

Environmental Statement: Volume I

Chapter 2: Assessment Methodology

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2.0 ASSESSMENT METHODOLOGY

2.1 General Assessment Approach

2.1.1 This Environmental Statement (ES) has been prepared to satisfy the requirements of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 ('the EIA Regulations') (see Chapter 1: Introduction, Table 1.1 (ES Volume I)).

2.1.2 In addition to the EIA Regulations, reference has been made to the following guidance:

- Planning Inspectorate Advice Note 3: EIA Consultation and Notification (Ref 2-1);
- Planning Inspectorate Advice Note 7: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping (Ref 2-2);
- Planning Inspectorate Advice Note 9: Rochdale Envelope (Ref 2-3); and
- Planning Inspectorate Advice Note 17: Cumulative Effects Assessment (Ref 2-4).

2.1.3 Reference has also been made to the Scoping Opinion received from the Secretary of State (SoS) dated July 2018 (Appendix 1B, ES Volume III, Application Document Ref. 6.4) and the advice contained within it regarding assessment methodology, topics and presentation of the ES.

2.2 Scope of the ES

2.2.1 In response to and in accordance with the Scoping Opinion, this ES includes assessments of the following environmental topics:

- Air Quality;
- Traffic and Transport;
- Noise and Vibration;
- Ecology;
- Landscape and Visual Amenity;
- Ground Conditions and Hydrogeology;
- Surface Water, Flood Risk and Drainage;
- Cultural Heritage;
- Socio-Economics;
- Human Health
- Sustainability and Climate Change; and
- Cumulative and Combined Effects.

2.2.2 The EIA Scoping Report (Appendix 1A, ES Volume III) concluded that a number of topics did not need to be considered as part of the EIA for the Proposed Development and could be scoped out. These topics and (where relevant) the response in the Scoping Opinion are described below.

Waste Management

- 2.2.3 Waste arisings from the Existing VPI CHP Plant are managed in accordance with the Environmental Management System Procedure for the Management of Controlled Waste (Hazardous & Non-Hazardous).
- 2.2.4 Due to the size of the Proposed Development, waste arisings are anticipated to be very minor in nature from the operational power plant and would be managed by adopting the procedures already in place. Construction wastes are not expected to be significant and will be managed through a Site Waste Management Plan. Any spoil arising from site clearance and preparation works is envisaged to be retained on site for beneficial use and it is assumed that significant volumes of off-site waste disposal are not required. Therefore, significant effects from waste are not anticipated.

Electronic Interference

- 2.2.5 The proposed maximum building heights and expected temporary construction cranes would be no higher than the existing buildings and stacks associated with Existing VPI CHP Plant. Therefore an assessment of the Proposed Development's effect on electronic interference is not considered to be required.
- 2.2.6 Further to this, analogue television and radio signals have ceased to be transmitted and have been replaced by digital signals. As such, the Proposed Development's potential to interfere with television, radio (both analogue and digital) and mobile phone reception is considered negligible and therefore Electronic Interference is scoped out of the EIA.

Aviation

- 2.2.7 The Civil Aviation Association (CAA) has a general interest in charting all known structures of 91.4m (300 feet) or more above ground level.
- 2.2.8 Given the Site's distance from the nearest airfield (Humberside airport, approximately 9.5km to the southwest) and as none of the proposed buildings or structures would be 91.4m or more above ground level (with the tallest structures envisaged to be roughly half that height), an assessment of the potential impacts of the Proposed Development on aviation is not considered to be required and therefore Aviation is scoped out of the EIA.
- 2.2.9 The CAA has been formally consulted on the Proposed Development to review any requirements for aviation lighting on the stack(s) and enable the Proposed Development to be charted in future if required.

Accidental Events/ Health and Safety

- 2.2.10 The majority of emergency response plans and contingency measures will be dealt with in the Environmental Permit, which is required for the operation of the Proposed Development, and which is granted and regulated by the Environment Agency (EA). Any accidents associated with hazardous materials storage and use will also be separately considered as part of any Hazardous Substances Consent or lower tier Control of Major Accident Hazards (COMAH) licence, should they be required.
- 2.2.11 The potential for impacts of abnormal air emissions on human health and accidental events such as fuel spillages and fires have been considered as part of the relevant ES chapters (see Chapter 6: Air Quality, Chapter 11: Ground Conditions and Hydrogeology

and Chapter 12: Surface Water, Flood Risk and Drainage (ES Volume I)) and not within a standalone accidental events/ health and safety chapter.

2.3 Environmental Statement

EIA Activities

2.3.1 The ES presents the outcomes of the following EIA activities:

- Establishing the baseline conditions;
- Consultation with statutory and non-statutory consultees;
- Consideration of relevant local, regional and national planning policies, guidelines and legislation relevant to the EIA;
- Consideration of technical standards for the development of significance criteria and specialist assessment methodologies;
- Design review;
- Review of secondary information, previous environmental studies, publicly available information and databases;
- Expert opinion;
- Physical surveys and monitoring;
- Desk-top studies;
- Modelling and calculations; and
- Reference to current guidance.

2.3.2 These activities have enabled a prediction of impacts in relation to the baseline, and an assessment of the significance of effects on environmental receptors, which are presented in this ES. The term 'impact' refers to changes arising from the Proposed Development, whereas the term 'effect' is used to describe the result of the impact on a receptor.

Structure

2.3.3 Each ES technical chapter (Chapters 6 to 16, ES Volume I) follows the same structure for ease of reference, as follows (more information on these is provided below where appropriate):

- Introduction;
- Legislation and Planning Policy Context;
- Assessment Methodology and Significance Criteria;
- Baseline Conditions;
- Development Design and Impact Avoidance;
- Likely Impacts and Effects;
- Mitigation and Enhancement Measures;
- Limitations or Difficulties (including where any information is still pending at this PEI stage);

- Residual Effects and Conclusions; and
- References.

Spatial Scope: Geographical Area

2.3.4 The technical chapters of this ES (Chapters 6 to 16, ES Volume I) describe as necessary their spatial scope including their rationale for determining the specific area within which the assessment is focussed. The study areas are a function of the nature of the impacts and the locations of potentially affected environmental resources or receptors.

Temporal Scope: Assessment Years

2.3.5 The approach to assessment has been to assess the environmental impacts of the Proposed Development at key stages in its construction, operation and decommissioning.

2.3.6 The 'existing baseline' date is 2017/2018 since this is the period in which the baseline studies for the EIA were undertaken. 'Future baseline' conditions are also predicted for each assessment scenario, whereby the conditions anticipated to prevail at a certain point in the future (assuming the Proposed Development does not progress) are identified for comparison with the predicted conditions with the Proposed Development.

2.3.7 The assessment scenarios that are being considered for the purposes of the EIA (and considered in this ES) are as follows:

- Existing Baseline (2018, no Proposed Development);
- Future Baseline (2019-2022, no Proposed Development), for comparison respectively with the Construction, Operation, and Decommissioning scenarios listed below;
- Construction (including permitted preliminary works, 2021, with Proposed Development), where necessary, particular chapters identify the relevant period or 'peak' of activity within the 24 month construction programme;
- Operation (2022) (with Proposed Development), representing the start of commercial operation; and
- Decommissioning (2062 with Proposed Development).

2.3.8 These are 'self-selecting' as they simply reflect the anticipated dates on or periods within which certain activities are predicted to take place. Where necessary particular topic chapters define additional assessment years.

Definition of Existing and Future Baseline

2.3.9 Existing baseline conditions have been defined for each technical topic in Chapters 6 to 16 (ES Volume I), based on desk studies and site surveys. As described above, it is also important to consider future baseline conditions (in the absence of the Proposed Development) against which the effects of the Proposed Development can be assessed.

2.4 Development Design, Impact Avoidance and Mitigation

2.4.1 The design process for the Proposed Development has been heavily influenced by the findings of early environmental appraisals and the EIA work undertaken, and therefore the Proposed Development has been sited, and has had a number of measures incorporated

into the concept design, to avoid or minimise impacts. Each technical chapter sets out specific measures that have been incorporated into the design of the Proposed Development to avoid or minimise impacts, and any industry standard impact avoidance measures that will be implemented. These include compliance with best practice guidance documents (e.g. Environment Agency pollution prevention guidelines). The initial assessment has been undertaken on the basis of these measures being implemented (i.e. they are 'embedded mitigation').

- 2.4.2 In general, implementation of the impact avoidance and minimisation measures relied on in the assessment will be secured through the DCO, either through the setting of limits of deviation (e.g. specific Above Ordnance Datum (AOD) heights and locating items of plant within particular areas of the Site through the Works Plans) or through DCO Requirements in relation to mitigation measures. Other measures will be secured through other legislative and consenting regimes, such as environmental permitting.
- 2.4.3 Once the likely effects were identified and quantified, consideration was given to any further mitigation (over and above anything identified within the Development Design and Impact Avoidance section of the chapter) that may be required to mitigate any significant adverse effects identified. The residual effects (after the implementation of mitigation) have then been assessed and presented in each technical chapter. These residual effects are also summarised in Chapter 17: Summary of Significant Residual Effects (ES Volume I).

2.5 Impact Assessment Methodology and Significance Criteria

- 2.5.1 Impacts are defined as changes arising from the Proposed Development, and consideration of the result of these impacts on environmental receptors enables the identification of associated effects, and their classification (major, moderate, minor and negligible, and adverse, neutral or beneficial). Each effect has been classified both before and after mitigation measures have been applied. Effects after mitigation are referred to as 'residual effects'.
- 2.5.2 The classification of effects is undertaken with due regard to the following:
- Extent (local, regional or national) and magnitude of the impact;
 - Effect duration (whether short, medium or long-term);
 - Effect nature (whether direct or indirect, reversible or irreversible);
 - Whether the effects occur in isolation, are cumulative or interactive;
 - Performance against environmental quality standards and in the context of relevant legislation, standards and accepted criteria;
 - Number of receptors affected;
 - Sensitivity of receptors;
 - Compatibility with environmental policies; and
 - Professional experience and judgement of the assessor.
- 2.5.3 Further details are provided in each technical chapter.
- 2.5.4 Where it has not been possible to quantify effects, qualitative assessments have been carried out, based on industry best practice, available knowledge and professional

judgement. Where any uncertainty exists, this has been noted in the relevant technical chapter in the Limitations section of the chapter.

- 2.5.5 To enable comparison between technical topics and aid understanding of the EIA findings, standard terms are used wherever possible to classify effects throughout the ES (major, moderate, minor and negligible), and effects are also described as being adverse, neutral or beneficial. Where the quality standards for each technical discipline result in deviations in the standard assessment methodology, these are described in the relevant chapters as applicable.
- 2.5.6 Definitions of the standard terms are provided below:
- Negligible – imperceptible effects to an environmental resource or receptor;
 - Minor – slight, very short or highly localised effect;
 - Moderate – limited effect (by extent, duration or magnitude);
 - Major – considerable effect (by extent, duration or magnitude) of more than local scale or in breach of recognised acceptability, legislation, policy or standards;
 - Adverse – detrimental or negative effects to an environmental resource or receptor;
 - Neutral – effects to an environmental resource or receptor that are neither advantageous or detrimental; and
 - Beneficial – advantageous or positive effect to an environmental resource or receptor.
- 2.5.7 Moderate and major effects are generally considered to be ‘significant’ for the purposes of the EIA Regulations, in accordance with standard EIA practice.
- 2.5.8 Each of the technical chapters provides further description and definition of the assessment criteria relevant to each topic. Where possible, this has been based upon quantitative and accepted criteria (for example, noise assessment guidelines), together with the use of value judgement and expert interpretation to classify effects.
- 2.5.9 In general, the classification of an effect is based on the magnitude of the impact and sensitivity or importance of the receptor, using the matrix shown in Table 2.1 below. Where there are deviations away from this matrix (due to the technical guidance for a specific assessment topic), this is highlighted within the relevant technical chapter and the reason for the variation explained.

Table 2.1: Classification of Effects

Magnitude of impact	Sensitivity/ importance of receptor			
	High	Medium	Low	Very low
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Very low	Minor	Negligible	Negligible	Negligible

- 2.5.10 In the context of the Proposed Development, short term effects are considered to be those associated with the Site preparation and construction phase (including permitted

preliminary works) and which cease when construction works are completed; long term effects are those associated with the completed, operational development and which last for the duration of the operational phase. Effects may also be permanent (irreversible) or temporary (reversible) and direct or indirect.

- 2.5.11 Smaller scale effects within North Lincolnshire Council's (NLC) area are considered to be at a local level. Effects on areas similar or greater than NLC's area (even if they occur across local authority boundaries) are considered to be at a regional level, whilst effects that cover different parts of the country, or England as a whole, are considered to be at a national level.
- 2.5.12 There are no transboundary effects associated with the Proposed Development based on the Site location and the extent of potential effects associated with its construction, operation and decommissioning.

2.6 Cumulative and Combined Effects

- 2.6.1 As required by the EIA Regulations, the various technical chapters also consider the inter-relationships of effects, also sometimes referred to as combined effects (those that could be caused by various impacts of the Proposed Development acting in combination such as noise and dust impacts acting together at a single receptor).
- 2.6.2 In addition to combined effects, it is important to consider the potential for cumulative effects with other developments planned or consented in the vicinity of the Proposed Development. These issues are further explained and discussed in Chapter 16: Cumulative and Combined Effects (ES Volume I).

2.7 References

- Ref 2-1 Planning Inspectorate (2017a) *Advice Note 3: EIA Consultation and Notification*. Version 7, August 2017.
- Ref 2-2 Planning Inspectorate (2017b) *Advice Note 7: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping*. Version 7, December 2017.
- Ref 2-3 Planning Inspectorate (2018) *Advice Note 9: Using the Rochdale Envelope Advice Note Nine: Rochdale Envelope*, Version 3, July 2018.
- Ref 2-4 Planning Inspectorate (2015) *Advice Note 17: Cumulative Effects Assessment*. Version 1, December 2015.