APPENDIX 1B: SCOPING OPINION

The Planning Inspectorate
Yr Arolygiaeth Gynllunio

SCOPING OPINION:

Proposed South Humber Bank Energy Centre

Case Reference: EN010107

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

October 2019

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CONTENTS

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1. INTRODUCTION

1.1 Background

1.1.1 On 21 August 2019, the Planning Inspectorate (the Inspectorate) on behalf of the Secretary of State (SoS) received a scoping request from EP UK Investments Limited (the Applicant) under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) for the proposed South Humber Energy Centre (the Proposed Development).

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

1.1.3 This document is the Scoping Opinion (the Opinion) provided by the Inspectorate on behalf of the SoS in respect of the Proposed Development. It is made on the basis of the information provided in the Applicant's report entitled South Humber Bank Energy Centre Development Consent Order Environmental Impact Assessment Scoping Report (the Scoping Report). This Opinion can only reflect the proposals as currently described by the Applicant. The Scoping Opinion should be read in conjunction with the Applicant's Scoping Report.

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

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

(a) any information provided about the proposed development;

(b) the specific characteristics of the development;

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

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

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

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

1.1.8 The points addressed by the Applicant in the Scoping Report have been carefully considered and use has been made of professional judgement and experience in order to adopt this Opinion. It should be noted that when it comes to consider the ES, the Inspectorate will take account of relevant legislation and guidelines. The Inspectorate will not be precluded from requiring additional information if it is considered necessary in connection with the ES submitted with the application for a Development Consent Order (DCO).

1.1.9 This Opinion should not be construed as implying that the Inspectorate agrees with the information or comments provided by the Applicant in their request for an opinion from the Inspectorate. In particular, comments from the Inspectorate in this Opinion are without prejudice to any later decisions taken (eg on submission of the application) that any development identified by the Applicant is necessarily to be treated as part of a Nationally Significant Infrastructure Project (NSIP) or Associated Development or development that does not require development consent.

1.1.10 Regulation 10(3) of the EIA Regulations states that a request for a scoping opinion must include:

(a) a plan sufficient to identify the land;

(b) a description of the proposed development, including its location and technical capacity;

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

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

1.1.11 The Inspectorate considers that this has been provided in the Applicant's Scoping Report. The Inspectorate is satisfied that the Scoping Report encompasses the relevant aspects identified in the EIA Regulations.

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

1.1.13 The Inspectorate notes the potential need to carry out an assessment under The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations). This assessment must be co-ordinated with the EIA in accordance with Regulation 26 of the EIA Regulations. The Applicant's ES should therefore be co-ordinated with any assessment made under the Habitats Regulations.

1.2 The Planning Inspectorate's Consultation

1.2.1 In accordance with Regulation 10(6) of the EIA Regulations the Inspectorate has consulted the consultation bodies before adopting a Scoping Opinion (Opinion). A list of the consultation bodies formally consulted by the Planning Inspectorate (the Inspectorate) is provided at Appendix 1. The consultation bodies have been notified under Regulation 11(1)(a) of the duty imposed on them by Regulation 11(3) of the EIA Regulations to make information available to the Applicant relevant to the preparation of the Environmental Statement (ES). The Applicant should note that whilst the list can inform their consultation, it should not be relied upon for that purpose.

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

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

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

1.3 Article 50 of the Treaty on European Union

1.3.1 The European Union (Withdrawal) Act 2018 came in to force on 26 June 2018. This provides that existing EU law will be retained in accordance with s5(2) and s(6) from the point of exit and this opinion is provided on that basis. Relevant EU Directives have been transposed into UK law and those are unchanged until amended by Parliament.

2. THE PROPOSED DEVELOPMENT

2.1 Introduction

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

2.2 Description of the Proposed Development

2.2.1 The Applicant's description of the Proposed Development, its location and technical capacity (where relevant) is provided in Scoping Report sections 2 and 3. The Proposed Development is for a generating station with over 50 MW generating capacity, the Applicant is seeking a Development Consent Order (DCO) under the Planning Act 2008 (PA2008).

2.2.2 The Proposed Development is a power station which will generate electricity from the combustion of refuse derived fuel (RDF). The main components of the development include a fuel reception hall, boiler house, flue gas treatment hall, turbine hall and administration block. There would be up to two emission stacks and an air-cooled condenser adjacent to the turbine hall. The design capacity is 616,500 tonnes of RDF per annum rising to a maximum of 753,500 tonnes, depending on the net calorific value of the RDF.

2.2.3 The Proposed Development site is located within the South Humber Bank Power Station (SHBPS) site off South Marsh Road, Stallingborough, North East Lincolnshire. It is approximately 175m to the west of the Humber Estuary. The Oldfleet Drain is located approximately 300m south of the development site. Access to the site is from South Marsh Road. The A160 is located approximately 2km to the west of the development site.

2.2.4 The land uses within the proposed DCO Order limitscomprise the existing SHBPS and a vegetated area currently used as the route for the SHBPS cooling water pipes and other services. The land is largely flat and stands around 2m Above Ordnance Datum (AOD). Drainage ditches run along the northern, eastern and southern site boundaries.

2.2.5 There is an extant planning permission on the Proposed Development site for a similar power station with a generating capacity of 49.9MW. The DCO application would be for a power station with a generating capacity of 95MW. The Proposed Development will include design elements that are consistent with those that comprise the extant planning permission. However, the Proposed Development will differ in several ways from the extant planning permission as follows:

- the proposed air conditioning condenser would be increased in size;

- the cooling capacity of the generator would be increased by installing additional heat exchangers as part of the closed-circuit cooling water system;
- an additional generator transformer would be installed; and
- there would be additional ancillary works required such as the installation of new cables and pipes.

2.2.6 Paragraph 3.4.1 of the Scoping Report explains that the Applicant intends to commence construction of the 49.9MW power station in accordance with the extant planning permission in early 2020 with the works anticipated to last approximately three years.

2.2.7 However, although this is the Applicant's preferred approach, the Scoping Report notes that no construction activities may begin until after the DCO was granted. It therefore proposes that the assessments in the ES will also consider two other scenarios – one where the Proposed Development would be constructed immediately following the grant of the DCO and one where the Proposed Development would be constructed any time up to five years after the grant of the DCO.

2.2.8 The Scoping Report indicates that the similarities between the consented power station and the Proposed Development are such that assessments in the ES that accompanied the consented power station application may be relevant to the Proposed Development.

2.3 The Planning Inspectorate's Comments

Description of the Proposed Development

2.3.1 The Inspectorate notes that the relationship between the extant planning permission and the Proposed Development present complexities to the Applicant's approach to their assessment. The Inspectorate acknowledges the desire on the part of the Applicant to reproduce and rely upon information used to inform the ES for the consented power station. However, the Applicant should take care to ensure that the ES which accompanies the application for the Proposed Development is sufficiently robust and has the information necessary to support the examination and to make a reasoned conclusion. It is essential that the ES includes a clear description of the Proposed Development and the relationship it has with the consented power station, including precise detail on how it differs.

2.3.2 The Applicant should ensure that the Proposed Development described within the ES and included in the DCO are consistent. The relationship with the existing planning permission is relevant in this regard and the Applicant should consider how requirements applicable to the existing planning permission will be secured in the DCO where they relate and where they are required. The timing of commencement and the relationship between consents (requirements and conditions) will be a key consideration in this respect and the ES should clearly explain how they interact and are secured.

2.3.3 The Inspectorate notes that the stack height for the Proposed Development will be the same as the stack height specified in the extant planning permission. If this changes, for instance as a result of discussions with the Environment Agency (EA) on permitting matters, the assessments in the ES, particularly the landscape and visual impact assessment, should be updated.

2.3.4 The ES should include the following:

- a description of the Proposed Development comprising at least the information on the site, design, size and other relevant features of the development;
- a description of the location of the development and description of the physical characteristics of the whole development, including any requisite demolition works and the land-use requirements during construction and operation phases;
- details of the proposed access points for construction and operation of the proposed development;
- a description of the works likely to be involved in decommissioning;
- a description of the processes which will be undertaken at the site during operation;
- information on the energy demand and the energy used/produced during operation; and
- information on the nature and quantity of materials and natural resources used.

2.3.5 Any likely significant effects associated with the matters listed under paragraph 2.3.4 above should be fully assessed and reported in the ES. The Applicant should ensure that all the information necessary to assess and examine the Proposed Development is contained in the ES and any associated appendices and not dispersed across various documents.

Alternatives

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

2.3.7 The Inspectorate acknowledges the Applicant's intention to consider alternatives within the ES. The Inspectorate would expect to see a discrete section in the ES that provides details of the reasonable alternatives studied and the reasoning for the selection of the chosen option, including a comparison of the environmental effects. The 'do nothing' scenario should cover both the situations where no development occurs on the site and where the existing planning permission is implemented.

Flexibility

2.3.8 The Inspectorate notes the Applicant's desire to incorporate flexibility into their DCO and its intention to apply a Rochdale Envelope approach for this purpose. Where the details of the Proposed Development cannot be defined precisely, the Applicant will apply a worst-case scenario. The Applicant's attention is drawn to the Inspectorate's Advice Note Nine 'Using the 'Rochdale Envelope', which provides details on the recommended approach to follow when incorporating flexibility into a DCO.

2.3.9 The Scoping Report describes three potential construction scenarios which would be assessed in the ES:

- construction of the Proposed Development beginning in Quarter 1 of 2020 with the additional works consented under a DCO completed in the same three year construction period;

- construction of the Proposed Development beginning immediately after a DCO was granted (and not relying on the existing planning permission); and

- construction of the Proposed Development up to five years after the DCO was granted (and not relying on the existing planning permission).

2.3.10 The Scoping Report states that the assessments in the ES would identify which of the three scenarios listed above represented the worst-case scenario for each aspect of the environment and then assess the effects of that scenario. However, where no single scenario represents the worst case, more than one scenario would be assessed.

2.3.11 The ES should provide a clear justification as to why a particular scenario represents the worst-case scenario for a particular aspect of the environment. One scenario might represent the worst case in terms of spatial effects while another might represent the worst case for temporal effects. The Applicant should ensure that the ES addresses the full range of worst-case scenarios which could arise as a result of the DCO being implemented, taking into account the fact that some scenarios may be mutually exclusive.

2.3.12 The Applicant should make every attempt to narrow the range of options and explain clearly in the ES which elements of the Proposed Development have yet to be finalised and provide the reasons. At the time of application, any Proposed Development parameters should not be so wide-ranging as to represent effectively different developments. The development parameters will need to be clearly defined in the DCO and in the accompanying ES. It is a matter for the Applicant, in preparing an ES, to consider whether it is possible to robustly assess a range of impacts resulting from a large number of undecided parameters. The description of the Proposed Development in the ES must not be so wide that it is insufficiently certain to comply with the requirements of Regulation 14 of the EIA Regulations.

2.3.13 It should be noted that if the Proposed Development materially changes prior to submission of the DCO application, the Applicant may wish to consider requesting a new scoping opinion.

3. ES APPROACH

3.1 Introduction

3.1.1 This section contains the Inspectorate's specific comments on the scope and level of detail of information to be provided in the Applicant's ES. General advice on the presentation of an ES is provided in the Inspectorate's Advice Note Seven 'Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements'[1] and associated appendices.

3.1.2 Aspects/ matters (as defined in Advice Note Seven) are not scoped out unless specifically addressed and justified by the Applicant and confirmed as being scoped out by the Inspectorate. The ES should be based on the Scoping Opinion in so far as the Proposed Development remains materially the same as the Proposed Development described in the Applicant's Scoping Report.

3.1.3 The Inspectorate has set out in this Opinion where it has/ has not agreed to scope out certain aspects/ matters on the basis of the information available at this time. The Inspectorate is content that the receipt of a Scoping Opinion should not prevent the Applicant from subsequently agreeing with the relevant consultees to scope such aspects/ matters out of the ES, where further evidence has been provided to justify this approach. However, in order to demonstrate that the aspects/ matters have been appropriately addressed, the ES should explain the reasoning for scoping them out and justify the approach taken.

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

3.2 Relevant National Policy Statements (NPSs)

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

3.2.2 The designated NPSs relevant to the Proposed Development are the:

- Overarching NPS For Energy (NPS EN-1);
- NPS on Renewable Energy Infrastructure (NPS EN-3);

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

3.3 Scope of Assessment

General

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

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

3.3.2 The Scoping Report makes frequent references to reviews of the work carried out for the EIA for the existing planning permission covering the site of the Proposed Development. The Inspectorate agrees that it is sensible to re-use the work already carried out but advises that it must be reported in full in the ES. Where an assessment carried out for the existing planning permission is being updated, the whole assessment should be reported and not simply the update. The ES must demonstrate that assessments undertaken for the existing planning permission are adequate for the assessment of the effects of the Proposed Development.

Baseline Scenario

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

3.3.4 The Inspectorate notes the intention to assess the effects of the Proposed Development against the existing baseline, where the existing planning permission has not been implemented and against a future baseline where it has. This approach is welcomed.

3.3.5 Where the assessment uses baseline data gathered for the existing planning permission, the Applicant should ensure that it is up to date and appropriate for use in the assessment of the effects of the Proposed Development. It should be fully reported in the ES (or in an associated appendix). The methods used to collect the data should be clearly explained in the ES.

Forecasting Methods or Evidence

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

3.3.7 The Inspectorate expects the ES to include a chapter setting out the overarching methodology for the assessment, which clearly distinguishes effects that are 'significant' from 'non-significant' effects. Any departure from that methodology should be described in individual aspect assessment chapters.

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

Residues and Emissions

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

Mitigation

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

3.3.11 Where the conclusions of the ES rely on plans or strategies such as drainage strategies or traffic management plans, at least a minimum specification of the actions proposed should be provided to give confidence about the nature and implementation of the measures.

3.3.12 The Scoping Report states that the technical chapters of the ES will include a section on mitigation and enhancement measures. NPS EN-1 requires the decision maker to consider the mitigation measures proposed and to determine if additional measures are required. The ES should therefore draw a distinction between measures necessary to mitigate the significant effects of the Proposed Development and those that are provided for any other purpose e.g. compensation or environmental enhancement.

Risks of Major Accidents and/or Disasters

3.3.13 The ES should include a description and assessment (where relevant) of the likely significant effects resulting from accidents and disasters applicable to the Proposed Development. The Applicant should make use of appropriate guidance (e.g. that referenced in the Health and Safety Executives (HSE) Annex to Advice

Note 11) to better understand the likelihood of an occurrence and the Proposed Development's susceptibility to potential major accidents and hazards. The description and assessment should consider the vulnerability of the Proposed Development to a potential accident or disaster and also the Proposed Development's potential to cause an accident or disaster. The assessment should specifically assess significant effects resulting from the risks to human health, cultural heritage or the environment. Any measures that will be employed to prevent and control significant effects should be presented in the ES.

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

Climate and Climate Change

3.3.15 The ES should include a description and assessment (where relevant) of the likely significant effects the Proposed Development has on climate (for example having regard to the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change. Where relevant, the ES should describe and assess the adaptive capacity that has been incorporated into the design of the Proposed Development. This may include, for example, alternative measures such as changes in the use of materials or construction and design techniques that will be more resilient to risks from climate change.

Transboundary Effects

3.3.16 Schedule 4 Part 5 of the EIA Regulations requires a description of the likely significant transboundary effects to be provided in an ES. The Scoping Report has not indicated whether the Proposed Development is likely to have significant impacts on another European Economic Area (EEA) State.

3.3.17 Regulation 32 of the EIA Regulations inter alia requires the Inspectorate to publicise a DCO application on behalf of the SoS if it is of the view that the proposal is likely to have significant effects on the environment of another EEA state, and where relevant, to consult with the EEA state affected.

3.3.18 The Inspectorate considers that where Regulation 32 applies, this is likely to have implications for the examination of a DCO application. The Inspectorate recommends that the ES should identify whether the Proposed Development has the potential for significant transboundary impacts and if so, what these are and which EEA States would be affected.

A Reference List

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

3.4 Confidential Information

3.4.1 In some circumstances it will be appropriate for information to be kept confidential. In particular, this may relate to information about the presence and locations of rare or sensitive species such as badgers, rare birds and plants where disturbance, damage, persecution or commercial exploitation may result from publication of the information. Where documents are intended to remain confidential the Applicant should provide these as separate paper and electronic documents with their confidential nature clearly indicated in the title and watermarked as such on each page. The information should not be incorporated within other documents that are intended for publication or which the Inspectorate would be required to disclose under the Environmental Information Regulations 2004.

4. ASPECT BASED SCOPING TABLES

4.1 Air quality

(Scoping Report section 7.2)

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

ID	Ref	Other points	Inspectorate's comments
4.1.2	7.2.2	Emissions to air	The ES should include information to support and justify the choice of pollutants included in the assessment.
4.1.3	7.2.25	Emissions to air	The Applicant's air quality assessment should take into account any proposals from relevant Environment Act 1995 Directions and how this may affect the Proposed Development during both construction and operation.
4.1.4	7.2.25	Detailed dispersion modelling	The Applicant should ensure that the modelling is appropriate for the development now proposed and takes account of the increased generating capacity. The Applicant should seek to agree its approach to modelling air quality effects with the relevant statutory bodies, including the EA.
4.1.5	7.2.25	Carbon dioxide emissions	The ES should assess the impacts of all greenhouse gas emissions over the lifetime of the Proposed Development where these are likely to lead to significant environmental effects.

ID	Ref	Other points	Inspectorate's comments
4.1.6	7.2.25	Human Health Risk Assessment	The Applicant should ensure that the scope of the updated assessment addresses all the relevant emissions from the Proposed Development which could result in significant effects on human health receptors.
4.1.7	7.2.25	Mitigation	The ES should include details of the mitigation measures proposed and how these would be delivered, taking into account the increased generation capacity. The Applicant should seek to agree the mitigation measures required with the relevant statutory bodies, including the EA. The Applicant may wish to consider parallel tracking of the DCO application and the environmental permit application as advised by the EA (see Appendix 2 of this Opinion).

4.2 Noise and vibration

(Scoping Report section 7.3)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.2.1	7.3.15	Operational ground vibration	The Scoping Report states that the Proposed Development is not likely to be a source of significant ground borne vibration and the only receptors within 500m are industrial plants; any vibration from the Proposed Development would be negligible. However, as no evidence has been provided to support this statement, the Inspectorate is not in a position to agree to scope out these matters from the assessment. Accordingly, the ES should include an assessment of these matters where a likely significant environmental effect may occur.

ID	Ref	Other points	Inspectorate's comments
4.2.2	7.3.3.	Ecological receptors	The Scoping Report identifies several Local Wildlife Sites and Sites of Nature Conservation Importance in the vicinity of the Proposed Development (paragraphs 2.1.16 – 2.1.17) but does not explain if these sites would be affected by noise or vibration from the Proposed Development. The ES should provide a justification for the ecological and human receptors considered in the assessment.
4.2.3	7.3.17	Agreement with local authority Environmental Health Officer (EHO) on the scope of the assessment	The Applicant is advised to include evidence of any agreement with the local authority EHO in their ES.
4.2.4	7.3.18	Noise Policy Statement for England	The ES should define No Observed Effect Levels, Lowest Observed Adverse Effect Levels and Significant Observed Adverse Effect Levels

ID	Ref	Other points	Inspectorate's comments
			which are appropriate for the noise sources and sensitivity of receptors considered in the assessment.

4.3 Landscape and visual amenity

(Scoping Report section 7.4)

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

ID	Ref	Other points	Inspectorate's comments
4.3.2	7.4.13	Scope of the study area	The Inspectorate notes that the Zone of Theoretical Visibility model for the extant planning permission will be reviewed for the purposes of the assessment in the ES. The ES should clearly explain how the zone of influence for the Proposed Development has been defined and how this has been reflected in the definition of the study area.
4.3.3	7.4.14	Location of representative viewpoints and photomontages.	The intention to agree the location of representative views and photomontages with consultees is welcomed. The ES should include evidence of any such agreement. It is noted that the locations are expected to be the same as for the assessment of the extant planning permission. The Applicant should ensure that the viewpoints and photomontages are adequate to allow an assessment of the impacts of the Proposed Development and takes account of the structures associated with the increased generating capacity.

4.4 Traffic and transportation

(Scoping Report section 7.5)

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

ID	Ref	Other points	Inspectorate's comments
4.4.2	7.5.6	Study area	The Inspectorate notes that the study area for the existing planning permission was agreed with North East Lincolnshire Council (NELC). However, the Scoping Report does not explain the reasoning behind the definition of the study area. The ES should provide a clear justification as to why the study area chosen is sufficient to address the extent of the likely impacts resulting from the Proposed Development. The Applicant is advised to seek agreement with NELC and Highways England on the scope of the study area. If agreement is reached with either body, evidence should be included in the ES.
4.4.3	7.5.19	Range of impacts	The Scoping Report refers to updates of the baseline data for traffic and accidents but does not explain if any other impacts on the road network would be considered. The ES must identify the individual impacts considered (such as severance or driver delay) in addition to the changes in traffic flow. The Applicant should ensure that the guidance used to support the assessment is robust and appropriate to support the assessment of likely significant effects. If the guidance applied to the assessment is superseded the ES should explain the reasons why the conclusions in the ES are still valid.
4.4.4	7.5.14	Generation of traffic during operation	The ES should explain how many vehicle movements are expected to be generated during operation both from staff travelling to and from

ID	Ref	Other points	Inspectorate's comments
			the development site and from likely maintenance operations and assess impacts where a likely significant effect may occur.
4.4.5	7.5.19	Updated baseline data	The Scoping Report states that no additional baseline surveys are expected to be required but does not explain how the baseline would be updated. The ES should explain how any updates to the baseline data have been derived.
4.4.6	7.5.20	Updated Transport Assessment (TA)	The updated TA should include an assessment of the impact on the operational railway and level crossing located on South Marsh Road, as advised by Network Rail (see Appendix 2 of this Opinion).
4.4.7	7.5.22	Mitigation	The Applicant is referred to the advice on mitigation provided in section 3 of this Opinion.

4.5 Ecology and nature conservation

(Scoping Report section 7.6)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.5.1	7.6.2	Phase 2 botanical survey	It is noted that the Phase 1 habitat survey already carried out provides a detailed species list which will be updated in September 2019. The Inspectorate therefore agrees that further botanical surveys can be scoped out.
4.5.2	7.6.2	Surveys for wintering birds	The Scoping Report states that there is already sufficient data on bird usage of the affected fields and further surveys would add little new information. In addition, this approach was agreed with Natural England during consultation on the EIA for the extant planning permission. The Inspectorate agrees that further surveys can be scoped out, provided the ES contains sufficient information on the wintering bird populations to allow an assessment of likely significant effects.
4.5.3	7.6.2	Surveys for breeding birds	The Scoping Report states that there is little suitable habitat available on the site which could support breeding bird populations. However, there is little supporting evidence in the Scoping Report. The Inspectorate does not agree to this matter being scoped out and an assessment of any likely significant effects associated with this matter should be included in the ES.
4.5.4	7.6.2	Surveys for badgers	The Scoping Report states that there is little suitable habitat available on the site which could support badgers. However, there is little supporting evidence in the Scoping Report to support this statement. The Inspectorate does not agree to this matter being scoped out unless the ES can provide evidence which supports the position that significant environmental effects on badgers are unlikely.

ID	Ref	Other points	Inspectorate's comments
4.5.5	Table 7.10/7.6.3	Ecological surveys already completed	The ES should explain how the study areas used for the different ecological receptors relates to the zone of influence of the Proposed Development.
4.5.6	7.6.13	Potential impacts on ecological features	The list of potential impacts does not appear to include: • effects associated with decommissioning; • operational effects on aquatic habitats and water quality in the surrounding ditches; and • temporary air quality effects resulting from plant and vehicle movements during construction. The ES should assess the effects resulting from these impacts where a likely significant environmental effect would occur.
4.5.7	7.6.18	Update of the ecological impact assessment for the consented development	The updated ecological impact assessment must take account of the additional generating capacity and its associated effects. The Applicant is advised to agree the scope of the assessment of effects on the Humber Estuary Special Protection Area/Ramsar/Site of Special Scientific Interest with Natural England.

4.6 Geology, hydrology and land contamination

(Scoping Report section 7.8)

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

ID	Ref	Other points	Inspectorate's comments
4.6.2	7.8.3/7.8.32	Definition of the study area	The ES should explain how the study area has been defined, how this relates to the zone of influence of the Proposed Development and why it is sufficient to address the extent of the impacts associated with the Proposed Development.
4.6.3	7.8.38	Assessment of land contamination	It is noted that the assessment of potential impacts would follow the relevant statutory guidance and the Contaminated Land Report 11: Model Procedures for the Management of Land Contamination. The Applicant is advised to agree the approach to assessing land contamination with the EA.
4.6.4	7.8.39	Mitigation measures	The Applicant is referred to the advice on mitigation provided in section 3 of this Opinion.

4.7 Cultural heritage

(Scoping Report section 7.9)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
4.7.1	7.9.9	Impacts on below ground archaeology	The Scoping Report states that potential effects on below ground archaeology are proposed to be scoped out because the site had previously been scraped as part of the construction of the SHBPS. The advice from Historic England points out that changes in drainage patterns can also affect buried remains. This raises the possibility that buried remains beyond the boundary of the Proposed Development could be affected by changes in drainage patterns. The Inspectorate does not agree therefore that effects on below ground archaeology can be scoped out for the areas beyond the boundaries of the Proposed Development. The ES should assess impacts resulting from changes in the existing drainage regime on archaeological features outside of the Proposed Development site where significant effects are likely to occur.

ID	Ref	Other points	Inspectorate's comments
4.7.2	7.9.2/7.9.12	Study area/identification of receptors	In their consultation response Historic England have identified a number of designated historic features which they think could be affected by the Proposed Development (while noting that the list is not exhaustive) (see Appendix 2 of this Opinion). The study area in the ES should be established to the relevant zone of influence associated with the Proposed Development, particularly in relation to effects on the setting of historic features.

4.8 Water resources, flood risk and drainage

(Scoping Report section 7.10)

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

ID	Ref	Other points	Inspectorate's comments
4.8.2	7.10.19/20	Potential impacts during construction and operation	The ES should also consider whether the Proposed Development would lead to alterations in the drainage patterns around the site (see item 4.7.1 above).
4.8.3	7.10.22	Mitigation	See advice on mitigation provided in section 3 of this Opinion.

4.9 Socioeconomics

(Scoping Report section 7.11)

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

ID	Ref	Other points	Inspectorate's comments
4.9.2	n/a	n/a	No comments on this section.

4.10 Waste management

(Scoping Report section 7.12)

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

ID	Ref	Other points	Inspectorate's comments
4.10.2	7.12.9 - 12	Scope of the waste management assessment	The intention appears to be to update the assessment presented in the ES for the existing planning permission. However, as the Scoping Report mainly provides information on the outcome of the assessment rather than the impacts assessed or the process of assessment, it is unclear what the scope of that assessment would be. The assessment in the ES must be structured in the way described in section 6.3 of the Scoping Report. The study area and impacts assessed must be clearly explained and justified. Advice on dealing with mitigation measures is provided in section 3 of this Opinion.

4.11 Cumulative and combined effects

(Scoping Report section 7.13)

ID	Ref	Other points	Inspectorate's comments
4.11.1	7.13.1	Geographical scope	The ES should explain how impacts can interact over different geographical scales depending on different environmental conditions and the sensitivity of the receptor under consideration.
4.11.2	7.13.2	Cumulative effects of the extant planning permission and the Proposed Development	The Scoping Report states that the cumulative effects of the extant planning permission and the Proposed Development will not be assessed. The assessment of the effects of the Proposed Development alone will encompass the effects from the extant planning permission. The Inspectorate agrees with this approach.
4.11.3	7.13.15	Review of developments to be included in the Cumulative Effects Assessment (CEA)	The Applicant should have regard to the advice in the Inspectorate's Advice Note 17 Cumulative Effects Assessment, when determining which developments to include in the CEA.
4.11.4	-	Nature of the CEA	The CEA should be quantitative rather than qualitative where it is necessary to provide confidence in the findings on likely significant effects.

4.12 Non-significant environmental issues

(Scoping Report section 8.0)

ID	Ref	Applicant's proposed aspects to scope out	Inspectorate's comments
4.12.1	8.2	Aviation	The Scoping Report states that aviation was scoped out of the EIA for the existing planning permission on the grounds that Humberside Airport said they would not object unless the stack height was greater than 171m and provided it had appropriate lighting. The stacks for the Proposed Development will be the same height as those consented through the existing planning permission (102m). The existing planning permission requires the installation of aviation lighting at the top of the stack. The Applicant expects to include a similar requirement in the DCO. The Inspectorate agrees that this matter can be scoped out of the ES, provided any impacts associated with the aviation lighting are assessed in the ES chapters dealing with landscape and visual impacts, cultural heritage and ecology.
4.12.2	8.3	Electronic interference	The Scoping Report seeks to scope out this matter of the environment on the grounds that the height and mass of buildings in the proposed development and the lack of nearby residential development makes it unlikely to affect radio and television signals. The Inspectorate agrees that this matter can be scoped out of further assessment.
4.12.3	8.4	Accidental events/health and safety	The Scoping Report seeks to scope out this aspect because effects from accidents such as fuel spillages will be discussed in the relevant chapters of the ES. The majority of emergency response plans and contingency measures would be implemented through an environmental permit for the Proposed Development. In addition, it would be designed to meet the requirements of the Health and Safety

ID	Ref	Applicant's proposed aspects to scope out	Inspectorate's comments
			Executive in relation to the maximum number of occupants and number of occupied storeys for an HSE Inner Zone. The HSE was consulted on the existing planning permission; the proposed development would not result in any impacts on nearby hazardous installations over and above those already discussed with the HSE. The Inspectorate agrees that it is appropriate to describe the effects of incidents such as fuel spillage in the relevant chapters of the ES. However, in the absence of evidence demonstrating clear agreement with relevant statutory bodies, the Inspectorate is not in a position to agree to scope matters relating to major incidents from the assessment. The Applicant is advised to refer to the advice in section 3 of this opinion on major accidents and disasters and to take the advice from the Health and Safety Executive (HSE) into account (see Appendix 2 of this Opinion).
4.12.4	8.5	Major incidents and natural disasters	As noted above, the Inspectorate does not currently agree to scoping out of the assessment any major incidents which could result from the operation of the proposed development. The Scoping Report states that where relevant, issues such as severe weather would be considered in the technical assessments scoped into the ES. The Inspectorate accepts this approach but advises that the ES should clearly signpost the sections of technical assessments which are dealing with the vulnerability of the Proposed Development to major incidents and disasters and any consequential effects. The Applicant is referred to the advice given above under item 4.12.3.
4.12.5	8.6	Sustainability and climate change	The Scoping Report states that sustainability and climate change matters will be reported in the appropriate chapters in the ES, with the main considerations being increased flood risk linked to climate change, carbon dioxide emissions and the generation of renewable energy. The Inspectorate agrees with this approach but advises that the ES should clearly signpost the sections of the relevant chapters

ID	Ref	Applicant's proposed aspects to scope out	Inspectorate's comments
			which are dealing with climate and climate change. The Applicant is referred to the advice given in section 3 and Table 4.1 of this Opinion.

5. INFORMATION SOURCES

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

- Pre-application prospectus[2]
- Planning Inspectorate advice notes[3]:
  - Advice Note Three: EIA Notification and Consultation;
  - Advice Note Four: Section 52: Obtaining information about interests in land (Planning Act 2008);
  - Advice Note Five: Section 53: Rights of Entry (Planning Act 2008);
  - Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements;
  - Advice Note Nine: Using the 'Rochdale Envelope';
  - Advice Note Ten: Habitat Regulations Assessment relevant to nationally significant infrastructure projects (includes discussion of Evidence Plan process);
  - Advice Note Twelve: Transboundary Impacts;
  - Advice Note Seventeen: Cumulative Effects Assessment; and
  - Advice Note Eighteen: The Water Framework Directive.

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

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

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

APPENDIX 1: CONSULTATION BODIES FORMALLY CONSULTED

TABLE A1: PRESCRIBED CONSULTATION BODIES[4]

SCHEDULE 1 DESCRIPTION	ORGANISATION
The Health and Safety Executive	Health and Safety Executive
The National Health Service Commissioning Board	NHS England
The relevant Clinical Commissioning Group	North East Lincolnshire Clinical Commissioning Group
Natural England	Natural England
The Historic Buildings and Monuments Commission for England	Historic England - East Midlands
The relevant fire and rescue authority	Humberside Fire & Rescue Service
The relevant police and crime commissioner	Humberside Police & Crime Commissioner
The relevant parish council(s) or, where the application relates to land [in] Wales or Scotland, the relevant community council	Stallingborough Parish Council
The Environment Agency	The Environment Agency
The Relevant Highways Authority	North East Lincolnshire County Council
The relevant strategic highways company	Highways England - Midlands
The relevant internal drainage board	North East Lindsey Internal Drainage Board
Public Health England, an executive agency of the Department of Health	Public Health England

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

TABLE A2: RELEVANT STATUTORY UNDERTAKERS[5]

STATUTORY UNDERTAKER	ORGANISATION
The Crown Estate Commissioners	The Crown Estate
The Secretary of State for Defence	Ministry of Defence
The relevant Clinical Commissioning Group	North East Lincolnshire Clinical Commissioning Group
The National Health Service Commissioning Board	NHS England
The relevant NHS Trust	Yorkshire Ambulance Service NHS Trust
Railways	Network Rail Infrastructure Ltd
	Highways England Historical Railways Estate
Universal Service Provider	Royal Mail Group
Homes and Communities Agency	Homes England
The relevant Environment Agency	The Environment Agency
The relevant water and sewage undertaker	Anglian Water
The relevant public gas transporter	Cadent Gas Limited
	Energy Assets Pipelines Limited
	ES Pipelines Ltd
	ESP Connections Ltd
	ESP Networks Ltd
	ESP Pipelines Ltd
	Fulcrum Pipelines Limited
	Harlaxton Gas Networks Limited

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

STATUTORY UNDERTAKER	ORGANISATION
	GTC Pipelines Limited
	Independent Pipelines Limited
	Indigo Pipelines Limited
	Murphy Gas Networks limited
	Quadrant Pipelines Limited
	National Grid Gas Plc
	Scotland Gas Networks Plc
	Southern Gas Networks Plc
The relevant electricity distributor with CPO powers	South Humber Bank Power Station
	Eclipse Power Network Limited
	Energetics Electricity Limited
	Energy Assets Networks Limited
	Energy Assets Power Networks Limited
	ESP Electricity Limited
	Fulcrum Electricity Assets Limited
	Harlaxton Energy Networks Limited
	Independent Power Networks Limited
	Leep Electricity Networks Limited
	Murphy Power Distribution Limited
	The Electricity Network Company Limited
	UK Power Distribution Limited
	Utility Assets Limited
	Vattenfall Networks Limited
	Northern Powergrid (Yorkshire) plc
	National Grid Electricity Transmission Plc

TABLE A3: SECTION 43 CONSULTEES (FOR THE PURPOSES OF SECTION 42(1)(B))[6]

LOCAL AUTHORITY[7]
North East Lincolnshire Council
East Lindsey District Council
Lincolnshire County Council
North Lincolnshire Council
West Lindsey District Council

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

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

APPENDIX 2: RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES

CONSULTATION BODIES WHO REPLIED BY THE STATUTORY DEADLINE:
Anglian Water
East Lindsey District Council
Environment Agency
Health and Safety Executive
Historic England
Lincolnshire County Council
National Grid
Natural England
Network Rail
North East Lincolnshire Council
North East Lindsey Internal Drainage Board
North Lincolnshire Council
Public Health England

Strategic Growth and Public Policy
Anglian Water Services Ltd
Thorpe Wood House,
Thorpe Wood,
Peterborough
PE3 6WT

Tel [redacted]
www.anglianwater.co.uk

Your ref EN010107 - 000007

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

18 September 2019

Dear Helen,

South Humber Energy Bank Energy Centre: Environmental Statement Scoping Report

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

General comments

Anglian Water would welcome further discussions with South Humber Bank Power Station prior to the submission of the Draft DCO for examination.

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

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

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

an AWG Company

3.0 Project Description

Reference is made to connections to the water supply and public sewerage networks as forming part of the development proposals. It is suggested that the Environmental Statement should include reference to the foul sewerage network, sewage treatment and water services.

Anglian Water provides a pre-planning service to identify feasible water and drainage solutions. We encourage developers to make use of this service prior to submitting an application for development. Further details of Anglian Water's pre-planning service are available to view at the following address:

https://www.anglianwater.co.uk/developers/development-services/pre-planning-services/

7.10 Water resources, flood risk and drainage

Reference is made to the assessment of the drainage and flood risk assessment being unchanged from that produced to support the consented development. The Scoping Report identifies the principal risks of flooding from the above project being fluvial and surface water flooding as part of the construction and operational phases.

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

Table 9.1 – Mitigation measures specified within The Consented Development ES

Reference is made to the preparation of a drainage strategy for surface water run off including the utilisation of Sustainable Drainage System (SuDS). Anglian Water fully supports the use of SuDS as an alternative to discharging surface water to the public sewerage network. We would welcome further details of the proposed method of surface water disposal including the SuDS attenuation feature being provided for comment.

However there is no reference to a foul drainage strategy including any required mitigation to serve the site. We would ask that consideration be given to both foul and surface water drainage as part of the Environmental Statement and related flood risk assessment.

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

Yours sincerely

Stewart Patience

Spatial Planning Manager

East Lindsey
DISTRICT COUNCIL

Tedder Hall, Manby Park, Louth, Lincolnshire. LN11 8UP
T: 01507 601111
www.e-lindsey.gov.uk

Your Reference: EN010107 - 000007

Our Reference: N/085/01530/19/IC

Contact: Michelle Walker

Ext: 01507 613163

Email: michelle.walker@e-lindsey.gov.uk

Date: 27 August 2019

Ms. H. Lancaster,
The Planning Inspectorate,
Major Casework Directorate,
3M, Temple Quay House,
Temple Quay,
BRISTOL.
BS1 6PN

Dear Madam,

APPLICANT: The Planning Inspectorate,
PROPOSAL: Scoping consultation for the South Humber Bank Energy Centre.
LOCATION: SOUTH HUMBER POWER STATION, SOUTH MARSH ROAD, STALLINGBOROUGH, DN41 8BZ

Thank you for your informal planning enquiry which I received on 22/08/2019.

Please note we aim to respond by 12/09/2019. However unfortunately due to the high volume of enquiries it may not always be possible.

If you have any queries please do not hesitate to contact Michelle Walker who is dealing with this enquiry and if you contact us about this enquiry please quote our reference number as shown at the top of this letter.

Yours faithfully

[redacted]

Paul Edwards
Service Manager – Development Control

Ms Helen Lancaster
Senior EIA and Land Rights Advisor
The Planning Inspectorate
Major Casework Directorate
Temple Quay House
2 The Square
Bristol
Avon
BS1 6PN

Our ref: AN/2019/129417/01-L01
Your ref: EN010107 - 000007

Date: 17 September 2019

Dear Ms Lancaster

Application by South Humber Bank Power Station for an Order granting Development Consent for the South Humber Bank Energy Centre ('SHBEC') South Humber Bank Power Station, South Marsh Road, Stallingborough, Grimsby, DN41 8BZ

Thank you for consulting us on the Scoping Report for the above project, which we received on 22 August 2019.

We note that the project is proposed on a site that was recently granted planning permission under the Town and Country Planning Act 1990; referred to in the Scoping Report as 'the Consented Development'. An Environmental Impact Assessment (EIA) was undertaken in 2018 to support that application; the applicant believes much of the baseline data and assessment work is still relevant for the new project, but will be updated and revised to assess the impacts and effects of the new proposal.

The Environment Agency provides the following comments on the Scoping Report (dated August 2019) for topics that fall within its remit.

7.2 Air Quality

This development will require a permit under the Environmental Permitting Regulations (England and Wales) 2016. We do not have enough information to know if the proposed development can meet our requirements to prevent, minimise and/or control pollution. The development is located on the south bank of the Humber Estuary which is designated as SSSI, RAMSAR, Special Conservation Area and Special Protection Area. It is adjacent to an existing Large Combustion Plant and there is also a chemical plant and a smaller waste incinerator in close proximity.

To reduce the risks to people and the environment and obtain a permit, the design may need to include abatement technology to reduce the impact of the development beyond

Best Available Techniques (BAT). In particular, mitigation is likely to be required to control emissions to air from the combustion of waste material. Consideration will also be required for odour and dust control for the increased waste storage and transportation. Due to the increase in capacity of the facility a complete review of the air dispersion modelling will be required to ensure that there are no increases in ground level concentrations and no additional impact occur on the Humber Estuary SSSI.

We recommend that the developer considers parallel tracking the planning and permit applications as this can help identify and resolve any issues at the earliest opportunity. Parallel tracking can also prevent the need for post-permission amendments to the planning application. Where a developer decides not to parallel track their planning and environmental permit applications, we will not be able offer detailed advice or comments about how permitting issues affects planning.

Further guidance can be found at https://www.gov.uk/government/collections/risk-assessments-for-specific-activities-environmental-permits

If the applicant would like advice regarding our permitting requirements they should complete an online enquiry form to obtain this.

7.8 Geology, Hydrogeology and Land Contamination

The scope of work for the assessment of risks associated with land contamination does not change as a result of the revised proposals for the site – compared to those associated with the Consented Development. I can confirm that the applicant's proposal to review and update the desk-based (Phase 1) assessment, where required, is appropriate.

We recommend that the applicant should:

- follow the risk management framework provided in CLR11, Model Procedures for the Management of Land Contamination, when dealing with land affected by contamination;
- refer to the Environment Agency Guiding principles for land contamination for the type of information that we required in order to assess risks to controlled waters from the site. The Local Authority can advise on risk to other receptors, such as human health;
- consider using the National Quality Mark Scheme for Land Contamination Management which involves the use of competent persons to ensure that land contamination risks are appropriately managed;
- refer to the contaminated land pages on GOV.UK for more information.

7.10 Water Resources, Flood Risk and Drainage

The Scoping Report confirms that the flood risk mitigation proposed for this project is likely to be in line with that agreed for the Consented Project. This included raising critical equipment above the 2115 0.1% (1 in 1000) modelled breach level, which remains our recommendation.

Under the Environmental Permitting (England and Wales) Regulations 2016, permission must be obtained from the Environment Agency for any proposed activities which will take place:

- in, over, under or within 8 metres of a main river (16 metres if tidal);
- on or within 8 metres of a flood defence structure or culvert (16 metres if tidal);
- on or within 16 metres of a sea defence;
- within 16 metres of any main river, flood defence (including a remote defence) or culvert for quarrying or excavation;

Cont/d..

- in a flood plain more than 8 metres from the river bank, culvert or flood defence structure (16 metres if tidal) if planning permission has not already been granted for the works.

The applicant is advised that further guidance is provided on our website at: https://www.gov.uk/guidance/flood-risk-activities-environmental-permits or by contacting our local Partnership and Strategic Overview team in Lincoln by email at PSO_Coastal@environment-agency.gov.uk. The team will be able to advise if an environmental permit or exemption registration is required and the fee applicable. The applicant should not assume that such a permit will automatically be forthcoming once planning permission has been granted, and we would advise them to consult with us at the earliest opportunity.

We are satisfied that the assessment of water resources, flood risk and drainage for the proposed development are unlikely to differ from those identified for the Consented Development. However, we support the proposal that any additional impacts/mitigation measures will be identified as part of an updated assessment.

7.12 Waste Management
We are satisfied with the proposed scope for the consideration of waste activities. The applicant is reminded that all movements of waste must comply with duty of care requirements with the correct waste transfer notes, and registered waste carriers moving the waste.

Please note that the view expressed in this letter is a response to a pre-application enquiry only and does not represent our final view in relation to any future planning application made in relation to this site. We reserve the right to change our position in relation to any such application.

Should you require any additional information, or wish to discuss these matters further, please do not hesitate to contact me on the number below.

Yours sincerely

Annette Hewitson
Principal Planning Adviser

Direct dial 02030 254924
Direct e-mail annette.hewitson@environment-agency.gov.uk

End

HSE

Health and Safety Executive

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

Your ref: EN010107
Our ref: 4.2.1.6637

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

FAO Helen Lancaster
The Planning Inspectorate
Temple Quay House
Temple Quay,
Bristol
BS1 6PN

Dear Helen

19 September 2019

PROPOSED SOUTH HUMBER BANK ENERGY CENTRE (the project)
PROPOSAL BY EP UK Investments Limited (the applicant)
INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017 (as amended) – Regulations 10 and 11

Thank you for your letter of 22nd August 2019 regarding the information to be provided in an environmental statement relating to the above project. HSE does not comment on EIA Scoping Reports but the following information is likely to be useful to the applicant.

HSE's land use planning advice

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

According to HSE's records, the proposed DCO application boundary (Figure 2 – Proposed Application Boundary, dated 14/08/2019) falls within the consultation zones of three major accident hazard sites and three major accident hazard pipelines:

Major accident hazard sites:

1) HSE ref H0332; Synthomer (UK) Limited
2) HSE ref H0422; Tronox Pigment UK Limited
3) HSE ref H4310; Abengoa Bioenergy UK

Major accident hazard pipelines:

1) HSE ref 7037; National Grid Gas PLC, 9 Feeder Brocklesby/Stallingborough
2) HSE ref 1026728; Immingham Storage Limited, Acrylonitrile pipeline
3) HSE ref 7022; Cadent Gas Limited, Thornton Curtis/Ciba Geigy

HSE's Land Use Planning advice would be dependent on the location of areas where public may be present and so it is possible that HSE may advise against this proposal.

When we are consulted further by the Applicant with further information, under Section 42 of the Planning Act 2008, we can update our advice.

Hazardous Substance Consent

The presence of hazardous substances on, over or under land at or above set threshold quantities (Controlled Quantities) will probably require Hazardous Substances Consent (HSC) under the Planning (Hazardous Substances) Act 1990 as amended.

The substances, alone or when aggregated with others for which HSC is required, and the associated Controlled Quantities, are set out in The Planning (Hazardous Substances) Regulations 2015 as amended.

HSC would be required to store or use any of the Named Hazardous Substances or Categories of Substances at or above the Controlled Quantities set out in Schedule 1 of these Regulations.

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

Consideration of risk assessments

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

Explosives sites

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

Electrical Safety

No comment, from a planning perspective.

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

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

Yours sincerely,

[redacted]

Dave Adams
CEMHD4 Policy

Historic England

Ms Helen Lancaster

The Planning Inspectorate

3D Eagle Wing

2 The Square

Bristol

BS1 6PN

Direct Dial: 01216256827

Our ref: PL00611243

2 September 2019

Dear Ms Lancaster

Thank you for your letter of 22 August 2019 consulting us about the EIA Scoping Report for the South Humber Bank Energy Centre.

This development could, potentially, have an impact upon the setting of a number of designated heritage assets in the area around the site. In line with the advice in the National Planning Policy Framework (NPPF), we would expect the Environmental Statement to contain a thorough assessment of the likely effects which the proposed development might have upon those elements which contribute to the significance of these assets. Our initial assessment shows the attached list of designated heritage assets within the vicinity of the proposed development. We would draw your attention, in particular but not exclusively, to the following:

* Stallingborough medieval settlement, post-medieval house and formal garden Scheduled Monument (National Heritage List for England UID: 1020423);

* the churchyard cross 20 m south of St Peter and St Paul's Church Scheduled Monument (National Heritage List for England UID: 1020023):

* two moated sites at Healing Hall Scheduled Monument (National Heritage List for England UID: 1010947)

* the listed buildings and historic centres associated with Scallingborough, Healing and

Great Coates; and

* the listed buildings associated with Grimsby quayside and docks.

We would also expect the Environmental Statement to consider the potential impacts on non-designated features of historic, architectural, archaeological or artistic interest, since these can also be of national importance and make an important contribution to the character and local distinctiveness of an area and its sense of place. We would strongly recommend that you involve your local Conservation Officer and Archaeological Adviser in the development of this assessment. They are best placed to advise on: local historic environment issues and priorities; how the proposal can be tailored to avoid and minimise potential adverse impacts on the historic environment; the nature and design of any required mitigation measures; and opportunities for securing wider benefits for the future conservation and management of heritage assets.

Given the heights of the structures associated with the proposed development and the surrounding landscape character, this development is likely to be visible across a very large area and could, as a result, affect the significance of heritage assets at some distance from this site itself. We would expect the assessment to clearly demonstrate that the extent of the proposed study area is of the appropriate size to ensure that all heritage assets likely to be affected by this development have been included and can be properly assessed. It is important that the assessment is designed to ensure that all impacts are fully understood. Section drawings and techniques such as photomontages are a useful part of this.

The assessment should also take account of the potential impact which associated activities (such as construction, servicing and maintenance, and associated traffic) might have upon perceptions, understanding and appreciation of the heritage assets in the area. The assessment should also consider, where appropriate, the likelihood of alterations to drainage patterns that might lead to in situ decomposition or destruction of below ground archaeological remains and deposits, and can also lead to subsidence of buildings and monuments.

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

Yours sincerely,

[redacted]

Alison MacDonald
Assistant Inspector of Ancient Monuments
alison.macdonald@HistoricEngland.org.uk

cc: Louise Jennings, Historic Environment Officer, Lincolnshire Council

Historic England

THE AXIS 10 HOLLIDAY STREET BIRMINGHAM B1 1TF

Telephone 0121 625 6888
HistoricEngland.org.uk

Lincolnshire COUNTY COUNCIL
Working for a better future

Please reply to:
Neil McBride
Planning
Lancaster House, 36 Orchard Street,
Lincoln LN1 1XX
Tel: (01522) 782070
E-Mail: neil.mcbride@lincolnshire.gov.uk

Date: 27 August 2019

Your Reference: EN010107 - 000007
National Infrastructure
Planning
Temple Quay House
2 The Square
Bristol, BS1 6PN

Dear Helen Lancaster

Application by South Humber Bank Power Station for an Order granting Development Consent for the South Humber Bank Energy Centre ('SHBEC').

Thank you for your letter dated 22 August 2019.

Lincolnshire County Council do not wish to make any comments on the development at this stage.

We wish to continue to be updated with this application.

Yours sincerely

Neil McBride

Planning Manager

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

Land and Acquisitions
Anne Holdsworth
DCO Liaison Officer
Network Management
anne.holdsworth@nationalgrid.com
Direct tel: [redacted]

www.nationalgrid.com

SUBMITTED ELECTRONICALLY:
SouthHumberBank@planninginspectorate.gov.uk

11 September 2019

Dear Sir/Madam

APPLICATION BY SOUTH HUMBER BANK POWER STATION FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR THE SOUTH HUMBER BANK ENERGY CENTRE ('SHBEC') SCOPING CONSULTATION

This is a response on behalf of National Grid Electricity Transmission PLC (NGET) and National Grid Gas PLC (NGG).

I refer to your letter dated 22nd August 2019 in relation to the above proposed application. Having reviewed the scoping report, I would like to make the following comments:

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

Electricity Transmission

National Grid Electricity Transmission has a high voltage electricity overhead transmission line and a high voltage substation within the scoping area. The overhead lines and substation form an essential part of the electricity transmission network in England and Wales.

Substation

- South Humber Bank 400kV

Overhead Lines

- 2AH 400kV Over Head Line and tower
- Above and below ground associated apparatus

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Warwick Technology Park
Gallows Hill, Warwick
CV34 6DA

Gas Transmission Infrastructure:

National Grid Gas has a high pressure gas transmission pipeline located within or in close proximity to the proposed order limits. The transmission pipeline forms an essential part of the gas transmission network in England, Wales and Scotland:

- Feeder Main 9 – Brocklesby to Stallingborough
- Above and below ground associated apparatus

I enclose a plan showing the route of National Grid's overhead line, South Humber Bank substation, the gas transmission pipeline and associated gas apparatus.

Specific Comments – Electricity Infrastructure:

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

- Statutory electrical safety clearances must be maintained at all times. Any proposed buildings must not be closer than 5.3m to the lowest conductor. National Grid recommends that no permanent structures are built directly beneath overhead lines. These distances are set out in EN 43 – 8 Technical Specification for "overhead line clearances Issue 3 (2004)

- If any changes in ground levels are proposed either beneath or in close proximity to our existing overhead lines then this would serve to reduce the safety clearances for such overhead lines. Safe clearances for existing overhead lines must be maintained in all circumstances.

- The relevant guidance in relation to working safely near to existing overhead lines is contained within the Health and Safety Executive's (www.hse.gov.uk) Guidance Note GS 6 "Avoidance of Danger from Overhead Electric Lines" and all relevant site staff should make sure that they are both aware of and understand this guidance.

- Plant, machinery, equipment, buildings or scaffolding should not encroach within 5.3 metres of any of our high voltage conductors when those conductors are under their worse conditions of maximum "sag" and "swing" and overhead line profile (maximum "sag" and "swing") drawings should be obtained using the contact details above.

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

- Drilling or excavation works should not be undertaken if they have the potential to disturb or adversely affect the foundations or "pillars of support" of any existing tower. These foundations always extend beyond the base area of the existing tower and foundation ("pillar of support") drawings can be obtained using the contact details above.

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

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

Gas Infrastructure

The following points should be taken into consideration:

- National Grid has a Deed of Grant of Easement for each pipeline, which prevents the erection of permanent / temporary buildings, or structures, change to existing ground levels, storage of materials etc.

Pipeline Crossings:

- Where existing roads cannot be used, construction traffic should ONLY cross the pipeline at previously agreed locations.

- The pipeline shall be protected, at the crossing points, by temporary rafts constructed at ground level. The third party shall review ground conditions, vehicle types and crossing frequencies to determine the type and construction of the raft required.

- The type of raft shall be agreed with National Grid prior to installation.

- No protective measures including the installation of concrete slab protection shall be installed over or near to the National Grid pipeline without the prior permission of National Grid.

- National Grid will need to agree the material, the dimensions and method of installation of the proposed protective measure.

- The method of installation shall be confirmed through the submission of a formal written method statement from the contractor to National Grid.

- Please be aware that written permission is required before any works commence within the National Grid easement strip.

- A National Grid representative shall monitor any works within close proximity to the pipeline to comply with National Grid specification T/SP/SSW22.

- A Deed of Consent is required for any crossing of the easement

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Warwick Technology Park
Gallows Hill, Warwick
CV34 6DA

Cable Crossings:

- Cables may cross the pipeline at perpendicular angle to the pipeline i.e. 90 degrees.
- A National Grid representative shall supervise any cable crossing of a pipeline.
- Clearance must be at least 600mm above or below the pipeline.
- Impact protection slab should be laid between the cable and pipeline if cable crossing is above the pipeline.
- A Deed of Consent is required for any cable crossing the easement.
- Where a new service is to cross over the pipeline a clearance distance of 0.6 metres between the crown of the pipeline and underside of the service should be maintained. If this cannot be achieved the service shall cross below the pipeline with a clearance distance of 0.6 metres.

General Notes on Pipeline Safety:

- You should be aware of the Health and Safety Executives guidance document HS(G) 47 "Avoiding Danger from Underground Services", and National Grid's specification for Safe Working in the Vicinity of National Grid High Pressure gas pipelines and associated installations - requirements for third parties T/SP/SSW22.
- National Grid will also need to ensure that our pipelines access is maintained during and after construction.
- Our pipelines are normally buried to a depth cover of 1.1 metres however; actual depth and position must be confirmed on site by trial hole investigation under the supervision of a National Grid representative. Ground cover above our pipelines should not be reduced or increased.
- If any excavations are planned within 3 metres of National Grid High Pressure Pipeline or, within 10 metres of an AGI (Above Ground Installation), or if any embankment or dredging works are proposed then the actual position and depth of the pipeline must be established on site in the presence of a National Grid representative. A safe working method agreed prior to any work taking place in order to minimise the risk of damage and ensure the final depth of cover does not affect the integrity of the pipeline.
- Excavation works may take place unsupervised no closer than 3 metres from the pipeline once the actual depth and position has been has been confirmed on site under the supervision of a National Grid representative. Similarly, excavation with hand held power tools is not permitted within 1.5 metres from our apparatus and the work is undertaken with NG supervision and guidance.

To view the SSW22 Document, please use the link below:
http://www.nationalgrid.com/uk/LandandDevelopment/DDC/GasElectricNW/safeworking.htm

National Grid house
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CV34 6DA

To download a copy of the HSE Guidance HS(G)47, please use the following link:
http://www.hse.gov.uk/pubns/books/hsg47.htm

Further Advice

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

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

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

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

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

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

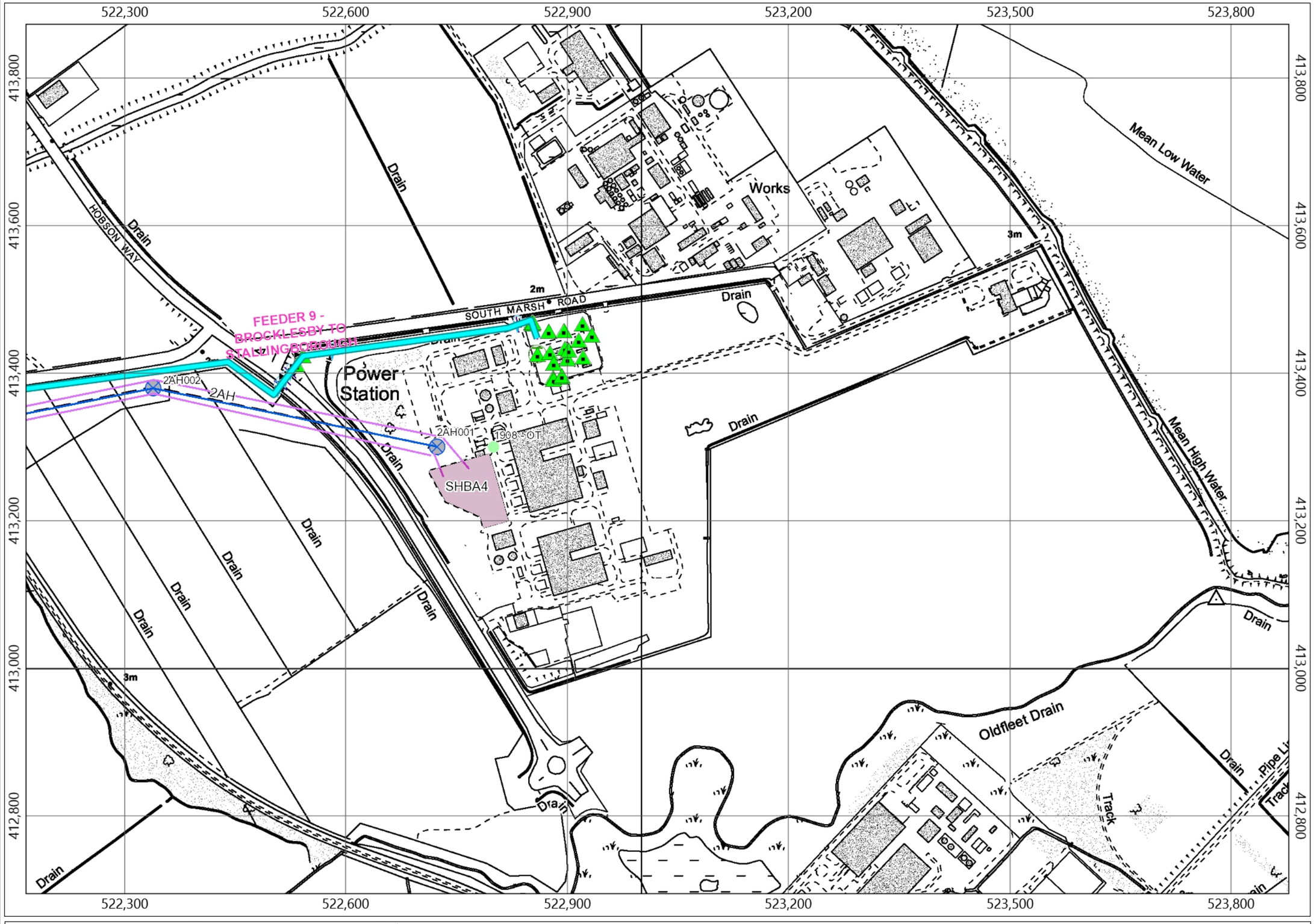
Yours faithfully

[redacted]

Anne Holdsworth
DCO Liaison Officer, Land and Acquisitions

nationalgrid

South Humber Plan 1



Legend:

- Substations Commissioned
- Circuits
  - Commissioned
  - Decommissioned Group
  - Planned and Spares
- OHL 400Kv Commissioned
- OHL 275Kv Commissioned
- OHL 132Kv & Below Commissioned
- Towers Commissioned
- Buried Cable Commissioned
- Fibre Cable Commissioned
- Pilot Cable
- Pillar
- Oil Tank
- Link Box
- Gauge
- Joint Bay
- Cable Joint
- Oil Pipe
- Cooling Pipe
- Cooling Station
- RAMM
- Cable Tunnel
- Gas Operational Boundary
- Gas Site Boundary
- Trial Hole
- Vantage Point
- Aerial Marker Post
- Pipe Crossing Point
- CP Test Post
- Transformer Rectifier
- Pipeline Crossing
- Sleeve
  - Nitrogen Sleeve
  - Other Sleeves
- Pipe Line Control Point
- Named Pipeline Section
- River Crossings

Notes:

South Humber Plan 1

0 0.13 0.3 Kilometers

Date: 11/09/2019
Time: 13:39:45

Page size: A3 Landscape Scale: 1: 5,000
Print by: **Holdsworth, Anne**

Date: 06 September 2019
Our ref: 292871
Your ref: EN010107

Customer Services
Hornbeam House
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Crewe
Cheshire
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T 0300 060 3900

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

BY EMAIL ONLY

Dear Helen Lancaster

Environmental Impact Assessment Scoping consultation (Regulation 10 of the Infrastructure Planning (Environmental Impacts Assessment) Regulations 2017): Construction and operation of an energy from waste power station with a maximum gross electrical output of 95 MW
Location: Humber Bank Power Station, South Marsh Road, Stallingborough, Grimsby

Thank you for seeking our advice on the scope of the Environmental Statement (ES) in your consultation dated 22 August 2019**.**

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

Case law[1] and guidance[2] has stressed the need for a full set of environmental information to be available for consideration prior to a decision being taken on whether or not to grant planning permission. Annex A to this letter provides Natural England's advice on the scope of the Environmental Impact Assessment (EIA) for this development.

Please note that the advice below is the same advice that we provided for the planning application for the "consented development" planning reference DM/1070/18/FUL. We acknowledge that the majority of the information provided in the ES for this application will be largely the same as that provided for the planning application.

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

For any queries relating to the specific advice in this letter please contact Hannah Gooch at Hannah.Gooch@naturalengland.org.uk or 02082 258503. For any new consultations, or to provide further information on this consultation please send your correspondence to consultations@naturalengland.org.uk.

Yours sincerely

Hannah Gooch
Natural England, Yorkshire and Northern Lincolnshire Area Team

[1] Harrison, J in *R. v. Cornwall County Council ex parte Hardy* (2001)
[2] *Note on Environmental Impact Assessment Directive for Local Planning* Authorities Office of the Deputy Prime Minister (April 2004) available from http://webarchive.nationalarchives.gov.uk/+/http://www.communities.gov.uk/planningandbuilding/planning/sustainabilityenvironmental/environmentalimpactassessment/noteenvironmental/

Annex A – Advice related to EIA Scoping Requirements

1. General Principles

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

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

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

2. Biodiversity and Geology

2.1 Ecological Aspects of an Environmental Statement

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

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

The National Planning Policy Framework sets out guidance in S.174-177 on how to take account of biodiversity interests in planning decisions.

2.2 Internationally and Nationally Designated Sites

The ES should thoroughly assess the potential for the proposal to affect designated sites. European sites (e.g. designated Special Areas of Conservation and Special Protection Areas) fall within the scope of the Conservation of Habitats and Species Regulations 2017 (as amended). Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) an appropriate assessment needs to be undertaken in respect of any plan or project which is (a)

likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and (b) not directly connected with or necessary to the management of the site.

Should a Likely Significant Effect on a European/Internationally designated site be identified or be uncertain, an Appropriate Assessment may need to be produced, in addition to consideration of impacts through the EIA process.

Sites of Special Scientific Interest (SSSIs) and sites of European or international importance (Special Areas of Conservation, Special Protection Areas and Ramsar sites)
The development site is adjacent to the following designated nature conservation site(s):

- Humber Estuary Special Protection Area (SPA)
- Humber Estuary Special Area of Conservation (SAC)
- Humber Estuary Ramsar
- Humber Estuary Site of Special Scientific Interest (SSSI)

Further information on the SSSI and its special interest features can be found at www.magic.gov.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 Humber Estuary SPA, SAC, Ramsar and SSSI sites and should identify such mitigation measures as may be required in order to avoid, minimise or reduce any adverse significant effects.

European site conservation objectives are available at http://publications.naturalengland.org.uk/category/6490068894089216

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

2.4 Protected Species - Species protected by the Wildlife and Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2017 (as amended)
The ES should assess the impact of all phases of the proposal on protected species (including, for example, great crested newts, reptiles, birds, water voles, badgers and bats). Natural England does not hold comprehensive information regarding the locations of species protected by law, but advises on the procedures and legislation relevant to such species. Records of protected species should be sought from appropriate local biological record centres, nature conservation organisations, groups and individuals; and consideration should be given to the wider context of the site for example in terms of habitat linkages and protected species populations in the wider area, to assist in the impact assessment.

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

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

2.5 Habitats and Species of Principal Importance

The ES should thoroughly assess the impact of the proposals on habitats and/or species listed as 'Habitats and Species of Principal Importance' within the England Biodiversity List, published under the requirements of S41 of the Natural Environment and Rural Communities (NERC) Act 2006.

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

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

The Environmental Statement should include details of:

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

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

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

2.6 Contacts for Local Records

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

3. Designated Landscapes and Landscape Character

Landscape and visual impacts

Natural England would wish to see details of local landscape character areas mapped at a scale appropriate to the development site as well as any relevant management plans or strategies pertaining to the area. The EIA should include assessments of visual effects on the surrounding area and landscape together with any physical effects of the development, such as changes in topography.

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

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

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

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

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

4. Access and Recreation

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

5. Air Quality

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

6. Climate Change Adaptation

The England Biodiversity Strategy published by Defra establishes principles for the consideration of biodiversity and the effects of climate change. The ES should reflect these principles and identify how the development's effects on the natural environment will be influenced by climate change, and how ecological networks will be maintained. The NPPF requires that the planning system should contribute to the enhancement of the natural environment 'by establishing coherent ecological networks that are more resilient to current and future pressures' (NPPF Para 174), which should be demonstrated through the ES.

7. Contribution to local environmental initiatives and priorities

Natural England has been working with North East Lincolnshire Council and other estuary stakeholders for many years to deliver a strategic approach to mitigation within the South Humber Gateway (for impacts associated with the Humber Estuary SPA/Ramsar site). Natural England believes this is the most effective way to mitigate for impacts on functionally linked land. As the development site falls within the South Humber Gateway, the applicant should liaise with the Council regarding contribution to the strategic approach, which now forms a key part of the local plan.

8. Cumulative and in-combination effects

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

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

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

From: [redacted]
To:
Cc:
Subject: Ref: Scoping Opinion Consultation - EN010107-000007
Date: 18 September 2019 17:27:10
Attachments: image007.jpg

Dear Sir/Madam,

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impcat Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11
Application by South Humber Bank Power Station for an Order granting Development Consent for the South Humber Bank Energy centre ('SHBEC').
Scoping Consultation and notification of the Applicant's contact details and duty to make available information to the applicant if requested.

Thank you for your letter dated 22 August 2019, providing Network Rail with the opportunity to comment on the aforementoned Scoping Opinion.

With reference to the safety and protection of the railway, the EIA for the proposed development should contain a Transport Assessment, providing an assessment in relation to the impact on the operational railway and Level Crossing situated on South Marsh Road to the West of the site location, along with a Flood Assessment.

I hope that the above is useful to you and indicates our position in respect of this Scoping Opinion. If you have any further queries or require clarification of any aspects, please do not hesitate to contact me. I would also be grateful if you could inform me of the outcome of this application, forwarding a copy of the Decision Notice to me in due course.

Kind Regards

Stephen Phillips BSc (Hons)
Graduate Surveyor | Property
Network Rail, George Stephenson House
Toft Green, York YO1 6JT
E: [redacted]
W: www.networkrail.co.uk

Diversity and Inclusion Champion

From: [redacted]
To: South Humber Bank
Cc: [redacted]
Subject: EN010107 - 000007 - South Humber Bank Power Station - Comments on Scoping Opinion
Date: 18 September 2019 10:25:34
Attachments: image001.jpg
image002.jpg
image003.jpg
image004.jpg
image005.jpg
image006.png
[redacted]

Dear Sir/Madam,

I write on behalf of the Local Planning Authority in response to the above consultation on the applicant's scoping opinion for the DCO at the South Humber Bank power Station.

I can confirm that the Local Authority only has the following comment to make.

- The Historic Environment Record is now accessible and should be consulted. A 5km radius is acceptable.

The Scoping Opinion submitted captures the relevant information previously requested by the LPA in their original scoping opinion. No further comments to make.

Please feel free to contact us, if you require anything further.

Kind Regards

Cheryl Jarvis MSc| Principal Town Planner | **ENGIE**
☎ [redacted] |
✉ ENGIE, New Oxford House, 2 George Street, Grimsby, DN31 1HB
www.engie.com/en / www.nelincs.gov.uk | [redacted]

North East Lincolnshire Council and ENGIE, working in partnership to deliver a stronger economy and stronger communities.

Reduce your environmental footprint, please do not print this email unless you really need to.

From: [redacted]
To: South Humber Bank
Cc: [redacted]
Subject: EN010107 South Humber Bank Energy Centre
Date: 13 September 2019 15:29:21

ND-4838-2019-PLN

Dear Sir/Madam

EN010107
South Humber Bank Energy Centre
Development Consent Order.
South Marsh Road, Stallingborough, DN41 8BZ

Thank you for the opportunity to comment on the above proposed development. The site is within the North East Lindsey Drainage Board area.

The applicant has correctly identified the proposed development is within Zone 3 on the Environment Agency Flood Maps and is at risk. Appropriate mitigation should be included in the Drainage Strategy as outlined in the EIAS. The Board supports the use of SuDS. It is noted that the surface water discharge will be limited to the greenfield rate.

Under the terms of the Land Drainage Act. 1991 the prior written consent of the Board is required for any proposed temporary or permanent works or structures within any watercourse including infilling or a diversion.

Please direct all future correspondence to planning@witham3idb.gov.uk

Regards

Guy Hird
Engineering Services Officer

Witham First District Internal Drainage Board
Witham Third District Internal Drainage Board
Upper Witham Internal Drainage Board
North East Lindsey Drainage Board
J1 The Point,
Weaver Road,
LINCOLN,
LN6 3QN.
[redacted]

From: [redacted]
To: South Humber Bank
Subject: Acknowledgement of Receipt of Planning Application CON/SCO/2019/1
Date: 29 August 2019 11:39:34

Enquiries to: Andrew Law, Development Management
[redacted]
Application Ref: CON/SCO/2019/1
(Please quote at all times)

CONSULTATION ON AN EIA SCOPING REQUEST

Reference	CON/SCO/2019/1 (Please quote at all times)
Proposal	Scoping consultation request as to the information to be provided in an Environmental Statement for a proposed energy from waste power station of up to 95MW gross electrical output, known as South Humber Bank Energy Centre
Location	Land at South Marsh Road, Stallingborough DN41 8BZ
Case Officer	Andrew Law

Thank you for the formal consultation on the above proposal. Please direct any enquiries to the case officer.

Development Management | Business Development |
North Lincolnshire Council
Church Square House
30-40 High Street
Scunthorpe
DN15 6NL

Email planning@northlincs.gov.uk **Telephone** [redacted]

PLEASE NOTE: Wherever possible the applicant and/or agent is encouraged to work electronically with us both online and by email. Applications can be submitted to us online using this link www.planningportal.co.uk

Public Health England

Environmental Hazards and
Emergencies Department
Centre for Radiation, Chemical and
Environmental Hazards (CRCE)
Seaton House
City Link
London Road
Nottingham
NG2 4LA

[redacted]

www.gov.uk/phe

Your Ref: EN010107 - 000007
Our Ref: 51954

Ms Helen Lancaster
Senior EIA Assessor and
Land Rights Advisor
The Planning Inspectorate
Temple Quay House
2 The Square
Bristol BS1 6PN

18th September 2019

Dear Ms Lancaster

Nationally Significant Infrastructure Project
South Humber Bank Power Station for an Order Granting Development Consent for the South Humber Bank Energy Centre ('SHBEC')
Scoping Consultation Stage

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

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

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

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

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

mitigation measures, conclusions and residual impacts, relating to human health. Compliance with the requirements of National Policy Statements and relevant guidance and standards should also be highlighted.

In terms of the level of detail to be included in an ES, we recognise that the differing nature of projects is such that their impacts will vary. The attached appendix summarises PHE's requirements and recommendations regarding the content of and methodology used in preparing the ES. Please note that where impacts relating to health and/or further assessments are scoped out, promoters should fully explain and justify this within the submitted documentation.

Recommendation

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

It is noted that the current proposals do not appear to consider possible health impacts of Electric and Magnetic Fields (EMF).

Yours sincerely

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

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

Appendix: PHE recommendations regarding the scoping document

Introduction

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

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

General Information on Public Health England

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

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

PHE's NSIP related roles and responsibilities and geographical extent

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

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

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

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

PHE has a statutory role as a consultation body under the EIA Regulations. Where an applicant has requested a scoping opinion from the Planning Inspectorate[3] in relation to a proposed NSIP, PHE will be consulted by the Planning Inspectorate about the scope, and level of detail, of the

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

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

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

information to be provided in the ES and will be under a duty to make information available to the applicant. PHE's standard recommendations in response to EIA scoping consultations are below.

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

PHE's recommendations to applicants regarding Environmental Impact Assessments

General approach

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

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

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

When preparing an ES the applicant should give consideration to best practice guidance such as the Government's Handbook for scoping projects: environmental impact assessment[4] , IEMA Guide to Delivering Quality Developments[5], and Guidance: on Environmental Impact Assessment[6]

The Planning Inspectorate's Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements also provide guidance to applicants and other persons with interest in the EIA process as it relates to NSIPs.
It is important that the submitted ES identifies and assesses the potential public health impacts of the activities at, and emissions from, the development.

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

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

2. Baseline Survey:

[4] https://www.gov.uk/government/publications/handbook-for-scoping-projects-environmental-impact-assessment
[5] https://www.iema.net/assets/newbuild/documents/Delivering%20Quality%20Development.pdf
[6] https://www.gov.uk/guidance/environmental-impact-assessment#the-purpose-of-environmental-impact-assessment

a. Identify information needed and available, Evaluate quality and applicability of available information
b. Undertake assessment

3. Alternatives:
    a. Identify and evaluate any realistic alternative locations, routes, technology etc.

4. Design and assess possible mitigation
    a. Consider and propose suitable corrective actions should mitigation measures not perform as effectively predicted.

5. Impact Prediction: Quantify and Assess Impacts:
    a. Evaluate and assess the extent of any positive and negative effects of the development. Effects should be assessed in terms of likely health outcomes, including those relating to the wider determinants of health such as socio-economic outcomes, in addition to health outcomes resulting from exposure to environmental hazards. Mental health effects should be included and given equivalent weighting to physical effects.
    b. Clearly identify any omissions, uncertainties and dependencies (e.g., air quality assessments being dependant on the accuracy of traffic predictions)
    c. Evaluate short-term impacts associated with the construction and development phase
    d. Evaluate long-term impacts associated with the operation of the development
    e. Evaluate any impacts associated with decommissioning
    f. Evaluate any potential cumulative impacts as a result of the development, currently approved developments which have yet to be constructed, and proposed developments which do not currently have development consent

6. Monitoring and Audit (not a statutory requirement)
    a. Identify key modelling predictions and mitigation impacts and consider implementing monitoring and audit to assess their accuracy / effectiveness.

Any assessments undertaken to inform the ES should be proportionate to the potential impacts of the proposal, therefore we accept that, in some circumstances particular assessments may not be relevant to an application, or that an assessment may be adequately completed using a qualitative rather than quantitative methodology. In cases where this decision is made, the applicant should fully explain and justify their rationale in the submitted documentation.

Consideration of alternatives (including alternative sites, choice of process, and the phasing of construction) is widely regarded as good practice. Ideally, the EIA process should start at the stage of site selection, so that the environmental merits of practicable alternatives can be properly considered. Where this is undertaken, the main alternatives considered should be outlined in the ES[7].

Human and environmental receptors

The applicant should clearly identify the development's location and the location and distance from the development of off-site human receptors that may be affected by emissions from, or activities at, the development. Off-site human receptors may include people living in residential premises; people working in commercial, and industrial premises and people using transport infrastructure (such as roads and railways), recreational areas, and publicly-accessible land.

Identify and consider impacts on residential areas and sensitive receptors (such as schools, nursing homes and healthcare facilities, as well as other vulnerable population groups such as those who are young, older, with disabilities or long-term conditions, or on low incomes) in the area(s) which

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

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

Consideration should also be given to environmental receptors such as the surrounding land, watercourses, surface and groundwater, and drinking water supplies such as wells, boreholes and water abstraction points.

Impacts arising from construction and decommissioning

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

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

Emissions to air and water

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

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

- include appropriate screening assessments and detailed dispersion modelling where this is screened as necessary
- encompass the combined impacts of all pollutants which may be emitted by the development with all pollutants arising from associated development and transport, considered in a single holistic assessment (ie, of overall impacts)
- include Chemical Abstract Service (CAS) numbers alongside chemical names, where referenced in the ES
- consider the construction, operational, and decommissioning phases
- consider the typical operational emissions and emissions from start-up, shut-down, abnormal operation and accidents when assessing potential impacts and include an assessment of worst-case impacts
- fully account for fugitive emissions
- include appropriate estimates of background levels
    - when assessing the human health risk of a chemical emitted from a facility or operation, background exposure to the chemical from other sources should be taken into account
- identify cumulative and incremental impacts (ie, assess cumulative impacts from multiple sources), including those arising from associated development, other existing and proposed development in the local area, and new vehicle movements associated with the proposed development; associated transport emissions should include consideration of non-road impacts (ie, rail, sea, and air)
- include consideration of local authority, Environment Agency, Natural Resources Wales, Defra national network, and any other local site-specific sources of monitoring data
- compare predicted environmental concentrations to the applicable standard or guideline value for the affected medium. Where available, the most recent UK standards for the appropriate

media (ie, air, water, and/or soil) and health-based guideline values should be used when quantifying the risk to human health from chemical pollutants

- where UK standards or guideline values are not available, use those recommended by the European Union or World Health Organization:
    - If no standard or guideline value exists, the predicted exposure to humans should be estimated and compared to an appropriate health-based value (eg, a Tolerable Daily Intake or equivalent)
    - This should consider all applicable routes of exposure (eg, include consideration of aspects such as the deposition of chemicals emitted to air and their uptake via ingestion)
- when quantitatively assessing the health risk of genotoxic and carcinogenic chemical pollutants, PHE does not favour the use of mathematical models to extrapolate from high dose levels used in animal carcinogenicity studies to well below the observed region of a dose-response relationship. When only animal data are available, we recommend that the 'Margin of Exposure' (MOE) approach[1] is used
- identify and consider impacts on residential areas and sensitive receptors (such as schools, nursing homes and healthcare facilities) in the area(s) which may be affected by emissions. This should include consideration of any new receptors arising from future development

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

PHE's view is that the applicant should appraise and describe the measures that will be used to control both point source and fugitive emissions and demonstrate that standards, guideline values or health-based values will not be exceeded due to emissions from the installation, as described above. This should include consideration of any emitted pollutants for which there are no set emission limits. When assessing the potential impact of a proposed installation on environmental quality, predicted environmental concentrations should be compared to the permitted concentrations in the affected media; this should include both standards for short and long-term exposure. Further to assessments of compliance with limit values, for non-threshold pollutants (ie, those that have no threshold below which health effects do not occur) the **benefits** of development options which reduce population exposure should be evaluated.

Additional points specific to emissions to air

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

- consideration of impacts on existing areas of poor air quality e.g. existing or proposed local authority Air Quality Management Areas (AQMAs)
- modelling using appropriate meteorological data (i.e. come from the nearest suitable meteorological station and include a range of years and worst-case conditions)
- modelling taking into account local topography, congestion and acceleration
- evaluation of the public health **benefits** of development options which reduce air pollution – even below limit values – as pollutants such as nitrogen dioxide and particulate matter show no threshold below which health effects do not occur

Additional points specific to emissions to water

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

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

- include consideration of potential impacts on recreational users (eg, from fishing, canoeing etc.) alongside assessment of potential exposure via drinking water

Land quality

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

Emissions to and from the ground should be considered in terms of the previous history of the site and the potential of the site, once operational, to give rise to issues. Public health impacts associated with ground contamination and/or the migration of material off-site should be assessed[8] and the potential impact on nearby receptors and control and mitigation measures should be outlined.

Relevant areas outlined in the Government's Good Practice Guide for EIA include:

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

Waste

The applicant should demonstrate compliance with the waste hierarchy (e.g. with respect to re-use, recycling or recovery and disposal).

For wastes arising from the development the ES should assess:

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

If the development includes wastes delivered to the installation:

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

Other aspects

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

PHE would expect the applicant to consider the COMAH Regulations (Control of Major Accident Hazards) and the Major Accident Off-Site Emergency Plan (Management of Waste from Extractive Industries) (England and Wales) Regulations: both in terms of their applicability to the development itself, and the development's potential to impact on, or be impacted by, any nearby installations themselves subject to these Regulations.

There is evidence that, in some cases, perception of risk may have a greater impact on health than the hazard itself. A 2009 report[9], jointly published by Liverpool John Moores University and the

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

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

Health Protection Agency (HPA), examined health risk perception and environmental problems using a number of case studies. As a point to consider, the report suggested: "*Estimation of community anxiety and stress should be included as part of every risk or impact assessment of proposed plans that involve a potential environmental hazard. This is true even when the physical health risks may be negligible*." PHE supports the inclusion of this information within ES' as good practice.

Electromagnetic fields (EMF)

This advice relates to electrical installations such as substations and connecting underground cables or overhead lines. PHE advice on the health effects of power frequency electric and magnetic fields is available on the Gov.UK website.[10]

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

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

- **Policy Measures for the Electricity Industry**
  A voluntary code of practice is published which sets out key principles for complying with the ICNIRP guidelines.[11]

  Companion codes of practice dealing with optimum phasing of high voltage power lines and aspects of the guidelines that relate to indirect effects are also available.[12],[13]

- **Exposure Guidelines**
  PHE recommends the adoption in the UK of the EMF exposure guidelines published by the International Commission on Non-ionizing Radiation Protection (ICNIRP). Formal advice to this effect, based on an accompanying comprehensive review of the scientific evidence, was published in 2004 by the National Radiological Protection Board (NRPB), one of PHE's predecessor organisations[14]

  Updates to the ICNIRP guidelines for static fields have been issued in 2009 and for low frequency fields in 2010. However, Government policy is that the ICNIRP guidelines are implemented as expressed in the 1999 EU Council Recommendation on limiting exposure of the general public (1999/519/EC):[15]

- **Static magnetic fields**
  For static magnetic fields, the ICNIRP guidelines published in 2009 recommend that acute exposure of the general public should not exceed 400 mT (millitesla), for any part of the body, although the previously recommended value of 40 mT is the value used in the Council Recommendation. However, because of potential indirect adverse effects, ICNIRP recognises that practical policies need to be implemented to prevent inadvertent harmful exposure of people with implanted electronic medical devices and implants containing ferromagnetic materials, and

[10] https://www.gov.uk/government/collections/electromagnetic-fields#low-frequency-electric-and-magnetic-fields
[11] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/37447/1256-code-practice-emf-public-exp-guidelines.pdf
[12] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48309/1255-code-practice-optimum-phasing-power-lines.pdf
[13] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224766/powerlines_vcop_microshocks.pdf
[14] http://webarchive.nationalarchives.gov.uk/20140629102627/http://www.hpa.org.uk/Publications/Radiation/NPRBArchive/DocumentsOfTheNRPB/Absd1502/
[15] http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/Publichealth/Healthprotection/DH_4089500

injuries due to flying ferromagnetic objects, and these considerations can lead to much lower restrictions, such as 0.5 mT.

- **Power frequency electric and magnetic fields**
  At 50 Hz, the known direct effects include those of induced currents in the body on the central nervous system (CNS) and indirect effects include the risk of painful spark discharge on contact with metal objects exposed to electric fields. The ICNIRP guidelines published in 1998 give reference levels for public exposure to 50 Hz electric and magnetic fields, and these are respectively 5 kV m^{-1} (kilovolts per metre) and 100 μT (microtesla). The reference level for magnetic fields changes to 200 μT in the revised (ICNIRP 2010) guidelines because of new basic restrictions based on induced electric fields inside the body, rather than induced current density. If people are not exposed to field strengths above these levels, direct effects on the CNS should be avoided and indirect effects such as the risk of painful spark discharge will be small. The reference levels are not in themselves limits but provide guidance for assessing compliance with underlying basic restrictions and reducing the risk of indirect effects.

- **Long term effects**
  There is concern about the possible effects of long-term exposure to electromagnetic fields, including possible carcinogenic effects at levels much lower than those given in the ICNIRP guidelines. In the NRPB advice issued in 2004, it was concluded that the studies that suggest health effects, including those concerning childhood leukaemia, could not be used to derive quantitative guidance on restricting exposure. However, the results of these studies represented uncertainty in the underlying evidence base, and taken together with people's concerns, provided a basis for providing an additional recommendation for Government to consider the need for further precautionary measures, particularly with respect to the exposure of children to power frequency magnetic fields.

- **The Stakeholder Advisory Group on ELF EMFs (SAGE)**
  The Stakeholders Advisory Group on ELF EMF's (SAGE) was set up to explore the implications for a precautionary approach to extremely low frequency electric and magnetic fields (ELF EMFs), and to make practical recommendations to Government:[16]

  Relevant here is SAGE's 2007 First Interim Assessment, which makes several recommendations concerning high voltage power lines. Government supported the implementation of low cost options such as optimal phasing to reduce exposure; however it did not support the option of creating corridors around power lines in which development would be restricted on health grounds, which was considered to be a disproportionate measure given the evidence base on the potential long term health risks arising from exposure. The Government response to SAGE's First Interim Assessment is available on the national archive website.[17]

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

Ionising radiation

Particular considerations apply when an application involves the possibility of exposure to ionising radiation. In such cases it is important that the basic principles of radiation protection recommended by the International Commission on Radiological Protection[18] (ICRP) are followed. PHE provides advice on the application of these recommendations in the UK. The ICRP recommendations are implemented in the Euratom Basic Safety Standards[19] (BSS) and these form the basis for UK

[16] http://www.emfs.info/policy/sage/

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

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

[19] Council Directive 96/29/EURATOM laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation.

legislation, including the Ionising Radiation Regulations 1999, the Radioactive Substances Act 1993, and the Environmental Permitting Regulations 2016.

As part of the EIA process PHE expects applicants to carry out the necessary radiological impact assessments to demonstrate compliance with UK legislation and the principles of radiation protection. This should be set out clearly in a separate section or report and should not require any further analysis by PHE. In particular, the important principles of justification, optimisation and radiation dose limitation should be addressed. In addition compliance with the Euratom BSS and UK legislation should be clear.

When considering the radiological impact of routine discharges of radionuclides to the environment PHE would, as part of the EIA process, expect to see a full radiation dose assessment considering both individual and collective (population) doses for the public and, where necessary, workers. For individual doses, consideration should be given to those members of the public who are likely to receive the highest exposures (referred to as the representative person, which is equivalent to the previous term, critical group).

Different age groups should be considered as appropriate and should normally include adults, 1 year old and 10 year old children. In particular situations doses to the fetus should also be calculated[20].

The estimated doses to the representative person should be compared to the appropriate radiation dose criteria (dose constraints and dose limits), taking account of other releases of radionuclides from nearby locations as appropriate. Collective doses should also be considered for the UK, European and world populations where appropriate.

The methods for assessing individual and collective radiation doses should follow the guidance given in 'Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment August 2012 [21]

It is important that the methods used in any radiological dose assessment are clear and that key parameter values and assumptions are given (for example, the location of the representative persons, habit data and models used in the assessment).

Any radiological impact assessment, undertaken as part of the EIA, should also consider the possibility of short-term planned releases and the potential for accidental releases of radionuclides to the environment. This can be done by referring to compliance with the Ionising Radiation Regulations and other relevant legislation and guidance.

The radiological impact of any solid waste storage and disposal should also be addressed in the assessment to ensure that this complies with UK practice and legislation; information should be provided on the category of waste involved (e.g. very low level waste, VLLW). It is also important that the radiological impact associated with the decommissioning of the site is addressed.

Of relevance here is PHE advice on radiological criteria and assessments for land-based solid waste disposal facilities[22]. PHE advises that assessments of radiological impact during the operational phase should be performed in the same way as for any site authorised to discharge radioactive waste. PHE also advises that assessments of radiological impact during the post

[20] HPA (2008) Guidance on the application of dose coefficients for the embryo, fetus and breastfed infant in dose assessments for members of the public. Doc HPA, RCE-5, 1-78, available at https://www.gov.uk/government/publications/embryo-fetus-and-breastfed-infant-application-of-dose-coefficients

[21] The Environment Agency (EA), Scottish Environment Protection Agency (SEPA), Northern Ireland Environment Agency, Health Protection Agency and the Food Standards Agency (FSA).
Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment August 2012.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296390/geho1202bklh-e-e.pdf

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

operational phase of the facility should consider long timescales (possibly in excess of 10,000 years) that are appropriate to the long-lived nature of the radionuclides in the waste, some of which may have half-lives of millions of years.

The radiological assessment should consider exposure of members of hypothetical representative groups for a number of scenarios including the expected migration of radionuclides from the facility, and inadvertent intrusion into the facility once institutional control has ceased.

For scenarios where the probability of occurrence can be estimated, both doses and health risks should be presented, where the health risk is the product of the probability that the scenario occurs, the dose if the scenario occurs and the health risk corresponding to unit dose.

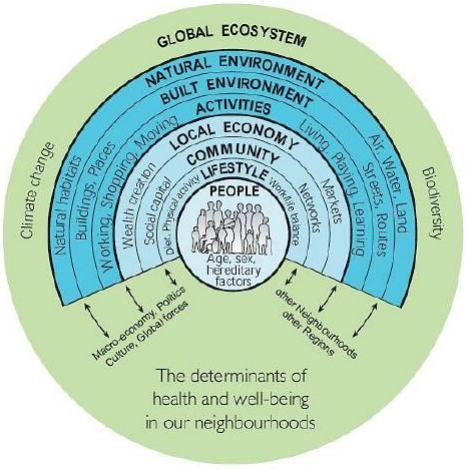
For inadvertent intrusion, the dose if the intrusion occurs should be presented. It is recommended that the post-closure phase be considered as a series of timescales, with the approach changing from more quantitative to more qualitative as times further in the future are considered.

The level of detail and sophistication in the modelling should also reflect the level of hazard presented by the waste. The uncertainty due to the long timescales means that the concept of collective dose has very limited use, although estimates of collective dose from the 'expected' migration scenario can be used to compare the relatively early impacts from some disposal options if required.

Wider Determinants of Health

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

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



Barton and Grant[23]

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

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

We accept that the relevance of these topics and associated impacts will vary depending on the nature of the proposed development and in order to assist applicants PHE has focused its approach on scoping determinants of health and wellbeing under four themes, which have been derived from an analysis of the wider determinants of health mentioned in the National Policy Statements. PHE has developed a list of 21 determinants of health and wellbeing under four broad themes, which have been derived from an analysis of the wider determinants of health mentioned in the National Policy Statements (NPS). If the applicant proposes to scope any areas out of the assessment, they should provide clear reasoning and justification.

The four themes are:
- Access
- Traffic and Transport
- Socioeconomic
- Land Use

Methodology

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

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

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

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

Determining significant effects

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

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

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

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

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

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

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

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

Scoping

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

Vulnerable groups

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

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

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

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

Age related groups
• Children and young people
• Older people
Income related groups

• People on low income
• Economically inactive
• Unemployed/workless
• People who are unable to work due to ill health

Groups who suffer discrimination or other social disadvantage
• People with physical or learning disabilities/difficulties
• Refugee groups
• People seeking asylum
• Travellers
• Single parent families
• Lesbian and gay and transgender people
• Black and minority ethnic groups
• Religious groups

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

Mental health

PHE supports the use of the broad definition of health proposed by the World Health Organisation (WHO). Mental well-being is fundamental to achieving a healthy, resilient and thriving population. It und4erpins healthy lifestyles, physical health, educational attainment, employment and productivity, relationships, community safety and cohesion and quality of life. NSIP schemes can be of such scale and nature that will impact on the over-arching protective factors, which are:
• Enhancing control
• Increasing resilience and community assets
• Facilitating participation and promoting inclusion.

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

Perceptions about the proposed scheme may increase the risk of anxiety or health effects by perceived effects. “Estimation of community anxiety and stress should be included as part of every risk or impact assessment of proposed plans that involve a potential environmental hazard.

Evidence base and baseline data

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

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

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

Mitigation

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

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

Positive benefits from the scheme

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

Monitoring

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

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

How to contact PHE

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

Appendix 1
Table 1 – Wider determinants of health and wellbeing

Health and wellbeing themes			
Access	Traffic and Transport	Socioeconomic	Land Use
Wider determinants of health and wellbeing			
Access to : • local public and key services and facilities. • Good quality affordable housing. • Healthy affordable food. • The natural environment. • The natural environment within the urban environment. • Leisure, recreation and physical activities within the urban and natural environments.	• Accessibility. • Access to/by public transport. • Opportunities for access by cycling and walking. • Links between communities. • Community severance. • Connections to jobs. • Connections to services, facilities and leisure opportunities.	• Employment opportunities, including training opportunities. • Local business activity. • Regeneration. • Tourism and leisure industries. • Community/social cohesions and access to social networks. • Community engagement.	• Land use in urban and/or /rural settings. • Quality of Urban and natural environments

1) **Access**

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

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

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

infrastructure to the location of services and facilities, and the quality of services and facilities.

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

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

b. Access to good-quality affordable housing

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

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

c. Access to affordable healthy food

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

Factors affecting access to healthy affordable food include whether it is readily available from local shops, supermarkets, markets or delivery schemes and/or there are opportunities to grow food in local allotments or community gardens. People in environments where there is a high proportion of fast food outlets may not have easy access to healthy affordable food.

d. Access to the natural environment

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

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

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

e. Access to the natural environment within the urban environment

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

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

services at 2010 levels, for every additional percentage increase in the proportion of 'artificial' land, there needs to be a 2.2% increase in green infrastructure.

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

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

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

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

2) **Traffic and Transport**

a. Accessibility

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

Accessibility in relation to transport and travel has several aspects including whether potential users can gain physical access to the infrastructure and access to the services the infrastructure provides. The design and operation of transport infrastructure and the associated services should take account of the travel needs of all potential users including people with limited mobility. People whose specific needs should be considered include pregnant women, older people, children and young people and people with a disability. Other aspects of transport infrastructure affecting

accessibility include safety and affordability, both of which will affect people's ability to travel to places of employment and/or key local services and facilities and/or access their social networks.

b. Access to / by public transport

Provision of high-quality public transport is associated with higher levels of active travel among children and among people commuting to work, with a decrease in the use of private cars. Combining public transport with other forms of active travel can improve cardiovascular fitness. Innovative or new public transport interventions may need to be marketed and promoted differently to different groups of transport users, eg by emphasising novelty to car users while ensuring that the new system is seen by existing users as coherently integrated with existing services.

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

c. Opportunities for / access by cycling & walking

Walking and cycling infrastructure can enhance street connectivity, helping to reduce perceptions of long-distance trips and providing alternative routes for active travel. Prioritising pedestrians and cyclists through changes in physical infrastructure can have positive behavioural and health outcomes, such as physical activity, mobility and cardiovascular outcomes. The provision and proximity of active transport infrastructure is also related to other long-term disease risk factors, such as access to healthy food, social connectedness and air quality. The perception of air pollution, however, appears to be a barrier to participating in active travel.

Perceived or objective danger may also have an adverse effect on cycling and walking, both of which activities decrease with increasing traffic volume and speed, and cycling for leisure decreases as local traffic density increases. Health gains from active travel policies outweigh the adverse effects of road traffic incidents. New infrastructure to promote cycling, walking and the use of public transport can increase the time spent cycling on the commute to work, and the overall time spent commuting among the least-active people. Active travel to work or school can be associated with body mass index and weight, and may reduce cardiovascular risk factors and improve cardiovascular outcomes. The distance of services from cycle paths can have an adverse effect on cycling behaviour, whereas mixed land use, higher densities and reduced distances to non-residential destinations promote transportation walking.

d. Links between communities

Social connectedness can be enhanced by the provision of public and active transport infrastructure and the location of employment, amenities, facilities and services.

e. Community severance

In neighbourhoods with high volumes of traffic, the likelihood of people knowing and

trusting neighbours is reduced.

f. Connections to jobs

The location of employment opportunities and the provision of public and active transportation infrastructure are associated with risk factors for long-term disease such as physical activity. Good pedestrian and cycling infrastructure can promote commuting physical activity. Improved transport infrastructure has the potential to shift the population distribution of physical activity in relation to commuting, although a prerequisite may be a supportive social environment. Mixed land use, higher densities and reduced distances to non-residential destinations promote transportation walking.

The ease of access to employment, shops and services including the provision of public and active transport are important considerations and schemes should take any opportunity to improve infrastructure to promote cycling, walking and the use of public transport

g. Connections to services, facilities and leisure opportunities

Mixed land use, higher densities and reduced distances to non-residential destinations promote transportation walking. Access to recreational opportunities and the location of shops and services are associated with risk factors for long-term disease such as physical activity, access to healthy food and social connectedness. Increased distance of services from cycle paths can have an adverse effect on cycling behaviour.

3) **Socio Economic**

a. Employment opportunities including training opportunities

Employment is generally good for physical and mental health and well-being, and worklessness is associated with poorer physical and mental health and well-being. Work can be therapeutic and can reverse the adverse health effects of unemployment for healthy people of working age, many disabled people, most people with common health problems and social security beneficiaries. Account must be taken of the nature and quality of work and its social context and jobs should be safe and accommodating. Overall, the beneficial effects of work outweigh the risks of work and are greater than the harmful effects of long-term unemployment or prolonged sickness absence. Employment has a protective effect on depression and general mental health.

Transitions from unemployment to paid employment can reduce the risk of distress and improve mental health, whereas transitions into unemployment are psychologically distressing and detrimental to mental health. The mental health benefits of becoming employed are also dependent on the psychosocial quality of the job, including level of control, demands, complexity, job insecurity and level of pay: transition from unemployment to a high-quality job is good for mental health, whereas transition from unemployment to a low-quality job is worse for mental health than being unemployed. For people receiving social benefits, entry into paid employment can improve quality of life and self-rated health (physical, mental, social) within a short time-frame. For people receiving disability benefits, transition into employment can improve mental and physical health. For people with mental health needs, entry into employment reduces the use of mental health services.

For vocational rehabilitation of people with severe mental illness (SMI), Supported Employment is more effective than Pre-vocational Training in helping clients obtain competitive employment; moreover, clients in Supported Employment earn more and

work more hours per month than those in Pre-vocational Training.

b. Local Business Activity

It is important to demonstrate how a proposed development will contribute to ensuring the vitality of town centres. Schemes should consider the impact on local employment, promote beneficial competition within and between town centres, and create attractive, diverse places where people want to live, visit and work

In rural areas the applicant should assess the impact of the proposals on a prosperous rural economy, demonstrate how they will support the sustainable growth and expansion of all types of business and enterprise in rural areas, promoting the development and diversification of agricultural and other land based rural businesses.

c. Regeneration

Following rebuilding and housing improvements in deprived neighbourhoods, better housing conditions are associated with better health behaviours; allowing people to remain in their neighbourhood during demolition and rebuilding is more likely to stimulate life-changing improvements in health behaviour than in people who are relocated. The partial demolition of neighbourhoods does not appear to affect residents' physical or mental health. Mega-events, such as the Olympic Games, often promoted on the basis of their potential legacy for regeneration, appear to have only a short-term impact on mental health.

d. Tourism and Leisure Industries

The applicant should assess the impact of the proposed development on retail, leisure, commercial, office, tourism, cultural, community and residential development needed in town centres. In rural locations assessment and evaluation of potential impacts on sustainable rural tourism and leisure developments that benefit businesses in rural areas, communities and visitors should be undertaken.

e. Community / social cohesion and access to social networks

The location of employment, shops and services, provision of public and active transport infrastructure and access to open space and recreational opportunities are associated with social connectedness. Access to local amenities can increase social participation. Neighbourhoods that are more walkable can increase social capital. Urban agriculture can increase opportunities for social connectivity. Infrastructure developments, however, can affect the quality of life of communities living in the vicinity, mediated by substantial community change, including feelings of threat and anxiety, which can lead to psychosocial stress and intra-community conflict.

f. Community engagement

Public participation can improve environmental impact assessments, thereby increasing the total welfare of different interest groups in the community. Infrastructure development may be more acceptable to communities if it involves substantial public participation.

4) **Land Use**

a. Land use in urban and / or rural settings

Land-use mix including infrastructure:

Land use affects health not only by shaping the built environment, but also through the balance of various types of infrastructure including transport. Vulnerable groups in the population are disproportionately affected by decisions about land use, transport and the built environment. Land use and transport policies can result in negative health impacts due to low physical activity levels, sedentary behaviours, road traffic incidents, social isolation, air pollution, noise and heat. Mixed land use can increase both active travel and physical activity. Transportation walking is related to land-use mix, density and distance to non-residential destinations; recreational walking is related to density and mixed use. Using modelling, if land-use density and diversity are increased, there is a shift from motorised transport to cycling, walking and the use of public transport with consequent health gain from a reduction in long-term conditions including diabetes, cardiovascular disease and respiratory disease.

Proximity to infrastructure:
Energy resource activities relating to oil, gas and coal production and nuclear power can have a range of negative effects on children and young people. Residing in proximity to motorway infrastructure can reduce physical activity. For residents in proximity to rail infrastructure, annoyance is mediated by concern about damage to their property and future levels of vibration. Rural communities have concerns about competing with unconventional gas mining for land and water for both the local population and their livestock."

b. Quality of urban and natural environments

Long-term conditions such as cardiovascular disease, diabetes, obesity, asthma and depression can be moderated by the built environment. People in neighbourhoods characterised by high ‘walkability’ walk more than people in neighbourhoods with low ‘walkability’ irrespective of the land-use mix. In neighbourhoods associated with high ‘walkability’ there is an increase in physical activity and social capital, a reduction in overweight and blood pressure, and fewer reports of depression and of alcohol abuse. The presence of walkable land uses, rather than their equal mixture, relates to a healthy weight. Transportation walking is at its highest levels in neighbourhoods where the land-use mix includes residential, retail, office, health, welfare and community, and entertainment, culture and recreation land uses; recreational walking is at its highest levels when the land-use mix includes public open space, sporting infrastructure and primary and rural land uses. Reduced levels of pollution and street connectivity increase participation in physical activity.

Good-quality street lighting and traffic calming can increase pedestrian activity, while traffic calming reduces the risk of pedestrian injury. 20-mph zones and limits are effective at reducing the incidence of road traffic incidents and injuries, while good-quality street lighting may prevent them. Public open spaces within neighbourhoods encourage physical activity, although the physical activity is dependent on different aspects of open space, such as proximity, size and quality. Improving the quality of urban green spaces and parks can increase visitation and physical activity levels.

Living in a neighbourhood overlooking public areas can improve mental health, and residential greenness can reduce the risk of cardiovascular mortality. Crime and safety issues in a neighbourhood affect both health status and mental health. Despite the complexity of the relationship, the presence of green space has a positive effect on crime, and general environmental improvements may reduce the fear of crime. Trees can have a cooling effect on the environment – an urban park is cooler than a non-green site. Linking road infrastructure planning and green infrastructure planning can produce improved outcomes for both, including meeting local communities' landscape sustainability objectives.