own biodiversity strategy, recognising that each country may need to manage the conservation of its biodiversity differently.

The Natural Environment and Rural Communities Act 2006 (Sect. 42) requires administrations to publish lists of species and habitats of principal importance to each country. Lists of species for England and Wales will therefore differ as will the structures for managing biodiversity at national and local levels. An overview of BAP in England and Wales can be found at www.ukbap.org.uk/EBG/default.asp and www.biodiversitywales.org.uk, respectively. Lists of BAP species and habitats change on a regular basis and the appropriate BAP partnership should be consulted when environmental statements are prepared.

Section 40(1) of the Natural Environment and Rural Communities Act 2006 ("the NERC Act") places a new duty on every public authority, in exercising its functions, to "have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity". The duty affects all public authorities. In order to be fully compliant with this

legislation all strategies, policies, plans and projects need to recognise the importance of biodiversity and show the contribution they will make to its improvement. It is therefore important that during EIA of offshore wind farm proposals, impacts are assessed against the conservation targets for the habitats and species identified in BAP lists and measures to avoid, reduce and compensate should be investigated.

2.3 Key References and Further Reading

- Convention of Biological Diversity - http://www.biodiv.org/default.aspx
- Biodiversity: the UK Action Plan - http://www.ukbap.org.uk/librarysearchresults.aspx?id=526
- UK Biodiversity Action Plan - www.ukbap.org.uk
- Biodiversity Wales. www.biodiversitywales.org.uk
- England Biodiversity Group www.ukbap.org.uk/EBG/default.asp
- England biodiversity strategy www.defra.gov.uk/publications/files/pb7718-biostrategy-021016.pdf
- Government response to the UK Biodiversity Report 'Sustaining the variety of life: five years of the UK Biodiversity Action Plan' - www.defra.gov.uk/wildlife-countryside/ewd/rrrpac/biodiv
- Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS9); published August 2005, (this replaces *Planning Policy Guidance 9: Nature Conservation* (PPG9) published in October 1994) - http://www.communities.gov.uk/documents/planningandbuilding/pdf/147408.pdf
- Planning Policy Wales 2002. At: http://wales.gov.uk/desh/publications/planning/ppw/ppw2002e.pdf?lang=en
- Natural Environment and Rural Communities Act 2006, at: http://www.opsi.gov.uk/acts/acts2006/ukpga_20060016_en_1

3. Landscape

The European Landscape Convention, ratified by the UK in 2007, provides the framework for planning and management of landscapes across member states, including the protection of special landscapes within National Parks and in Areas of Outstanding Natural Beauty (AONB) under the National Parks and Access to the Countryside Act of 1949.

National Parks are large areas designated by law to protect their special landscape qualities and promote outdoor recreation. National Parks have their own Authorities, which control planning. Areas of Outstanding Natural Beauty (AONBs) are also protected by law because of their special landscape qualities, wildlife, geology and geography. They have more protection than other areas under the planning process and, in terms of landscape and scenery, are equal to National Parks. Other landscapes requiring sensitive management include Heritage Coasts – stretches of outstanding, unspoilt coastline, usually managed by local authorities.

Appendix B2 - Dogger Bank Tranche B and Teesside Habitats Regulations Assessment (HRA) - Special Protection Areas (SPAs)

1. Introduction

In the following advice for HRA we set out the three steps that need to be considered in order to determine whether or not the Dogger Bank Tranche B and Teesside wind farm proposal is likely to have a significant effect on the qualifying interests of SPAs, and any adverse impact on site integrity (Appendix B1 provides more detail on the legislative framework). It is the competent authority, the Planning Inspectorate who will carry out the HRA, with the advice of the SNCAs (JNCC and Natural England) and using information and data collated by the developer.

Under HRA, the potential impacts of the Dogger Bank Tranche B and Teesside wind farm proposal will need to be considered alone and in combination with other plans and projects. It needs to be considered in combination with other renewables development from Rounds 1, 2 and 3 and with other types of industry and activity in the vicinity of the proposal.

The HRA will become more focused over time through an iterative process – we will continue to review our advice as the developer undertakes their survey work and completes its analysis.

2. SPAs for inclusion in HRA

It is not clear, in the Scoping report submitted, which SPAs, and qualifying species, are to be considered for individual and in-combination assessments and further detail relating to this will be required at future stages of the consenting process. Further discussion with SNCAs would be welcome to ensure that the correct species are included in any assessment relating to the conservation objectives of a site. We highlight the requirement to answer the questions outlined in Article 4.1 and 4.2 relating to species use of an SPA site. Please refer to the JNCC website (http://www.jncc.gov.uk/page-2599) for the full designation detail of SPA sites.

We note that a comprehensive list of SPAs have been included in the scoping report (p 57-58) as relevant to this development, however this list may not be complete due to potential impacts on migratory birds from other sites.

3. Advice for HRA in respect of SPA qualifying interests

We provide advice on the legislative requirement for HRA in Appendix B1. The steps of the process are as follows; our advice is tailored to the consideration of this offshore wind farm:

Step 1: Is the proposal directly connected to or necessary for the conservation management of the SPAs?

The Dogger Bank Tranche B and Teesside wind farm proposal is not directly connected with or necessary for the conservation management of any of the SPAs listed above.

Step 2: Is the proposal likely to have a significant effect on the qualifying interests of the SPAs either alone or in combination with other plans or projects?

This step acts as a screening stage – it removes from the HRA those proposals (plans or projects) which clearly have no connectivity to SPA qualifying interests or where it is very obvious that the proposal will not undermine the conservation objectives for these interests, despite a connection. When this screening step is undertaken at an early stage in the development process, it usually means that it takes the form of a desk-based appraisal. We advise that this is kept broad so that potentially significant impacts are not missed out, or discounted too early, in any HRA (or EIA).

The SPA bird interests being considered in respect of offshore wind farms are wide-ranging – many seabirds make long foraging trips, especially during the breeding season, and there are also migratory species to consider such as geese and swans, and in relation to heathland SPA, nightjar. This means that offshore wind farm proposals may be 'connected to' SPAs at much greater distances than what has so far been experienced in respect of onshore development. Although connectivity is thus established it does mean that the proposal itself is located further away from the designated site, and it is therefore less likely there will be direct impacts on the species while they are within the SPA.

Expert agreement over species sensitivity should help to identify those SPA qualifying interests for which the conservation objectives are unlikely to be undermined by offshore wind farm development, despite any possible connection (eg. SPA qualifiers which are recorded within a proposed wind farm site but where their flight behaviour and/or foraging ecology means that the wind farm will not have a likely significant effect).

Determination of 'likely significant effect' is not solely a record of presence or absence of bird species at an offshore wind farm site, but also involves a judgement as to whether any SPA conservation objectives might be undermined. Such judgement is based on a simple consideration of the importance of the area in question for the relevant species and complex data analysis should not be required at this stage. For example, how many birds have been recorded? What are they using the area for? Is this the only area that they can use for this particular activity? Understanding the behavioural ecology of the species, and the characteristics and context of the proposed wind farm site, will help in determining whether there are likely significant effects. There are three possible conclusions for this step of the HRA:

a. The likely impacts are such that there is clear potential for the conservation objectives to be undermined – conclude likely significant effect.
b. The likely impacts are so minimal (either because the affected area is not of sufficient value for the birds concerned or because the risk to them is so small) that the conservation objectives will not be undermined – conclude no likely significant effect.
c. There is doubt about the scale of the likely impacts in terms of the conservation objectives – conclude likely significant effect.

Step 3: Can it be ascertained that the proposal will not adversely affect the integrity of the SPA, either alone or in combination with other plans or projects?

This stage of HRA is termed **appropriate assessment**, and it is undertaken by the competent authority based on information supplied by the developer, with advice provided by JNCC and Natural England in respect of the Dogger Bank Tranche B and Teesside wind farm proposal. Appropriate assessment considered the implications of the proposed development for the **conservation objectives** of the qualifying interests for which a likely significant effect has been determined. These conservation objectives follow a standard format requiring protection of the qualifying bird interests and protection of the habitat in the SPA which supports them:

To ensure that site integrity is maintained by:

i. Avoiding deterioration of the habitats of the qualifying species.
ii. Avoiding significant disturbance to the qualifying species.

To ensure for the qualifying species that the following are maintained in the long term:

iii. Population of the bird species as a viable component of the SPA.
iv. Distribution of the bird species within the SPA.
v. Distribution and extent of habitats supporting the species.
vi. Structure, function and supporting processes of habitats supporting the species.

Repeat of (ii)

It is important to recognise that the conservation objectives primarily offer site-based protection and that some of them will not directly apply to species when they are outwith the boundaries of the SPA. This is particularly true of objectives **(i)**, **(v)** and **(vi)** which relate to the supporting habitats within the SPA. However, objective **(iii)** – maintenance of the population of the bird species as a viable component of the SPA – will be relevant to offshore wind development in most cases. It encompasses direct impacts to the species, such as significant disturbance to qualifying bird interests when they're outwith the SPA – see objective **(ii)**. It also addresses indirect impacts such as the degradation or loss of supporting habitats which are outwith the SPA but which help to maintain the population of the bird species of the SPA in the long term.

Finally, in rare circumstances, it is possible that factors/events outside site boundaries may have the capacity to affect the long term distribution of bird species within the SPA – see objective **(iv)**.

So while connectivity between offshore wind farms and SPAs may apply at greater distances than previously experienced for onshore development, it is possible that not all of the SPA conservation objectives will be relevant in appropriate assessment.

The **key question** in any appropriate assessment for the Dogger Bank Tranche B and Teesside wind farm proposal is whether it can be ascertained that this proposal, alone or in combination, will not adversely affect the population of any qualifying bird species as a viable component of the SPAs under consideration.

In considering how an offshore wind farm proposal might affect the population viability of SPA bird interests, we refer to the helpful summary of the **main risks of offshore wind farm development to birds** provided in Langston (2010)[1].

Collision.

Disturbance/displacement.

Barriers to movement. *Include any disruption of functional links between breeding and feeding areas.*

Cumulative effects. *Which apply to any of these risks across multiple wind farm developments, and may apply to effects from wind farm development in combination with other plans and projects.*

There may be **further questions** to ask in an appropriate assessment if the proposal is likely to affect the conservation objectives that relate to bird species while they're in an SPA or to the habitats in the SPA that support them. We highlight that these questions will be applicable to the habitats which support bird interests in any new SPAs designated for inshore and/or offshore aggregations of seabirds – please see JNCC's website for potential areas of search[2].

- Will the offshore wind farm proposal(s) cause a deterioration in the habitats of any of the SPAs? *NB. This question relates specifically to the habitats in the SPAs that support the bird interests.*

- Will the offshore wind farm proposal(s) cause any significant disturbance to bird interests while they're in any of the SPAs? *NB. See the previous discussion in respect of disturbance outside an SPA.*

- Will the offshore wind farm proposal(s) alter the distribution of the birds within any of the SPAs?

[1] Langston (2010). Offshore wind farms and birds: Round 3 zones, extensions to Round 1 & Round 2 sites & Scottish Territorial Waters. RSPB Research Report No. 39.

[2] http://www.jncc.gov.uk/page-4184

- Will the offshore wind farm proposal(s) affect the distribution and extent of the habitats (that support the bird species) in any of the SPAs?

- Will the offshore wind farm proposal(s) in any way affect the structure, function and supporting processed of habitats in any of the SPAs? *NB. Those habitats which support the bird species.*

4. Continued consultation

In order for the HRA to be an iterative process we hope to further discuss these various aspects outlined above with the developer.

Appendix B3 - Dogger Bank Tranche B and Teesside Habitats Regulations Appraisal (HRA) – Special Areas of Conservation (SACs)

1. Introduction

In the following advice for HRA we set out the three steps that need to be considered in order to determine whether or not the Dogger Bank Tranche B and Teesside wind farm proposal is likely to have a significant effect on the site integrity of SACs – Appendix B1 provides more detail on the legislative framework. It is the competent authority, the Planning Inspectorate, who will carry out the HRA, with the advice of the SNCAs (JNCC and Natural England) advice and using information and data collated by the developer.

Under HRA, the potential impacts of the Dogger Bank Tranche B and Teesside wind farm proposal will need to be considered alone and in combination with other plans and projects. It needs to be considered in combination with other renewables development from Rounds 1, 2 and 3 and with other types of industry and activity in the vicinity of the proposal. In the onshore environment development plans and projects will be relevant, especially for the heathland SACs.

For those SAC qualifying interests that are also European protected species please see Appendix B1 for our advice in respect of their EPS status and for EPS licensing arrangements. The advice that we give below relates only to their consideration as an SAC qualifying interest and how the HRA process therefore applies.

2. SACs for inclusion in the HRA

We note that a number of SACs have been listed in the scoping report as relevant to this development. The list of sites will require review and agreement prior to undertaking the HRA and we understand that a separate HRA screening and scoping is still to be undertaken.

3. Advice for HRA in respect of SAC qualifying interests

We provide advice on the legislative requirement for HRA in Appendix B1. The steps of the process are as follows; our advice is tailored to consideration of this offshore wind farm.

Step 1: Is the proposal directly connected with or necessary for the conservation management of the SACs?

The Dogger Bank Tranche B and Teesside offshore wind farm proposal is not directly connected with or necessary for the conservation management of any of the SACs listed above.

Step 2: Is the proposal likely to have a significant effect on the qualifying interests of the SACs either alone or in combination with other plans or projects?

This step acts as a screening stage: it removes from the HRA those proposals which clearly have no connectivity to SAC qualifying interests or where it is very obvious that the proposal will not undermine the conservation objectives for these interests, despite a connection. When this screening step is undertaken at an early stage in the development process, it usually means that it takes the form of a desk-based appraisal.

Whilst a desk-based review is helpful for this screening step, this part of the HRA will only be fully completed when the wind farm proposal has been further progressed – when survey work and analyses have been completed, and when the location of/construction methods for wind farm infrastructure, including onshore elements, has been finalised.

There are three possible conclusions to this step of HRA:

a. The likely impacts are such that there is clear potential for the conservation objectives to be undermined – conclude likely significant effect.
b. The likely impacts are so minimal that the conservation objectives will not be undermined – conclude no likely significant effect.
c. There is doubt about the scale of the likely impacts in terms of the conservation objectives – conclude likely significant effect.

It is clear that some location and design aspects of the Dogger Bank Tranche B and Teesside Wind Farm proposal have yet to come forward, especially the onshore works. We are thus not yet in a position to present definite advice for each of the listed SACs

Step 3: Can it be ascertained that the proposal will not adversely affect the integrity of the SAC, either alone or in combination with other plans or projects?

This stage of HRA is termed **appropriate assessment**, and is undertaken by the competent authority based on information supplied by the applicant, and with advice provided by statutory nature conservation agencies. We highlight that in-combination impacts are a concern in respect of the Dogger Bank Tranche B and Teesside wind farm proposal and as such close liaison between the various agencies will inform advice provided for HRA.

Appropriate assessment considers the implications of the proposed development for the **conservation objectives** of the qualifying interests for which a likely significant effect has been determined. We discuss this below for each of the qualifying interests listed above.

We note that our advice on the scope of appropriate assessment will become clearer when the development process is further advanced – when baseline data has been collected, and when construction methods, location of infrastructure, choice of port and other aspects of the proposal have been finalised.

Advice for appropriate assessment in respect of qualifying habitat interests of the Dogger Bank cSAC:

The Conservation Objectives for the Dogger Bank Sandbanks which are slightly covered by seawater all the time are:

Subject to natural change, restore the sandbanks to favourable condition, such that the:

- The natural environment quality is restored;
- The natural environmental processes and the extent are maintained;
- The physical structure, diversity, community structure and typical species representative of *sandbanks which are slightly covered by seawater all the time*, in the Southern North Sea, are restored.

Based on these conservation objectives, the following questions may need to be addressed for sandbanks:

- Will the proposal cause any deterioration to the qualifying habitats within the SAC?
- Will it affect the extent or distribution of the qualifying habitats within the SAC?
- Will it affect the structure and function of these habitats or of their supporting processes?
- Will it affect, or cause disturbance, to any of the typical species of these habitats, including their distribution and viability within the SAC?

Our concern is that installation of the projects' infrastructure may result in effects on the qualifying cSAC habitat and their associated communities, although we are uncertain of the potential scale of such effects. We also note that the effects of cable laying, and other impacts from onshore works may be a concern for inshore or coastal SACs, dependent on location.

4. Continued consultation

In order for the HRA to be an iterative process we hope to further discuss the various aspects of the HRA process with the developer in the near future.

Middlesbrough
moving forward

Middlesbrough Council
www.middlesbrough.gov.uk

Regeneration

Development
PO Box 504, Civic Centre, Middlesbrough, TS1 9FY

Tel: (01642) 245432

25th May 2012

The Planning Inspectorate
Eagle Wing
Temple Quay House
2 The Square
BRISTOL
BS1 6PN

PINS RECEIVED
28 MAY 2012
NID

Direct Line: (01642) 729460
Switchboard: (01642) 245432
Fax: (01642)
DX60532

Our Ref: P/DC
Your Ref: 120521_1239913
When telephoning please ask for :
ERNIE VICKERS

Dear Sir/Madam

PROPOSED DOGGER BANK, TEESSIDE OFFSHORE WINDFARM (THE PROJECT)
PROPOSAL BY FOREWIND LIMITED (THE DEVELOPER)
INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2009 SI2263 (AS AMENDED) (THE EIA REGULATIONS)

Thank you for your letter of 22nd May concerning the above matter and I have considered the information contained on the planning portal.

I can confirm that the Council as a neighbouring Local Planning Authority would not have any comments on the proposal.

Yours faithfully

[redacted]

ERNIE VICKERS
Development Control Manager

~1491500

From: Mark Hill [mailto:m.hill@northyorkmoors.org.uk]
Sent: Monday, June 11, 2012 4:05 PM
To: Environmental Services
Cc: Rona Charles
Subject: Proposed Dogger Bank Teeside Offshore Windfarm

Thank you for your letter dated 22 May seeking this Authority's views on the Developers EIA Scoping Opinion request, your ref 120521_1239913 before 19th June.

The only two comments we wish to raise are :

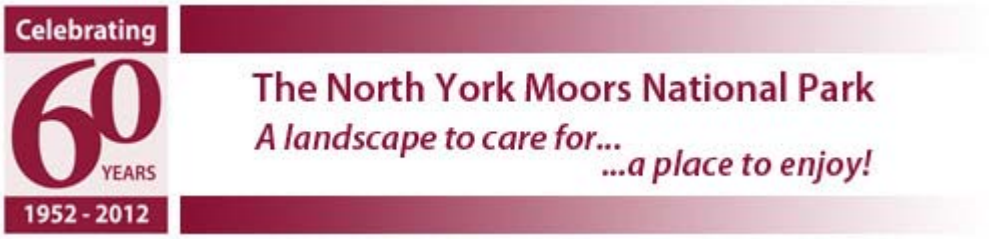
- The EIA should address the issue as to whether the additional electrical capacity to be put into the national grid will be likely to result in additional overhead power lines being installed along the western edge of the National Park and thus affect the landscape setting of the North York Moors National Park .
- The EIA should address the issue of whether the windfarm is likely to affect the feeding patterns of seabirds which nest along the coastal cliffs and make up part of the diverse ecology of the National Park natural environment.

Regards.

Mark Hill
Head of Development Management
My normal working hours are : 9.00 - 5.00 pm Monday & Wednesday to Friday

North York Moors National Park Authority
Old Vicarage
Bondgate
Helmsley
YO62 5BP

☎: 01439 770657 ext:2598
✉: m.hill@northyorkmoors-npa.gov.uk
💻: www.moors.uk.net



Communications via the GSi may be automatically logged, monitored and/or recorded for legal purposes.

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

****

From: Vokes, Judith [mailto:Judith.Vokes@nationalgrid.com]
Sent: Tuesday, June 19, 2012 11:46 AM
To: Environmental Services
Cc: Preuss, Stefan; Stirling, Vicky
Subject: Re: Dogger Bank Teesside – Scoping Opinion Ref. 120521_1239913

Re: Dogger Bank Teesside – Scoping Opinion

Your Ref. 120521_1239913

National Grid would like to submit the following short comments at this stage in response to the scoping request by the Planning Inspectorate in relation to the above project.

National Grid electricity transmission infrastructure, including overhead lines, underground cables, electricity substations and associated infrastructure, is located within, and in proximity to, the onshore scoping area shown in Figure 1.3 of the Preliminary Environmental Information Report by Forewind.

National Grid would ask that the location of our transmission infrastructure and any potential impact of the proposed project on our infrastructure are taken into account in the Environmental Assessment and as part of any subsequent Development Consent Order application, including the Environmental Statement.

National Grid is in discussions with Forewind about the proposed project and will be able to provide further information on the above to Forewind and the Planning Inspectorate.

Regards

Judith Vokes

Consents Officer
Consents Team
Land and Development
National Grid

07584 204 369

judith.vokes@nationalgrid.com

Please consider the environment before printing this email.

-----Original Message-----
From: Environmental Services
Sent: Wednesday, June 13, 2012 11:31 AM
To: Laura Allen
Subject: FW: Proposed Dogger Bank Teesside Offshore Windfarm : Officer Consultation Response of North Yorkshire County Council

-----Original Message-----
From: Carl Bunnage [mailto:Carl.Bunnage@northyorks.gov.uk]
Sent: Wednesday, June 13, 2012 10:17 AM
To: Environmental Services
Cc: Colin Holm; Julia Ann Casterton; Lucie Hawkins; 'info@forewind.co.uk'
Subject: Proposed Dogger Bank Teesside Offshore Windfarm : Officer Consultation Response of North Yorkshire County Council

Dear Mr Spencer,

Thank you for consulting North Yorkshire County Council in relation to the Dogger Bank Teesside Offshore Windfarm (your letter dated 22 May 2012). I note that at this stage you are inviting comments in relation to the information that should be contained within the environmental statement.

As an officer response, and from a strategic planning perspective, I do not wish to make any specific comments at this time. I note that the proposal is for the development to make landfall to electricity sub-stations within Teesside and therefore not within the County of North Yorkshire. I am also aware of the wider economic opportunities that this proposal may offer to communities and the economy of North Yorkshire.

However I would wish to make a number of comments from specific service perspectives in relation to the Preliminary Environmental information at this stage. Firstly, the proposed development lies within an area of high archaeological potential. The advice of English Heritage should therefore be sought throughout the project.

Furthermore we welcome the proposed production of a shadow Habitats Regulations Assessment (HRA) alongside this EIA to provide the competent authority with the necessary information to undertake HRA. To satisfy the in-combination tests of the Habitats Directive it will be necessary to consider other plans and projects that may also impact on Natura 2000 sites. It may be worth noting that North Yorkshire County Council is currently producing Habitats Regulations Assessments for the Minerals and Waste Core Strategies of the Minerals and Waste Development Framework. While these documents are still at an early stage, during their screening / scoping phase the likely significant effects of minerals and waste development on a number of sites common to those listed in the chapter on designated sites will be considered. This may help inform any in-combination assessment. The screening / scoping documents will be published on the Council's website later this year.

We would expect the EIA to include a thorough assessment of both the onshore and offshore ecological impacts, looking particularly at the impacts upon marine ecology, including nationally important sea bird populations. In line with current planning policy a development of this scale should be seeking to achieve major enhancements for biodiversity. It is important that cumulative impacts both on and off shore are fully considered.

I trust that you will find this response helpful. Please do not hesitate to contact me should you require any further clarification.

The County Council remains keen to be consulted on further stages as the proposal develops.

Yours sincerely

Carl

Carl Bunnage
Team Leader Regional and Strategic Policy
Business and Environmental Services
(Trading Standards and Planning Services)
North Yorkshire County Council
County Hall
Racecourse Lane
Northallerton
North Yorkshire, DL7 8AD

Tel: 01609 532523
e: carl.bunnage@northyorks.gov.uk

From: Pedlow, David [mailto:David.Pedlow@redcar-cleveland.gov.uk]
Sent: Thursday, June 14, 2012 12:32 PM
To: Environmental Services
Subject: Scoping opinion for proposed Dogger Bank Offshore Wind Farm (Ref 120521_1239913)

Dear Mr Spencer

Thank you for the consultation request sent on 22nd May 2012 relating to the proposed Dogger Bank Teesside Offshore Windfarm as proposed by Forewind Ltd. I have considered the contents of the scoping report and would advise that at this time there are no specific comments with regard to the content of the report. It is considered that the key onshore considerations will be addressed though the ES along with the liaison with the relevant departments with the Council .

Kind Regards
David Pedlow
Planning Officer
Redcar and Cleveland Borough Council
Development Management
Tel: 01287 612546
Email: david.pedlow@redcar-cleveland.gov.uk

NOT PROTECTIVELY MARKED/IMPACT LEVEL 0

Regeneration & Planning
Town Hall
St Nicholas Street
Scarborough
YO11 2HG
Head of Regeneration & Planning:
Ms P Elliott

Contact: Mr Derek Green
Tel: 01723 232468
Fax 0870 191 3997
e-mail: derek.green@scarborough.gov.uk
Web site: www.scarborough.gov.uk/planning

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

FAO Mr Will Spencer

Your Ref
Our Ref 12/00973/GEN

15 June 2012

Dear Sir

Proposal Dogger Bank Teeside offshore wind farm by Forewind Ltd Scoping Opinion

I refer to your recently submitted correspondence which I received on 30 April 2012. In response to the above proposal:

The administrative area of Scarborough Borough is immediately adjacent to the study area, includes the ports of Whitby and Scarborough as well as large areas of the North Yorkshire Moors National Park.

Scarborough Borough Council therefore considers that at 19.2.2 and 19.2.3 the socio-economic impact of the development as it affects the Borough should also be assessed both during construction and subsequent operation.

The Council considers that the Recreational and Tourist impact on the Borough should also be included and that such impacts on the North Yorkshire Moors National Park should not be scoped out as is proposed at 20.1.6. The Moors provide a significant asset for Teeside and many Teeside residents and visitors use it for recreational and tourism. The 5km distance from the study area is not considered a sufficient reason to exclude these impacts from the assessment.

If you require any further assistance please contact the case officer noted above. I would be grateful if you could quote the above reference number in any future correspondence.

Yours faithfully

[redacted]

Mrs J Low
Planning Manager

The COAL AUTHORITY

INVESTOR IN PEOPLE

200 Lichfield Lane
Berry Hill
Mansfield
Nottinghamshire
NG18 4RG

Tel: **01623 637 119 (Planning Enquiries)**

Email: **planningconsultation@coal.gov.uk**

Web: **www.coal.decc.gov.uk/services/planning**

National Infrastructure Directorate
The Planning Inspectorate

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

12 June 2012

For the Attention of: Mr Will Spencer – EIA and Land Rights Adviser

Dear Mr Spencer

EIA SCOPING OPINION

Proposed Dogger Bank Teesside Offshore Windfarm

Thank you for your consultation notification of the 22 May 2012 seeking the views of The Coal Authority on the EIA Scoping Opinion for the above proposal.

The Coal Authority Response

I have reviewed the proposals and confirm that the site does not fall within the defined coalfield.

The Coal Authority therefore has no issues that it would wish to see addressed as part of the Environmental Statement for this proposal.

I trust this is acceptable, please do not hesitate to contact me if you require any additional information or would like to discuss this matter further.

Yours sincerely

[redacted]

David Berry *B.Sc.(Hons), MA, MRTPI*
Planning Liaison Manager

From: Navigation Directorate [mailto:Navigation.Directorate@thls.org]
Sent: Monday, June 18, 2012 10:40 AM
To: Environmental Services
Subject: RE: Dogger Bank Teesside Offshore Windfarm: Scoping Consultation

Dear Will Spencer,

Further to your e-mail dated 22 May 2012 concerning the above, Trinity House would expect the following to form part of the Environmental Statement:

Navigation Risk Assessment

- Comprehensive vessel traffic analysis in accordance with the requirements of MGN 371 by means of AIS and Radar augmented by visual observations where possible.

- The possible cumulative and in-combination effects on shipping routes and other vessel traffic patterns and concentrations should be fully assessed. We are concerned at the possible cumulative and in-combination effects on shipping routes and patterns and on the possible implications for marine navigational marking through the construction of one (or more) individual wind farms within this zone, when proposals have not yet been developed to indicate where future developments may take place within this zone and other adjacent Round 3 zones and extension developments. The Environmental Statement should include the likely overall impact on routes taken by shipping of these developments and particularly those being progressed elsewhere within the Dogger Bank and in the East Anglia and the Hornsea Offshore Wind Farm Zones.

Risk Mitigation Measures

- We consider that the wind farm or farms will need to be marked with marine aids to navigation by the developer/operator in accordance with the general principles outlined in the 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 a construction phase. All of the marine navigational marking which it is considered 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 standard of Availability. In the event that it is not possible to present the final definitive layout of structures within the wind farm in the Environmental Statement, then indicative layouts and marking should be considered for likely and “worst case” scenarios.

- A decommissioning plan that includes consideration of the possible phased discontinuance of individual developments within the overall zone and the potential impact this may have on the surrounding environment, with particular reference to navigational safety and the probable review of risk mitigation measures that may be required for the developments that remain. Also, 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 and inter array 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 must be assessed.

I hope these comments are useful and we look forward to further discussions with the developer on these matters in due course.

Kind regards,

Steve Vanstone
Navigation Services Officer

From: Environmental Services [mailto:EnvironmentalServices@infrastructure.gsi.gov.uk]
Sent: 22 May 2012 16:52
To: Navigation Directorate; Nick Dodson
Subject: Dogger Bank Teesside Offshore Windfarm: Scoping Consultation

Dear Sir / Madam

Please see attached correspondence in respect of the above.

<<120521_EN010051_1239913_Letter to stat consultees-Scoping (further to Reg 9 notification.pdf>>

Regards

Will Spencer
EIA & Land Rights Adviser
National Infrastructure Directorate,
The Planning Inspectorate,
Temple Quay House,
Temple Quay,
Bristol,
BS1 6PN
Direct Line: 0303 444 5048
Helpline: 0303 444 5000
Email: will.spencer@infrastructure.gsi.gov.uk
Web: www.planningportal.gov.uk/planninginspectorate (Planning Inspectorate casework and appeals)
Web: www.planningportal.gov.uk/infrastructure (Planning Inspectorate's National Infrastructure Planning portal)
Advice may be given about applying for an order granting development consent or making representations about an application (or a proposed application). This communication does not however constitute legal advice upon which you can rely and you should obtain your own legal advice and professional advice as required.

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

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APPENDIX 3

Presentation of the Environmental Statement

APPENDIX 3

PRESENTATION OF THE ENVIRONMENTAL STATEMENT

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (SI 2264) (as amended) sets out the information which must be provided for an application for a development consent order (DCO) for nationally significant infrastructure under the Planning Act 2008. Where required, this includes an environmental statement. Applicants may also provide any other documents considered necessary to support the application. Information which is not environmental information need not be replicated or included in the ES.

An environmental statement (ES) is described under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (SI 2263) (as amended) (the EIA Regulations) as a statement:

a) 'that includes such of the information referred to in Part 1 of Schedule 4 as is reasonably required to assess the environmental effects of the development and of any associated development and which the applicant can, having regard in particular to current knowledge and methods of assessment, reasonably be required to compile; but

b) that includes at least the information required in Part 2 of Schedule 4'.

(EIA Regulations Regulation 2)

The purpose of an ES is to ensure that the environmental effects of a proposed development are fully considered, together with the economic or social benefits of the development, before the development consent application under the Planning Act 2008 is determined. The ES should be an aid to decision making.

The SoS advises that the ES should be laid out clearly with a minimum amount of technical terms and should provide a clear objective and realistic description of the likely significant impacts of the proposed development. The information should be presented so as to be comprehensible to the specialist and non-specialist alike. The SoS recommends that the ES be concise with technical information placed in appendices.

ES Indicative Contents

The SoS emphasises that the ES should be a 'stand alone' document in line with best practice and case law. The EIA Regulations Schedule 4, Parts 1 and 2, set out the information for inclusion in environmental statements.

Schedule 4 Part 1 of the EIA Regulations states this information includes:

'*17. Description of the development, including in particular—*

(a) a description of the physical characteristics of the whole development and the land-use requirements during the construction and operational phases;

(b) a description of the main characteristics of the production processes, for instance, nature and quantity of the materials used;

(c) an estimate, by type and quantity, of expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation, etc) resulting from the operation of the proposed development.

18. An outline of the main alternatives studied by the applicant and an indication of the main reasons for the applicant's choice, taking into account the environmental effects.

19. A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the interrelationship between the above factors.

20. A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development, resulting from:

(a) the existence of the development;

(b) the use of natural resources;

(c) the emission of pollutants, the creation of nuisances and the elimination of waste,

and the description by the applicant of the forecasting methods used to assess the effects on the environment.

21. A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.

22. A non-technical summary of the information provided under paragraphs 1 to 5 of this Part.

23. An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information'.

EIA Regulations Schedule 4 Part 1

4.21 The content of the ES must include as a minimum those matters set out in Schedule 4 Part 2 of the EIA Regulations. This includes the consideration of 'the main alternatives studied by the applicant' which the SoS recommends could be addressed as a separate chapter in the ES. Part 2 is included below for reference:

4.22 Schedule 4 Part 2

A description of the development comprising information on the site, design and size of the development

A description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects

The data required to identify and assess the main effects which the development is likely to have on the environment

An outline of the main alternatives studies by the applicant and an indication of the main reasons for the applicant's choice, taking into account the environmental effects, and

A non-technical summary of the information provided *[under the four paragraphs above]*.

Traffic and transport is not specified as a topic for assessment under Schedule 4; although in line with good practice the SoS considers it is an important consideration *per se*, as well as being the source of further impacts in terms of air quality and noise and vibration.

Balance

The SoS recommends that the ES should be balanced, with matters which give rise to a greater number or more significant impacts being given greater prominence. Where few or no impacts are identified, the technical section may be much shorter, with greater use of information in appendices as appropriate.

The SoS considers that the ES should not be a series of disparate reports and stresses the importance of considering inter-relationships between factors and cumulative impacts.

Scheme Proposals

The scheme parameters will need to be clearly defined in the draft DCO and therefore in the accompanying ES which should support the application as described. The SoS is not able to entertain material changes to a project once an application is submitted. The SoS draws the attention of the applicant to the DCLG and the Planning Inspectorate's published advice on the preparation of a draft DCO and accompanying application documents.

Flexibility

The SoS acknowledges that the EIA process is iterative, and therefore the proposals may change and evolve. For example, there may be changes to the scheme design in response to consultation. Such changes should be addressed in the ES. However, at the time of the application for a DCO, any proposed scheme parameters should not be so wide ranging as to represent effectively different schemes.

It is a matter for the applicant, in preparing an ES, to consider whether it is possible to assess robustly a range of impacts resulting from a large number of undecided parameters. The description of the proposed development in the ES must not be so wide that it is insufficiently certain to comply with requirements of paragraph 17 of Schedule 4 Part 1 of the EIA Regulations.

The Rochdale Envelope principle (see *R v Rochdale MBC ex parte Tew (1999) and R v Rochdale MBC ex parte Milne (2000)*) is an accepted way of dealing with uncertainty in preparing development applications. The applicant's attention is drawn to the Planning Inspectorate's Advice Note 9 'Rochdale Envelope' which is available on the Advice Note's page of the National Infrastructure Planning website.

The applicant should make every attempt to narrow the range of options and explain clearly in the ES which elements of the scheme have yet to be finalised and provide the reasons. Where some flexibility is sought and the precise details are not known, the applicant should assess the maximum potential adverse impacts the project could have to ensure that the project as it may be constructed has been properly assessed.

The ES should be able to confirm that any changes to the development within any proposed parameters would not result in significant impacts not previously identified and assessed. The maximum and other dimensions of the proposed development should be clearly described in the ES, with appropriate justification. It will also be important to consider choice of materials, colour and the form of the structures and of any buildings. Lighting proposals should also be described.

Scope

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

Physical Scope

In general the SoS recommends that the physical scope for the EIA should be determined in the light of:

- the nature of the proposal being considered
- the relevance in terms of the specialist topic

the breadth of the topic

the physical extent of any surveys or the study area, and

the potential significant impacts.

The SoS recommends that the physical scope of the study areas should be identified for each of the environmental topics and should be sufficiently robust in order to undertake the assessment. This should include at least the whole of the application site, and include all offsite works. For certain topics, such as landscape and transport, the study area will need to be wider. The extent of the study areas should be on the basis of recognised professional guidance and best practice, whenever this is available, and determined by establishing the physical extent of the likely impacts. The study areas should also be agreed with the relevant consultees and, where this is not possible, this should be stated clearly in the ES and a reasoned justification given.

Breadth of the Topic Area

The ES should explain the range of matters to be considered under each topic and this may respond partly to the type of project being considered. If the range considered is drawn narrowly then a justification for the approach should be provided.

Temporal Scope

The assessment should consider:

- environmental impacts during construction works
- environmental impacts on completion/operation of the development
- where appropriate, environmental impacts a suitable number of years after completion of the development (for example, in order to allow for traffic growth or maturing of any landscape proposals), and
- environmental impacts during decommissioning.

In terms of decommissioning, the SoS acknowledges that the further into the future any assessment is made, the less reliance may be placed on the outcome. However, the purpose of such a long term assessment, as well as to enable the decommissioning of the works to be taken into account, is to encourage early consideration as to how structures can be taken down. The purpose of this is to seek to minimise disruption, to re-use materials and to restore the site or put it to a suitable new use. The SoS encourages consideration of such matters in the ES.

The SoS recommends that these matters should be set out clearly in the ES and that the suitable time period for the assessment should be agreed with the relevant statutory consultees.

The SoS recommends that throughout the ES a standard terminology for time periods should be defined, such that for example, ‘short term’ always refers to the same period of time.

Baseline

The SoS recommends that the baseline should describe the position from which the impacts of the proposed development are measured. The baseline should be chosen carefully and, whenever possible, be consistent between topics. The identification of a single baseline is to be welcomed in terms of the approach to the assessment, although it is recognised that this may not always be possible.

The SoS recommends that the baseline environment should be clearly explained in the ES, including any dates of surveys, and care should be taken to ensure that all the baseline data remains relevant and up to date.

For each of the environmental topics, the data source(s) for the baseline should be set out together with any survey work undertaken with the dates. The timing and scope of all surveys should be agreed with the relevant statutory bodies and appropriate consultees, wherever possible.

The baseline situation and the proposed development should be described within the context of the site and any other proposals in the vicinity.

Identification of Impacts and Method Statement

Legislation and Guidelines

In terms of the EIA methodology, the SoS recommends that reference should be made to best practice and any standards, guidelines and legislation that have been used to inform the assessment. This should include guidelines prepared by relevant professional bodies.

In terms of other regulatory regimes, the SoS recommends that relevant legislation and all permit and licences required should be listed in the ES where relevant to each topic. This information should also be submitted with the application in accordance with the APFP Regulations.

In terms of assessing the impacts, the ES should approach all relevant planning and environmental policy – local, regional and national (and where appropriate international) – in a consistent manner.

Assessment of Effects and Impact Significance

The EIA Regulations require the identification of the 'likely significant effects of the development on the environment' (Schedule 4 Part 1 paragraph 20).

As a matter of principle, the SoS applies the precautionary approach to follow the Court's[2] reasoning in judging 'significant effects'. In other words

[2] See Landelijke Vereniging tot Behoud van de Waddenzee and Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretris van Landbouw (Waddenzee Case No C 127/02/2004)

'likely to affect' will be taken as meaning that there is a probability or risk that the development will have an effect, and not that a development will definitely have an effect.

The SoS considers it is imperative for the ES to define the meaning of 'significant' in the context of each of the specialist topics and for significant impacts to be clearly identified. The SoS recommends that the criteria should be set out fully and that the ES should set out clearly the interpretation of 'significant' in terms of each of the EIA topics. Quantitative criteria should be used where available. The SoS considers that this should also apply to the consideration of cumulative impacts and impact inter-relationships.

The SoS recognises that the way in which each element of the environment may be affected by the proposed development can be approached in a number of ways. However it considers that it would be helpful, in terms of ease of understanding and in terms of clarity of presentation, to consider the impact assessment in a similar manner for each of the specialist topic areas. The SoS recommends that a common format should be applied where possible.

Inter-relationships between environmental factors

The inter-relationship between aspects of the environments likely to be significantly affected is a requirement of the EIA Regulations (see Schedule 4 Part 1 of the EIA Regulations). These occur where a number of separate impacts, e.g. noise and air quality, affect a single receptor such as fauna.

The SoS considers that the inter-relationships between factors must be assessed in order to address the environmental impacts of the proposal as a whole. This will help to ensure that the ES is not a series of separate reports collated into one document, but rather a comprehensive assessment drawing together the environmental impacts of the proposed development. This is particularly important when considering impacts in terms of any permutations or parameters to the proposed development

Cumulative Impacts

The potential cumulative impacts with other major developments will need to be identified, as required by the Directive. The significance of such impacts should be shown to have been assessed against the baseline position (which would include built and operational development). In assessing cumulative impacts, other major development should be identified through consultation with the local planning authorities and other relevant authorities on the basis of those that are:

- under construction
- permitted application(s), but not yet implemented
- submitted application(s) not yet determined
- projects on the National Infrastructure's programme of projects

- identified in the relevant development plan (and emerging development plans - with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals will be limited, and
- identified in other plans and programmes (as appropriate) which set the framework for future development consents/approvals, where such development is reasonably likely to come forward.

Details should be provided in the ES, including the types of development, location and key aspects that may affect the EIA and how these have been taken into account as part of the assessment.

The SoS recommends that offshore wind farms should also take account of any offshore licensed and consented activities in the area, for the purposes of assessing cumulative effects, through consultation with the relevant licensing/consenting bodies.

For the purposes of identifying any cumulative effects with other developments in the area, applicants should also consult consenting bodies in other EU states to assist in identifying those developments (see commentary on Transboundary Effects below).

Related Development

The ES should give equal prominence to any development which is related with the proposed development to ensure that all the impacts of the proposal are assessed.

The SoS recommends that the applicant should distinguish between development for which development consent will be sought and any other development. This distinction should be clear in the ES.

Alternatives

The ES must set out an outline of the main alternatives studied by the applicant and provide an indication of the main reasons for the applicant's choice, taking account of the environmental effect (Schedule 4 Part 1 paragraph 18).

Matters should be included, such as *inter alia* alternative design options and alternative mitigation measures. The justification for the final choice and evolution of the scheme development should be made clear. Where other sites have been considered, the reasons for the final choice should be addressed.

The SoS advises that the ES should give sufficient attention to the alternative forms and locations for the off-site proposals, where appropriate, and justify the needs and choices made in terms of the form of the development proposed and the sites chosen.

Mitigation Measures

Mitigation measures may fall into certain categories namely: avoid; reduce; compensate or enhance (see Schedule 4 Part 1 paragraph 21); and should be identified as such in the specialist topics. Mitigation measures should not be developed in isolation as they may relate to more than one topic area. For each topic, the ES should set out any mitigation measures required to prevent, reduce and where possible offset any significant adverse effects, and to identify any residual effects with mitigation in place. Any proposed mitigation should be discussed and agreed with the relevant consultees.

The effectiveness of mitigation should be apparent. Only mitigation measures which are a firm commitment and can be shown to be deliverable should be taken into account as part of the assessment.

It would be helpful if the mitigation measures proposed could be cross referred to specific provisions and/or requirements proposed within the draft development consent order. This could be achieved by means of describing the mitigation measures proposed either in each of the specialist reports or collating these within a summary section on mitigation.

The SoS advises that it is considered best practice to outline in the ES, the structure of the environmental management and monitoring plan and safety procedures which will be adopted during construction and operation and may be adopted during decommissioning.

Cross References and Interactions

The SoS recommends that all the specialist topics in the ES should cross reference their text to other relevant disciplines. Interactions between the specialist topics is essential to the production of a robust assessment, as the ES should not be a collection of separate specialist topics, but a comprehensive assessment of the environmental impacts of the proposal and how these impacts can be mitigated.

As set out in EIA Regulations Schedule 4 Part 1 paragraph 23, the ES should include an indication of any technical difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.

Consultation

The SoS recommends that any changes to the scheme design in response to consultation should be addressed in the ES.

It is recommended that the applicant provides preliminary environmental information (PEI) (this term is defined in the EIA Regulations under regulation 2 ‘Interpretation’) to the local authorities.

Consultation with the local community should be carried out in accordance with the SoCC which will state how the applicant intends to consult on the

preliminary environmental information (PEI)). This PEI could include results of detailed surveys and recommended mitigation actions. Where effective consultation is carried out in accordance with Section 47 of the Planning Act, this could usefully assist the applicant in the EIA process – for example the local community may be able to identify possible mitigation measures to address the impacts identified in the PEI. Attention is drawn to the duty upon applicants under Section 50 of the Planning Act to have regard to the guidance on pre-application consultation.

Transboundary Effects

The SoS recommends that consideration should be given in the ES to any likely significant effects on the environment of another Member State of the European Economic Area. In particular, the SoS recommends consideration should be given to discharges to the air and water and to potential impacts on migratory species and to impacts on shipping and fishing areas.

The Applicant's attention is also drawn to the Planning Inspectorate's Advice Note 12 'Development with significant transboundary impacts consultation' which is available on the Advice Notes Page of the National Infrastructure Planning's website

Summary Tables

The SoS recommends that in order to assist the decision making process, the applicant may wish to consider the use of tables:

Table X to identify and collate the residual impacts after mitigation on the basis of specialist topics, inter-relationships and cumulative impacts.

Table XX to demonstrate how the assessment has taken account of this Opinion and other responses to consultation.

Table XXX to set out the mitigation measures proposed, as well as assisting the reader, the SoS considers that this would also enable the applicant to cross refer mitigation to specific provisions proposed to be included within the draft Development Consent Order.

Table XXXX to cross reference where details in the HRA (where one is provided) such as descriptions of sites and their locations, together with any mitigation or compensation measures, are to be found in the ES.

Terminology and Glossary of Technical Terms

The SoS recommends that a common terminology should be adopted. This will help to ensure consistency and ease of understanding for the decision making process. For example, 'the site' should be defined and used only in

terms of this definition so as to avoid confusion with, for example, the wider site area or the surrounding site.

A glossary of technical terms should be included in the ES.

Presentation

The ES should have all of its paragraphs numbered, as this makes referencing easier as well as accurate.

Appendices must be clearly referenced, again with all paragraphs numbered.

All figures and drawings, photographs and photomontages should be clearly referenced. Figures should clearly show the proposed site application boundary.

Bibliography

A bibliography should be included in the ES. The author, date and publication title should be included for all references. All publications referred to within the technical reports should be included.

Non Technical Summary

The EIA Regulations require a Non Technical Summary (EIA Regulations Schedule 4 Part 1 paragraph 22). This should be a summary of the assessment in simple language. It should be supported by appropriate figures, photographs and photomontages.