VPI Immingham Energy Park 'A' Power Station

Land adjacent to the existing Combined Heat and Power (CHP) Plant at South Killingholme, Immingham

Environmental Impact Assessment: Environmental Statement – Non-Technical Summary

Town and Country Planning (Environmental Impact Assessment) Regulations 2017

Applicant: VPI Immingham LLP
Date: May 2018

GLOSSARY

Abbreviation	Description
AOD	Above Ordinance Datum – a spot height (an exact point on a map) with an elevation recorded beside it that represents its height above a given datum.
BAT	Best Available Techniques – available techniques which are the best for preventing or minimising emissions and impacts on the environment. BAT is required for operations involving the installation of a facility that carries out industrial processes.
BDC	Bassetlaw District Council – the local planning authority with jurisdiction over the area within which the West Burton Power Station Site and Proposed Development Site (the Site) are situated.
BPM	Best Practicable Means – actions undertaken and mitigation measures implemented to ensure that noise levels are minimised to be as low as practicable.
CCS	The Considerate Construction Scheme – a non-profit making, independent organisation founded in 1997 by the construction industry to improve its image.
CEMP	Construction Environmental Management Plan – a plan to outline how a construction project will avoid, minimise or mitigate effects on the environment and surrounding area.
CTMP	Construction Traffic Management Plan – a plan outlining measures to organise and control vehicular movement on a construction site so that vehicles and pedestrians using site routes can move around safely.
CWTP	Construction Workers Travel Plan – a plan managing and promoting how construction workers travel to a particular area or organisation. It aims at promoting greener, cleaner travel choices and reducing reliance on the private car.
DCO	A Development Consent Order made by the relevant Secretary of State pursuant to The Planning Act 2008 to authorise a Nationally Significant Infrastructure Project. A DCO can incorporate or remove the need for a range of consents which would otherwise be required for a development. A DCO can also include rights of compulsory acquisition.
DEMP	Decommissioning Environmental Management Plan – a site-specific plan developed to ensure that appropriate environmental management practices are followed during the decommissioning phase of a project and to detail all remediation, site control, and monitoring activities that will continue once the decommissioning activities are completed.
DTMP	Decommissioning Traffic Management Plan – a plan outlining measures to organise and control vehicular movements associated with the decommissioning phase to minimise impacts upon local highways.
EIA	Environmental Impact Assessment – a term used for the assessment of environmental consequences (positive or negative) of a plan, policy, program or project prior to the decision to move forward with the proposed action.
ELVs	Emission Limit Values – emission limit values based on the Best Available Techniques.
EMF	Electromagnetic fields – a physical field produced by electrically charged objects.
EMS	Environmental Management System – the management of an organisation's environmental programs in a comprehensive, systematic, planned and documented manner.
EPSM	European Protected Species Mitigation – in instances where projects are likely to have an impact on European Protected Species, mitigation must be undertaken and a licence granted by Natural England to provide a derogation to the law.
ES	Environmental Statement – a report in which the process and results of an Environment Impact Assessment are documented.

Abbreviation	Description
GHG	Greenhouse Gas – a gas in the atmosphere that absorbs and emits radiant energy within the thermal infrared range.
GPP	Guidance for Pollution Prevention
ha	Hectare – unit of measurement
HER	Historic Environment Record – information services that provide access to comprehensive and dynamic resources relating to the archaeology and historic built environment of a defined geographic area.
HGV	Heavy Goods Vehicle – vehicles with a gross weight in excess of 3.5 tonnes.
IDB	Internal Drainage Boards – a type of operating authority with permissive powers to undertake work to secure clean water drainage and water level management within drainage districts.
IED	Industrial Emissions Directive, EU Directive 2010/75/EU – European Union Directive committing member states to control and reduce the impact of industrial emissions on the environment.
LDS	Local Development Scheme – a requirement under section 15 of the Planning and Compulsory Purchase Act 2004, it sets out a local authority's work programme in relation to main planning policy documents.
LEP	Local Enterprise Partnerships are voluntary partnerships between local authorities and businesses.
LOAEL	Lowest observed adverse effect level. This is the level of noise exposure above which adverse effects on health and quality of life can be detected.
LWS	Local Wildlife Site
MCPD	Medium Combustion Plant Directive. EU Directive 2015/2193. European Union Directive committing member states to control and reduce the impact of emissions form combustion plant between 1 and 50MW thermal input.
MW	Megawatts – unit of energy
NLC	North Lincolnshire Council
NPPF	The National Planning Policy Framework – Policy Framework which came into effect on 27 March 2012 (with some transitional arrangements) replacing the majority of national planning policy other than NPSs. The NPPF is part of the Government's reform of the planning system intended to make it less complex, to protect the environment and to promote sustainable growth. It does not contain any specific policies on Nationally Significant Infrastructure Projects but its policies may be taken into account in decisions on DCOs if the Secretary of State considers them to be both important and relevant.
NPS	National Policy Statements – Statements produced by Government under the Planning Act 2008 providing the policy framework for Nationally Significant Infrastructure Projects. They include the Government's view of the need for and objectives for the development of Nationally Significant Infrastructure Projects in a particular sector such as energy and are used to determine applications for such development.
NSER	No Significant Effects Report – for the Habitats Regulations Assessment (HRA).
NSRs	Noise Sensitive Receptors – locations or areas where dwelling units or other fixed, developed sites of frequent human use occur.
NTS	Non-Technical Summary – this document: a summary of the Environmental Statement written in non-technical language for ease of understanding.
PPGN	Pollution Prevention Guidance Notes

Abbreviation	Description
SSSI	Site of Special Scientific Interest - nationally designated Sites of Special Scientific Interest, an area designated for protection under the Wildlife and Countryside Act 1981 (as amended), due to its value as a wildlife and/or geological site.
TCPA	Town and Country Planning Act 1990 (as amended). The primary legislative instrument regulating the development of land in England and Wales and directly applicable to this proposed development
VPI	VPI Immingham LLP (the Applicant)
WSI	Written Scheme of Investigation - a method statement or a project design to cover a suite of archaeological works for a site.
ZTV	Zone of Theoretical Visibility - a computer generated tool to identify the likely (or theoretical) extent of visibility of a development.

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1. Introduction

1.1 Introduction

1.1.1 This document presents a Non-Technical Summary (NTS) of the Environmental Statement (ES) that has been prepared in support of an application for the construction and operation of the proposed gas-fired power station (referred to as the Proposed Development), on land adjacent to the existing Combined Heat and Power (CHP) Plant at South Killingholme, Immingham, North Lincolnshire.

1.1.2 The Proposed Development and the land within the Application boundary (referred to as the Site) are described in Sections 3 and 4 of this NTS. The location and Site boundary are shown on Figures NTS1 and NTS2.

Figure NTS1: Site Location

Figure NTS2: Site Boundary

1.1.3 The purpose of this NTS is to describe the Proposed Development and provide a summary in non-technical language of the key findings of the ES. Technical details are provided within the ES (Volume 1: Main Report, Volume 2: Figures, and Volume 3: Technical Appendices).

1.1.4 The ES has been prepared to comply with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations). Environmental Impact Assessment (EIA) is a systematic process used to identify and assess the potentially significant adverse and beneficial effects of the Proposed Development, and outline mitigation or management measures that can be incorporated within the proposal to reduce (or enhance) these effects.

1.2 The Applicant

1.2.1 The Applicant is VPI Immingham LLP, referred to as VPI. VPI owns and operates the existing CHP plant at South Killingholme, one of the largest CHP plants in Europe, providing both electricity and steam to the adjacent oil refineries and electricity to the National Grid.

1.2.2 VPI was acquired by Vitol in 2013, an energy trading company based in Rotterdam, the Netherlands.

1.3 The Proposed Development

1.3.1 The Proposed Development comprises a gas-fired power station with a gross electrical output of up to 49.9 megawatts (MW_e). Subject to obtaining the necessary consents, construction is anticipated to commence around the first quarter (Q1) of 2019 and would take up to 18 months to complete. It is currently anticipated that the Proposed Development would commence commercial operation from as early as 2020.

1.3.2 The Proposed Development Site (termed the 'Site') is located immediately to the north of the existing VPI CHP power station and east of the Lindsey Oil Refinery (LOR) and extends to circa 3.2 hectares (ha) in area with approximately 1.25 ha being used for power generation with the rest of the area used for construction laydown and access during both construction and operation. The areas of the Site are illustrated in Figure NTS3 below.

1.3.3 The Proposed Development will consist of a number of gas engines (between five and 33) that will either be contained within an engine hall or will be separate containerised units. In addition there are a number of ancillary elements including electricity transmission infrastructure, offices and workshops. Connection to the National Grid systems for the export of electricity generated on Site and for the import of natural gas as fuel would be by the existing connections on the adjacent CHP Site

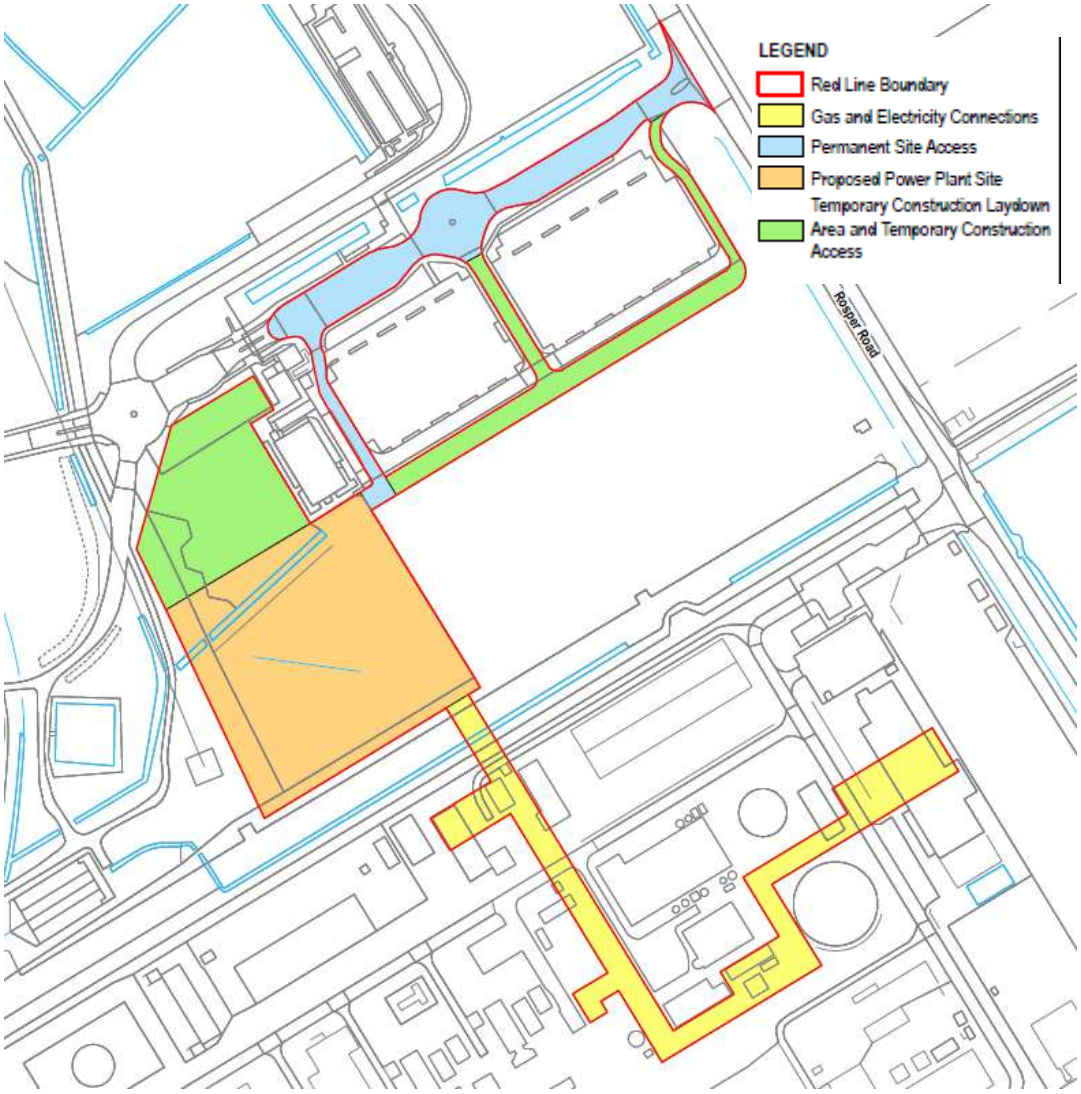
1.3.4 The Proposed Development would provide vital new energy infrastructure required to ensure security of power supply to the UK, operating flexibly, typically during periods of low electricity supply or high demand on the transmission network and to provide technical services to support the electricity grid.

1.3.5 Environmental impacts arising from the Proposed Development have been studied as part of the EIA process, and the initial results are presented within the ES and summarised in this NTS. The baseline for the assessment has been derived from measurements and studies in and around the Site. This is explained further in Chapter 2: EIA Assessment Methodology (ES Volume 1).

1.3.6 The EIA has also considered the potential cumulative impacts of the Proposed Development with other relevant known proposed or consented schemes, as outlined in Section 7 of this NTS.

1.3.7 A number of the design aspects and features of the Proposed Development cannot be confirmed until the tendering process for the design and construction of the power station has been completed. For example, the final selection of the number of engines to be installed and the enclosure or building sizes may vary, depending on the contractor selected and their specific configuration and selection of plant. Therefore this EIA has been undertaken using the Rochdale Envelope approach, whereby the worst case environmental effects of the range of options under consideration have been assessed in each chapter of the ES.

Figure NTS3: Parts of the Site



1.4 The EIA Regulations

1.4.1 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) came into force on 16 May 2017 (Ref NTS-1) and these Regulations are applied for this EIA.

1.4.2 The Proposed Development does not fall under Schedule 1 of the EIA Regulations, as the heat output is less than 300MW. However, Part 3(a) '*Industrial installations for the production of electricity, steam or hot water (unless included in Schedule 1)'* of Schedule 2 of the EIA Regulations identifies that industrial installation developments exceeding 0.5ha may require an EIA to be undertaken, depending on the scale and characteristics of the development and the sensitivity of the environment in which the development would take place. The Site exceeds the 0.5 hectares (ha) threshold set out in Schedule 2 of the EIA Regulations and has the potential to result in significant environmental effects if appropriate mitigation is not applied. Consequently the Applicant considered that an EIA of the Proposed Development should be undertaken and reported on through the ES.

1.5 Consultation

1.5.1 Consultation is integral to developing the proposals and informing stakeholders, regulators and the local community about the Proposed Development. It is used to identify any areas of potential concern that require further investigation, as well as to inform aspects of the design of the Proposed Development.

1.5.2 As part of the pre-application process, the Applicant consulted the relevant local planning authority (North Lincolnshire Council (NLC)), their consultees and various stakeholders and requested pre-application advice during the preparation of the EIA. This process included meetings at NLC's offices with planning and technical staff, to discuss the Proposed Development and scope of the environmental assessment.

1.5.3 The Applicant also agreed with NLC that, owing to the nature of the Site and the type of development proposed, community consultation would be limited to a presentation given to South Killingholme Parish Council.

1.5.4 The Applicant carried out the presentation at the Parish Council's monthly meeting in March 2018. The presentation was well received and contact details for the project team were provided. To date, the Applicant had received no subsequent questions/queries from councillors.

2. EIA Assessment Methodology

2.1 General Assessment Approach

2.1.1 This ES has been prepared to satisfy the requirements of the EIA Regulations.

2.1.2 In preparing this NTS (in line with the 2017 EIA Regulations as it forms part of the EIA process), reference has been made to the following guidance:

- The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 ('the EIA Regulations') (Ref NTS-1);
- The National Planning Policy Framework (NPPF) 2012 (Ref NTS-2);
- Planning Practice Guidance – Environmental Impact Assessment (Updated 2017) (Ref NTS-3);
- Department of Environment (DoE) 1995 – Preparation of Environmental Statements for Planning Projects that require Environmental Assessment - A Good Practice Guide (Ref NTS-4); and
- The Institute of Environmental Management and Assessment (IEMA) 2004 & 2006 Guidelines for Environmental Impact Assessment (Ref NTS-5).

2.1.3 Additional guidance on the assessment procedures is provided within best practice guidance relevant to each technical discipline. These documents are identified within the relevant technical chapters of this ES.

2.1.4 Reference has also been made to the Scoping Opinion received from NLC on 31 January 2018 (Appendix 1B (ES Volume 3)) and the advice contained within it regarding assessment methodology, topics and presentation of the ES, together with responses received through consultation.

2.1.5 In response to the Scoping Opinion, the EIA and this NTS include assessments of the following environmental topics:

- Air Quality;
- Noise and Vibration;
- Ecology and Nature Conservation;
- Landscape and Visual Amenity;

- Ground Conditions and Hydrogeology;
- Surface Water, Flood Risk and Drainage; and
- Cumulative and Combined Effects.

2.1.6 The EIA scoping process concluded that traffic and transport; waste management, socio economics, population and health, electronic interference; aviation; and accidental events/ health and safety could be scoped out of the EIA.

2.1.7 The assessment presented in the ES, where possible, uses standard methodologies based on legislation, definitive standards and accepted industry criteria. Methodologies differ between each technical topic, with the method adopted set out within each topic chapter of the ES (Volume 1).

2.1.8 The objective of the EIA process is to anticipate the changes (or 'impacts') that may occur to the environment as a result of the Proposed Development. The changes are compared to the environmental conditions that would have occurred without the Proposed Development (the baseline). The EIA process identifies potentially sensitive 'receptors' that may be affected by these changes (e.g. people living near the development, local flora and fauna) and defines the extent to which these receptors may be affected by the predicted changes (i.e. whether or not the receptors are likely to experience a 'significant effect').

2.1.9 The environmental impacts and effects of the Proposed Development are assessed at key stages in its construction and operation (including maintenance and use) and, where possible and relevant, its eventual decommissioning.

2.2 Development Design, Impact Avoidance and Mitigation

2.2.1 The design process for the Proposed Development has been influenced by the findings of early environmental appraisals and the EIA process. A number of measures have been incorporated into the concept design to avoid or minimise environmental impacts. These measures include those required for legal compliance and also include current industry best practice guidance which would be adopted during construction and operation of the Proposed Development.

2.2.2 Once the likely effects have been identified and quantified, consideration has been given to any further mitigation that may be required to mitigate any potentially significant adverse effects that have been identified. The residual effects (effects remaining after the implementation of mitigation) have then been assessed and presented in each chapter.

2.3 Impact Assessment Methodology and Significance Criteria

2.3.1 Impacts are changes arising from the Proposed Development, and consideration of the results of these impacts on the environment enables the identification of associated effects. The effects are then classified - major, moderate, minor and negligible, and adverse, neutral or beneficial. The classification of effects take into account aspects such as (but not limited to) extent, duration, and the number and sensitivity of receptors affected. Each effect has been classified both before and after mitigation measures have been applied.

2.3.2 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. 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 within the ES (Volume I – Main Report) 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

2.3.3 In the context of the Proposed Development, short-term effects are considered to be those associated with the construction and/or decommissioning phases, which cease when those works are completed. Long-term effects are those associated with the operational period. Effects may also be permanent (irreversible) or temporary (reversible) and direct or indirect.

3. Description of the Site and its Surroundings

3.1 Site Details

3.1.1 The Site is located immediately to the north of the existing VPI CHP power station and east of the Lindsey Oil Refinery (LOR) in North Killingholme, Lincolnshire DN40 3DZ. The Site boundary and areas within the Site can be found on Figure NTS 3.

3.1.2 Immingham Dock is located approximately 1.75km to the south east at its closest point. The Humber ports facility is located approximately 1.25km north at its closest point and the Humber Refinery is located approximately 550m to the south.

3.1.3 The nearest conurbation are the villages of North and South Killingholme located approximately 1.75km southeast of the Site and the nearest residential property is a single property on Marsh Lane located approximately 650m to the east of the Site. The Site lies entirely within the administrative area of North Lincolnshire unitary authority.

3.1.4 The Site occupies an area of approximately 3.2ha and consists of the following areas:

- The Power Plant Site, on which all components of the Proposed Development will be situated;
- Temporary Construction Laydown area for the receipt, storage and partial assembly of the project equipment and materials to be installed or constructed;
- Site access, both for temporary construction purposes and for operational access; and
- Gas and Electrical connection corridors to the existing CHP site to the south of the Site.

Power Plant Site

3.1.5 The Power Plant Site consists of an area of land of approximately 1.25ha in area located immediately to the south of the existing LOR canteen building. The Power Plant Site is a level area of land approximately 6m Above Ordnance Datum (AOD) and is currently undeveloped and consists of disturbed ground with limited vegetation.

3.1.6 The Power Plant Site is bounded as follows:

- North: Undeveloped land proposed as Construction Laydown area for the Proposed Development (see below), currently used for temporary vehicle parking;
- East: Undeveloped land with Rosper Road beyond;
- South: Pipework and services related to the operation of Humber oil refinery, LOR and other facilities, a vegetated drainage ditch and access trackway and the CHP plant operated by the Applicant; and
- West: Vegetated land, access trackways and ponds associated with the drainage system for LOR. Beyond is a private railway line and LOR itself. A single tower (pylon) associated with a high voltage transmission line is present approximately 20m from the Site boundary.

Gas and Electricity Connections

3.1.7 Gas and electricity connections would be supplied from tie-ins to existing services located on the existing adjacent CHP plant. These connections would largely be overground and will likely include a new above ground pipe bridge passing over existing third party pipelines, drainage ditch and access roadway.

Construction Laydown Areas

3.1.8 The Construction Laydown area consists of an area of land, approximately 0.8ha in area, located immediately to the north of the Power Plant Site and west of the existing LOR canteen building. The land is undeveloped and consists of bare compacted ground and is currently used for temporary vehicle parking.

4. The Proposed Development

4.1 Proposed Development

4.1.1 The Proposed Development comprises a gas-fired power station with a gross electrical output of up to 49.9 megawatts (MWe).

4.1.2 The Proposed Development is intended to supply electricity when required by the National Grid, typically to meet short term periods of high demand, to address shortfalls in supply from intermittent sources or to meet technical demands of the network. This is expected to be weighted towards the winter period, for a few hours at a time. However, as the operation of the plant is driven by the dynamics of the energy market, the plant could run for longer periods, at any time of day, up to the maximum allowed under its Environmental Permit.

4.1.3 In order to ensure a robust assessment of the likely significant environmental effects of the Proposed Development, this Environmental Impact Assessment (EIA) has been undertaken adopting the principles of the 'Rochdale Envelope'.

4.1.4 This involves assessing the maximum (and where relevant, minimum) parameters for the elements where flexibility needs to be retained. Where this approach is applied to the specific aspects of the EIA, notably in assessing air, noise and visual impacts, this has been confirmed within the relevant chapters of this Environmental Statement (ES) and the worst-case potential environmental effects are reported.

4.1.5 In accordance with this approach, two potential indicative layouts (termed Example Layout 'A' and Example Layout 'B') have been developed which illustrate the maximum extent of the Proposed Development in terms of its potential environmental impact. Layout A shows the

maximum extent of larger gas engines housed within an engine hall, while Layout B shows the maximum number of smaller containerised engines that would be located outside, without an engine hall. These are shown illustratively on Figures NTS 4 and NTS 5.

4.2 Components of the Proposed Development

4.2.1 The Proposed Development will include the following key elements:

- An engine hall up to 15m height housing up to 7 gas engines each associated with a stack of up to 35m in height external to the building and a bank of fin fan coolers up to 7m high (Indicative Layout 'A' only); or
- Up to 33 containerised gas engines, each associated with an stack of between 10m and 15m (Indicative Layout 'B' only).

4.2.2 In addition there are a number of ancillary elements that are common to both layouts and are not anticipated to vary as a result of the Rochdale Envelope, although their location within the Site boundary may alter depending on the layout adopted. These elements are:

- Gas pipeline to the adjacent VPI CHP site. This may include an section of above ground pipeline to pass over the existing services, drainage ditch and roadway bordering the Site;
- Gas receiving compound to monitor and regulate the flow of gas to the Site;
- Black start unit (skid mounted diesel fired generator);
- Raw/fire water tank and fire pump for fire control purposes;
- Treated water tank to facilitate cooling of the engines;
- Transformers to allow the export of electricity at the correct voltage;
- Gatehouse to control access to Site;
- Workshop and stores;
- Diesel tank for the storage of fuel for the black start unit;
- Lubrication oil tank, to facilitate the operation of the engines; and,
- Offices, workshops and a control module to facilitate the operation of the power station.

4.3 Design Parameters

4.3.1 The design of the Proposed Development is following an iterative process, based on preliminary environmental assessments and consultation with statutory and non-statutory consultees.

4.3.2 A number of the design aspects and features of the Proposed Development cannot be confirmed until the tendering process for the design and construction of the generating station has been completed. For example, the enclosure or building sizes may vary, depending on the contractor selected and their specific configuration and selection of plant.

4.4 Proposed Development Construction

4.4.1 The Applicant would appoint a contractor for the main works phase. That contractor is likely to appoint sub-contractors to undertake certain items of the construction, for example all of the associated civil works. The Applicant is committed to ensuring a safe working environment for all employees and contractors.

4.4.2 Construction of the Proposed Development is anticipated to start as early as 2019 and would be constructed over a period of up to 18 months. Table 4-1 gives an indication of the construction programme.

Table 4.1. Indicative construction programme

	2018				2019				2020				2021			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Main civil works																
Plant installation																
Gas and electrical connections																
Commissioning																

4.4.3 Construction working hours would generally be Monday to Friday 07:00 to 19:00 and Saturday 08:00 to 18:00. However, it is likely that some construction activities would be required 24-hours at certain times, because certain construction activities cannot be stopped or are better carried out over short periods (e.g. concrete slip forming and some elements of commissioning). Where on-site works would be conducted outside the core hours, they would comply with any restrictions agreed with the local planning authorities, in particular regarding control of noise and traffic.

4.5 Proposed Development Operation

4.5.1 The operation of the power station would be regulated by the Environment Agency through an Environmental Permit. This permit would be used to control normal emissions to the environment from the plant and would also consider potential abnormal operation scenarios and prevention or minimisation of accidents, through the use of management procedures and process monitoring.

4.6 Proposed Development Decommissioning

4.6.1 The proposed development is capable of a life expectancy of 20 years or more, depending on running hours. Eventually decommissioning would involve the removal of the plant. The gas and electricity connections would be disconnected and made safe. Decommissioning is not anticipated to present any significant environmental effects beyond those assessed for the construction period of the Proposed Development.

5. Planning Policy Framework

5.1.1 Chapter 5: Planning Policy Framework of this ES provides an overview of applicable planning policies Proposed Development, with topic specific policy detailed in the relevant topic chapters (Chapters 7-13 of this ES).

5.1.2 The following planning policy documents from the statutory development plan are considered most relevant to the Proposed Development:

- North Lincolnshire Core Strategy (Adopted June 2011);
- North Lincolnshire Local Plan (Adopted May 2003); and
- North Lincolnshire Housing and Employment Land Allocations Development Plan Document (Adopted March 2016).

5.1.3 The Industrial Development Supplementary Planning Guidance ('SPG') (2003), whilst not comprising part of the statutory development plan, is also a material consideration.

6. Design Evolution and Alternatives

6.1.1 The EIA Regulations state that the ES should include an outline of the main alternatives that have been studied and an indication of the main reasons for decisions made, taking into

account the environmental effects. Under the EIA Regulations there is currently no requirement to assess alternatives, only a requirement to provide information on those that have been considered. These alternatives are discussed further in the ES (Volume 1: Main Report), including consideration of alternative locations, alternative technologies and alternative design options and design evolution.

7. Results of the EIA

7.1 Air Quality

7.1.1 An assessment has been undertaken on air quality which considers:

- The present-day and future baseline conditions during construction and in the opening year of the Proposed Development;
- The effects of construction of the Proposed Development on air quality for human health and ecosystems, with respect to associated construction traffic, construction plant emissions and construction dust;
- The effects of operational process emissions associated with the Proposed Development on air quality for human health and ecosystems; and
- The cumulative effects of emissions associated with the Proposed Development and other committed developments in the vicinity.

7.1.2 The results of the assessment are reported in Chapter 7: Air Quality (ES Volume 1) supported by Figures 7.1 to 7.3 (ES Volume 2) and Appendices 7A and 7B (ES Volume 3).

Construction

7.1.3 No residential or transient human health receptors, nor any ecological receptors, have been identified within the screening distance and therefore the effects of construction dust soiling, have been scoped out from further assessment. In addition, the Local Wildlife Site ecological receptors located less than 50m from the Rosper Road construction traffic route, are more than 500m from the site exit and therefore are beyond the screening distance for trackout effects.

7.1.4 The effects of emissions to air on the identified receptors from the construction site activities associated with the Proposed Development are considered to be not significant, based on the distances to the identified sensitive receptors and the predicted volume of construction traffic accessing the Site. Nevertheless, construction air quality and dust impacts will be

controlled through the use of a Construction Environmental Management Plan (CEMP) prepared and implemented by the appointed construction contractor.

Operation

7.1.5 The operational point source emissions effects on identified receptors (both human and ecological) have been determined through detailed dispersion modelling, based on worst-case assumptions and considering the potential locations for stacks within a defined area of the Site, since the stack locations cannot yet be fixed. Based on emissions to air at regulatory emission limits (IED or MCPD pollutant emission levels (dependent on engine size)) and the stack heights previously outlined, the Proposed Development is predicted to have an imperceptible, minor or negligible adverse effect on air quality at sensitive receptors and therefore the air quality effects are considered to be not significant.

Rochdale Envelope Parameters

7.1.6 The alternative design schemes included within this assessment under the Rochdale Envelope approach have been modelled and the design scheme resulting in the worst-case predicted concentrations at receptors have been used in the assessment of effects significance; this means that the results presented in the this report are considered to be illustrative of several different design schemes and therefore the overall effect of the Proposed Development may be lower than that presented, as the preferred scheme to be taken forward may present lesser impacts on some receptors than presented in this assessment.

Decommissioning

7.1.7 The predicted air quality effects of eventual decommissioning of the Proposed Development are considered to be comparable to – or less than – those assessed for construction activities based on the groundwork, traffic movements and level of site work required to decommission the Proposed Development being less than that required for its construction. Appropriate best practice mitigation measures will be applied during any decommissioning works and documented in a Demolition Environmental Management Plan (DEMP) prepared at that time; no additional mitigation for decommissioning of the Proposed Development beyond such best practice is foreseen to be required at this stage.

7.2 Noise and Vibration

7.2.1 This assessment addresses the potential effects of the Proposed Development on local noise sensitive receptors.

7.2.2 Impacts during the construction, operation and decommissioning phases of the Proposed Development are assessed. In particular, the chapter considers potential impacts on identified receptors in terms of:

- Noise and vibration during the site clearance and construction works associated with the Proposed Development;
- Changes in road traffic noise levels on the local road network during the construction phases; and
- Noise and vibration resulting from operation of the Proposed Development.

7.2.3 The results of the assessment are reported in Chapter 8: Noise and Vibration (ES Volume 1) supported by Figure 8.1 (ES Volume 2) and Appendices 8A and 8B (ES Volume 3).

Construction

7.2.4 It is expected that noise generating activities will occur during the following activities:

- On-site Construction;
- Site Clearance;
- Piling and Foundation Works;
- Building and General Site Activities;
- Fit Out; and
- Landscaping.

7.2.5 There is one identified residential Noise Sensitive Receptor (NSR) in the locality of the Site; this is some 650m from the Power Plant Site. This is a significant distance which will result in high levels of noise reduction between the Site and the NSR. Accordingly the daytime construction noise effects even without mitigation are considered to be negligible. Night time noise will be controlled through restrictions on noisy activities that will not be undertaken at night; only activities that will not give rise to off-site noise impacts would be undertaken. Construction noise will be controlled through the CEMP.

7.2.6 There are no residential receptors in close enough proximity to the Proposed Development to be significantly affected by construction vibration.

Operation

7.2.7 The assessments for both options predict very low impacts and negligible effects at the NSR. This assessment is based upon worst case night time background sound levels; the daytime background sound levels will be higher so the impacts and effects will be even lower. These predicted effects are below the threshold for significance and the local authority agreed criterion for minor adverse (not significant) effects (+5 dB above background levels at the identified NSR).

Decommissioning

7.2.8 The predicted noise effects of eventual decommissioning and demolition of the Proposed Development are considered to be comparable to – or less than – those assessed for construction activities. They would be managed through the use of a DEMP in a similar way to the use of a CEMP as proposed during construction.

Mitigation

7.2.9 The preferred approach for controlling construction noise and vibration is to reduce levels at source where possible and practical. Sometimes a greater noise or vibration level may be acceptable if the overall construction time, and therefore length of disruption, is reduced.

7.2.10 Construction noise and vibration management measures will be managed through the CEMP as outlined above.

7.2.11 Assessment of the Proposed Development, in particular the options derived from the Example Layouts described as part of the Rochdale Envelope has resulted in negligible noise and vibration effects predicted. The necessary noise controls will be built in to the detailed design as described above. As such no additional mitigation is required.

Residual Effects and Conclusions

7.2.12 Residual effects in all phases of the Proposed Development for both day and night noise and vibration are considered to be negligible.

7.3 Landscape and Visual

7.3.1 This assessment addresses the potential effects of the Proposed Development on landscape character (as a resource in its own right) and visual amenity.

7.3.2 The results of the assessment are reported in Chapter 9: Landscape and Visual Amenity (ES Volume 1) supported by Figures 9.1 to 9.12 (ES Volume 2) and Appendix 9A (ES Volume 3).

Landscape

7.3.3 Construction activities undertaken as part of the Proposed Development would introduce mobile plant including piling rigs, heavy plant machinery and cranes. These construction activities would result in the loss of an area of grassland within the Site, alongside removal of vegetation present within. No other on-site or off-site landscape features would be impacted as a result of construction activities.

7.3.4 These construction activities are assessed as likely to result in a low or very low impact on landscape character. This effect is assessed to be minor or negligible adverse and not significant.

7.3.5 The Proposed Development is also assessed as likely to result in a low or very low impact on the wider landscape character, due to the introduction of additional built form which is smaller in form and scale to that within the adjacent refinery sites. This effect is assessed to be minor or negligible adverse and not significant.

7.3.6 Decommissioning activities are assessed as likely to result in a low or very low impact on landscape character. This effect is assessed to be minor or negligible adverse and not significant.

Visual Amenity

7.3.7 Changes in views may give rise to adverse or beneficial visual effects through obstruction in views, alteration of the components of the view and the opening up of new views by removal of screening. Potential visual effects arising from the construction activities may include:

- The introduction of stationary and moving pilling rigs, cranes and other high level construction machinery;
- The introduction of low level construction operations including heavy plant movements, welfare facilities, laydown and storage areas;
- Construction vehicles entering and leaving the Site; and
- The progressive construction of tall structures.

7.3.8 The potential visual effects due to the Proposed Development components were evaluated at 5 representative viewpoints located within the Zone of Theoretical Visibility (ZTV) (Figure NTS4) which take into account proposed future ground levels and the maximum development parameters considered under the Rochdale Envelope.

7.3.9 At this stage a worst-case scenario, including above ground cabling between the Proposed Development and the existing electrical infrastructure within the adjacent CHP power station and a maximum of seven stacks with a height of 35m AGL, have been considered in the assessment.

7.3.10 A series of photomontages and wireframes have been prepared which illustrate the likely visibility of the Proposed Development at three of the assessed viewpoints. These viewpoints were chosen as a range of representative views of the Proposed Development and illustrate the scenario of seven industrial gas engines with individual chimney stacks. The wireframes are illustrated on Figures NTS5, NTS6 and NTS7 below.

7.3.11 It has been assessed that the majority of visual receptors would experience a low or very low magnitude of impact during construction of the Proposed Development, resulting in a minor or negligible adverse effect that is not significant

Figure NTS4: Zone of theoretical visibility

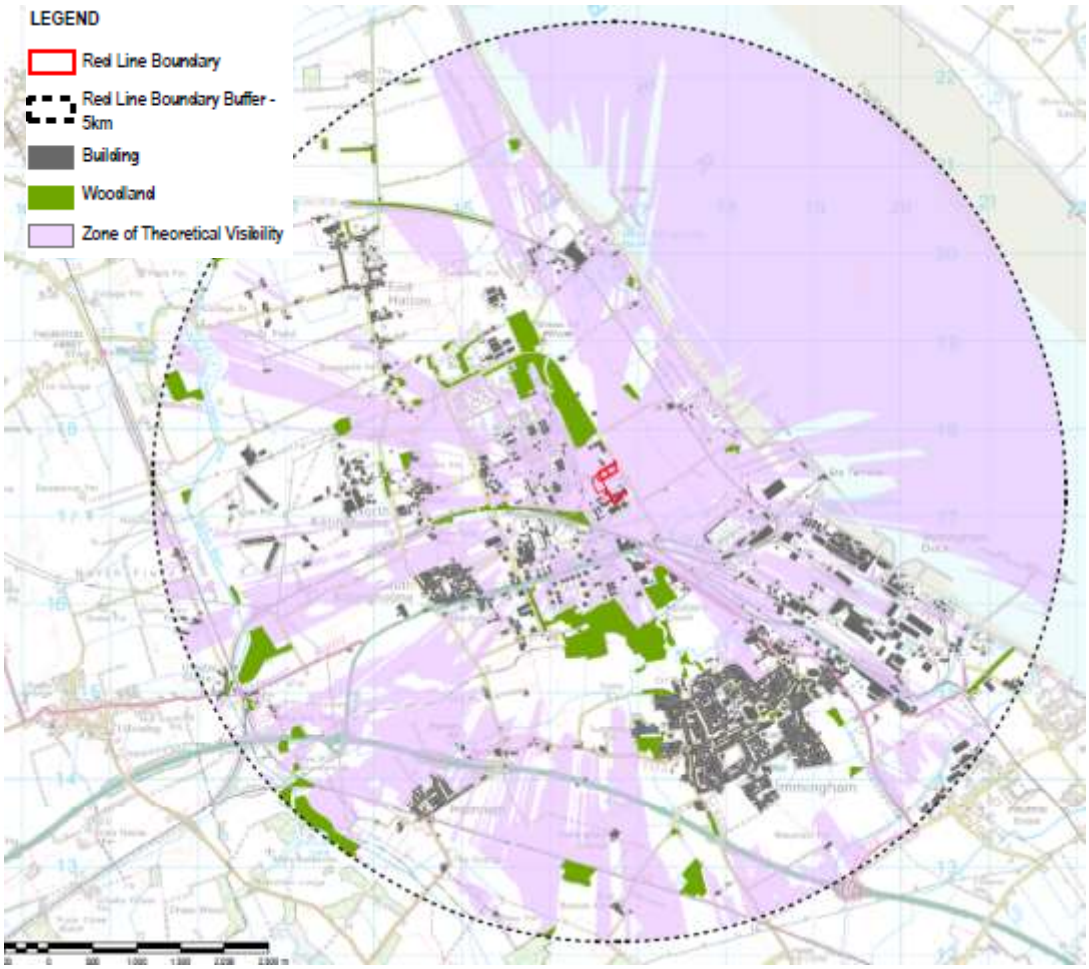


Figure NTS5: Viewpoint 1 Wireframe Example Layout A

Figure NTS6: Viewpoint 2 Wireframe Example Layout A

Figure NTS7: Viewpoint 3 Wireframe Example Layout A

7.4 Ecology

7.4.1 The ecological impact assessment has been conducted considering the following:

- The present-day and future baseline conditions during construction and at opening;
- The effects of construction of the Proposed Development on habitats and species, with respect to construction traffic, construction dust and the Proposed Development footprint; and
- The effects of the operation of the Proposed Development on habitats and species.

7.4.2 Due to the timing of this application, it was not possible to complete all the protected species ecological surveys in advance of submission and so the ecology chapter is based on the information available up to the end of April 2018. However, a preliminary ecological

appraisal has been carried out and seasonal surveys have been started and completed where possible.

7.4.3 Any evaluation of the importance of species or habitats is therefore provisional at present. The potential for impacts on ecological receptors has been identified, but the significance of effects cannot be fully assessed until the results of surveys are available. A revised version of the Ecology Chapter will be re-submitted to the local planning authority in due course with additional information regarding the baseline ecology, assessment of impacts and significance of effects, mitigation and residual effects following the completion of the full suite of ecology surveys in 2018.

7.4.4 The initial results of the assessment are reported in Chapter 10: Ecology (ES Volume 1) supported by Appendices 10A, 10B, 10C and 10D (ES Volume 3).

Construction

7.4.5 The following broad categories of impact and their potential effects on ecological features were used for the purposes of the screening exercise:

- Habitat loss - clearance or damage of habitat to facilitate construction, resulting in temporary or permanent reduction in habitat extent and potential direct and indirect effects on associated species; and
- Disturbance - increased levels of disturbance (noise, vibration, and lighting), potentially resulting in adverse effects on protected and notable species.

7.4.6 For internationally and nationally designated habitats above mean high water, or terrestrial habitats, given the distance between the Proposed Development and the Humber Estuary designated habitats, and taking into account the implementation of best practice during construction to minimise fugitive dust emissions, it is concluded that the Proposed Development would not impact upon them through this pathway. A separate Habitats Regulations Assessment (HRA) screening exercise has been completed and is reported in Chapter 10.

7.4.7 The nature and scale of the Proposed Development is similar to the surrounding industrial areas, which includes the operational Lindsey Oil Refinery and CHP plant. It is therefore reasonable to assume that any waterbirds roosting/ loafing/ foraging in fields on the east side of Rosper Road are habituated to the industrial nature of the surrounding area such that they would not be adversely affected, for example; construction work of a similar scale is currently ongoing at VPI Immingham's CHP plant, which lies immediately to the south of the Site.

7.4.8 Construction of the Proposed Development would result in the permanent and irreversible loss of approximately 1.4 ha of OMH.

7.4.9 A detailed evaluation of this habitat has not been undertaken to date because further botanical survey work is necessary to gather detailed baseline information for screening against the county LWS selection criteria for OMH (and thus to establish whether the habitat meets the criteria for being of Local, District or County nature conservation value).

7.4.10 In the event that populations of reptiles are identified within the Site boundary, it will be necessary to adopt appropriate mitigation to minimise the risk of killing/ injury of reptiles during site clearance works for legislative compliance.

7.4.11 In the absence of mitigation, there is a risk of killing/ injury of reptiles and loss of habitat potentially resulting in a local contraction in range and population size. This would be assessed to result in a minor adverse effect on reptiles, significant at the Site level only.

7.4.12 There is the potential for noise/ visual disturbance during the construction phase. However, given the industrial nature of the surrounding land use which includes the operational VPI CHP plant and the LOR, it is reasonable to assume that otters foraging on ditches in this area would be habituated to current operational activity. It is assessed that construction noise would give rise to neutral effects on foraging/ passage otter.

Operation

7.4.13 The nature and scale of the Proposed Development is similar to the surrounding industrial areas, which includes the operational Lindsey Oil Refinery and VPI CHP plant. It is therefore reasonable to assume that any SPA/ Ramsar waterbirds roosting/ loafing/ foraging in fields on the east side of Rosper Road are habituated to the industrial nature (and its associated noise and visual impact from chimney stacks, pipe racks, buildings etc.) of the surrounding area such that they would not be adversely affected.

7.4.14 The potential effects on habitats as a result of emissions to air are assessed as part of the air quality assessment and HRA screening exercise described above.

Decommissioning

7.4.15 Impacts associated with the decommissioning phase of the Proposed Development are likely to be of a similar nature to those associated with the construction phase and as a result the potential effects on ecological features are not anticipated to differ significantly from those predicted at construction. The extent of habitat loss that is likely to be required during decommissioning is likely to be much less than at construction, and the resulting effects on ecological features are therefore likely to be reduced. Appropriate pre-works surveys and mitigation or impact avoidance measures will be implemented for the decommissioning phase as necessary.

Mitigation and Enhancement Measures

7.4.16 Should species of reptiles be identified within the Site boundary, a minor adverse effect on reptile populations at the Site is predicted during the construction phase. If reptiles are identified on Site, a Precautionary Working Method Statement (PWMS) would be prepared for the construction phase to avoid the killing/ injury of reptiles during initial site clearance works. This will involve a fenced capture and translocation of reptiles away from the working area (including permanent and temporary works).

7.4.17 Mitigation for the loss of OMH habitat on the Site will be delivered through the creation and management of pockets of this habitat type in undeveloped areas of the Site. The management of these areas will maintain the brownfield habitat type, and will prevent the natural succession of the habitat to grassland as would otherwise occur on the OMH habitat currently present on Site. The remainder of the OMH habitat to the west of the Site will be retained.

7.4.18 In addition, the following habitat enhancements are proposed to meet the requirements of no net loss of biodiversity in the NPPF:

- Creation of log pile refuges in undeveloped parts of the Site (in the southern parts of the Site close to the ditch corridor) to create ecological niches for reptiles, amphibians and terrestrial invertebrates;
- Installation of bird nest boxes on buildings;
- Planting of native species of trees and berry-bearing shrubs to provide nesting opportunities for breeding birds, and sources of food for overwintering and passage birds; and
- Creation of species-rich wildflower grassland on undeveloped areas of the Site.

Residual Effects and Conclusions

7.4.19 If reptiles are present, the implementation of appropriate mitigation through PWMS will ensure that there are no significant residual effects on this species.

7.4.20 No significant effects on other ecology features have been identified.

7.5 Cultural Heritage

7.5.1 An assessment of the potential effects of the construction and operation of the proposed VPI-Immingham Energy Park 'A' (the Proposed Development) on cultural heritage has been conducted.

7.5.2 The results of the assessment are reported in Chapter 11: Cultural Heritage (ES Volume 1) supported by Figures 11.1 and 11.2 (ES Volume 2) and Appendices 11A and 11B (ES Volume 3).

Construction

7.5.3 Construction impacts include those impacts associated with construction activities, such as ground breaking, moving machinery, noise and construction traffic. Construction works at the site could also result in impacts on the settings of heritage assets including scheduled monuments and listed buildings.

7.5.4 There are three previously recorded assets which could be impacted by the Proposed Development.

Ditch (A19)

7.5.5 Ditch (A19) is thought to be medieval in date due to a sherd of 13th – 15th Toynton ware pottery recovered from it. The ditch is of very limited archaeological and historic significance for the information it contains regarding the land management of the area in the medieval period. The significance (heritage value) ascribed to this asset is low. It will be destroyed by the development, resulting in a magnitude of impact of high. This results in a significance of effect of moderate adverse prior to mitigation.

Hedgerows (A21)

7.5.6 The second asset within the Proposed Development boundary is the line of historically important hedgerows (A21). There are no hedgerows surviving within the Proposed Development here, and as this part of the Proposed Development is only required for site access, no further below ground impact will be required. The area in the vicinity of this asset will be used only for site access and no further effects are anticipated.

Circular and Linear Cropmark Features (A15)

7.5.7 The circular and linear cropmark features (A15) are no longer extant, and any remains will have been removed during the construction of the extant car park area, and no further below ground impact will be required. The area in the vicinity of this asset will be used only for site access and no further effects are anticipated.

Unrecorded Remains

7.5.8 There is potential for previously unrecorded remains to be located within the Proposed Development. Any such remains are most likely to be of Iron Age or Roman date, and would most likely represent agricultural activity on the peripheral of the settlement activity which surrounds the site. If any such remains are located, they would likely be of no more than low significance (heritage value) and contain limited archaeological significance. The

development will have significant physical effect on any unrecorded buried remains, resulting in a high magnitude of impact, resulting in a moderate adverse significance of effect before mitigation.

Designated Assets

7.5.9 There will be no physical impact upon any designated heritage assets during construction.

Operation

7.5.10 It is not anticipated that the operation and maintenance of the development will result in any operational impacts on the heritage resource described above beyond those already experienced as part of the working oil refinery.

Mitigation

7.5.11 It is considered that the likely adverse effects arising from the construction of the Proposed Development can be mitigated by a programme of archaeological work, consisting of a strip, map and record within the areas of ground disturbance within the Proposed Development boundary.

Residual Effects and Conclusions

7.5.12 The archaeological strip, map and record of any previously unrecorded remains will allow the archaeological deposits to be preserved by record. This would reduce the magnitude of impact on asset A19, as well as any previously unrecorded remains, to be reduced from high to medium. This will result in an effect of minor adverse significance.

7.5.13 There is the potential for physical effects on the site of the medieval ditch. This will result in a minor adverse significance of effect with mitigation in place. There will also be a minor adverse effect on the listed lighthouses.

7.5.14 It is proposed that archaeological strip, map and record is carried out during intrusive ground works within the Proposed Development boundary.

7.6 Ground Conditions and Hydrogeology

7.6.1 An assessment has been undertaken of the potential impacts to the existing geological and hydrogeological conditions from the Proposed Development.

7.6.2 The results of the assessment are reported in Chapter 12: Ground Conditions (ES Volume 1) supported by Figure 12.1 (ES Volume 2) and Appendices 12A and 12B (ES Volume 3).

Construction

7.6.3 Potential impacts during the construction phase are anticipated to include the following:

- The discovery of soils exhibiting visual and olfactory evidence of contamination during groundworks and the potential disturbance of residual soil contamination through construction activities such as the removal of existing Site drainage;
- The discovery of impacted groundwater/surface water recovered during dewatering which may not be suitable for discharge to ground without treatment;
- Foundation methods and construction activities that may open and/or modify potential pollutant linkages;
- Re-profiling of the Site including the possible introduction of new fill materials and the removal of unsuitable or excessive materials;
- Runoff from contaminated material exposed and/or stockpiled during Site construction works;
- Contamination arising from spillages associated with vehicles and construction materials;
- Airborne contamination arising from potentially contaminated dust;
- Removal of any waste materials and/or contaminated soil; and
- Introduction of contaminated materials during infilling activities.

Operation

7.6.4 Potential impacts during the operational phase are anticipated to include the following:

- Leaks, spills and contamination from storage of chemicals, fuels and wastes on site affecting site users and groundwater; and
- Presence of gases, vapours and groundwater in the ground affecting site users and buildings.

Decommissioning

7.6.5 Potential impacts during the decommissioning phase are anticipated to include the following:

- Generation and removal of wastes during decommissioning ;
- The discovery of soils exhibiting visual and olfactory evidence of contamination during demolition and the potential disturbance of residual soil contamination through demolition activities such as the removal of existing Site drainage;
- Demolition activities that may open and/or modify potential pollutant linkages, including the disturbance of sediments;

- Re-profiling of the Site including the removal of unsuitable materials;
- Runoff from contaminated material exposed and/ or stockpiled during site demolition works;
- Contamination arising from spillages associated with vehicles and demolition materials;
- Airborne contamination arising from potentially contaminated dust; and
- Introduction of contaminated materials during infilling activities.

Potential Effects and their Mitigation

7.6.6 Construction effects will be controlled through the use of a CEMP to be prepared by the appointed contractor. This will include measures to prevent contamination of watercourses or groundwater during construction through controls, siting of storage areas and preventative maintenance of equipment and plant.

7.6.7 Operational effects would be controlled through the Environmental Permit required for the operation of the plant. This will include preventative measures such as the use of impermeable surfacing and bunding of storage areas..

7.6.8 It is concluded that, with the implementation of the impact avoidance measures and best practice guidance, potential effects upon identified sensitive receptors as a result of the impacts identified would be minor adverse or negligible (not significant).

7.7 Surface Water, Flood Risk and Drainage

7.7.1 An assessment has been undertaken which considers the potential effects of the Proposed Development on water resources, flood risk and drainage.

7.7.2 The results of this assessment are presented in Chapter 13: Surface Water, Flood Risk and Drainage (ES Volume 1) and supported by Figure 13.1 (ES Volume 2) and Appendix 13A: Flood Risk Assessment (FRA, ES Volume 3).

7.7.3 The main watercourses with the potential to be in hydraulic conductivity in the vicinity of the Site are: local land drains (located within and directly adjacent to the Site boundary), wider North East Lincolnshire Internal Drainage Board (NELIDB) watercourses (Watercourse 9 and 9A), the wider land drainage network and the Humber Estuary. The assessment considers watercourses within an area spanning from immediately upstream of the Site, to as far downstream as a potential impact may influence the quality or quantity of the watercourse.

7.7.4 The Proposed Development has the potential to impact on the surface waterbodies in the vicinity of the Site through both quality and quantity changes (though quantitative changes

are only considered here in relation to the any general changes to the quantity of a waterbody as a resource).

Construction

7.7.5 During construction, there is an elevated risk of leakage or accidental spillage of construction materials and potential pollutants used on Site, migrating to nearby surface watercourses. Washout facilities (washing of tools, plant and equipment), storage and use of various liquids and soluble solids, unstable exposed soils, excavated materials, stored aggregates, contaminated road surfaces, and fuel storage and handling all have the potential to result in pollution of water resources. Inappropriate disposal of waste materials associated with the construction phase also has the potential to enter surface water.

7.7.6 However, the effect of this on nearby surface water receptors (assuming implementation of standard good practice) is considered to be of minor adverse or negligible effect and therefore not significant.

Operation

7.7.7 The Proposed Development would utilise the land drainage ditch immediately adjacent to the southern Site boundary in terms of surface water drainage, via a new drainage connection, subject to agreement from NELIDB.

7.7.8 The operational phase of the Proposed Development would require storage, transport, handling and use of minor volumes of potentially polluting substances (e.g. diesel). Throughout its lifetime, the facility would be regulated by the EA through an Environmental Permit, which would include conditions relating to handling, storage and use of diesel and other chemicals, including emergency procedures in line with the use of Best Available Techniques (BAT). These measures would be in place to prevent pollution during plant operation in accordance with the permit.

7.7.9 There is minimal contaminated wastewater generated from the Proposed Development during operation. Any uncontaminated surface water would be discharged directly to the land drainage ditch immediately adjacent to the southern Site boundary via attenuation storage. The effect of this on nearby surface water receptors (assuming implementation of standard good practice) is considered to be of minor adverse or negligible effect and therefore not significant.

Flood Risk

7.7.10 The FRA for the Proposed Development, included within Appendix 13A (ES Volume 3), concludes that development of the Site would not increase the risk of flooding from fluvial, tidal, groundwater or overland flow sources.

7.7.11 As a precaution, flood resilience measures would be incorporated into the Proposed Development design to minimise the amount of damage and reduce the recovery time in the unlikely case of the Site becoming inundated. During construction the opportunity would be taken to adopt flood resilient design techniques for the Proposed Development.

7.7.12 If technically feasible, critical equipment will be raised above the expected 0.5% climate change scenario flood depth of 5.93 mAOD (for the year 2083); and flood sensitive equipment will be raised a minimum of 600 mm above ground/ floor level;

Decommissioning

7.7.13 The Proposed Development would be subject to decommissioning under the conditions of the Environmental Permit including conditions relating to chemical/polluting material handling, storage and use and emergency procedures in line with BAT. A detailed Decommissioning Environmental Management Plan would be prepared to identify required measures to prevent pollution during this phase of the Proposed Development, based on the detailed decommissioning plan.

7.8 Cumulative and Combined Effects

7.8.1 As required by the 2017 EIA Regulations, when considering the potential environmental effects of the Proposed Development, there is a need to consider the potential for cumulative and combined effects defined as follows:

- Cumulative effects may arise where the impacts associated with the Proposed Development have the potential to interact with those associated with one or more other developments located in proximity to the Proposed Development (e.g. air quality); and
- Combined effects may arise when several different impacts resulting from the Proposed Development (e.g. decrease in air quality, increase in noise disturbance) have the potential to affect a single receptor.

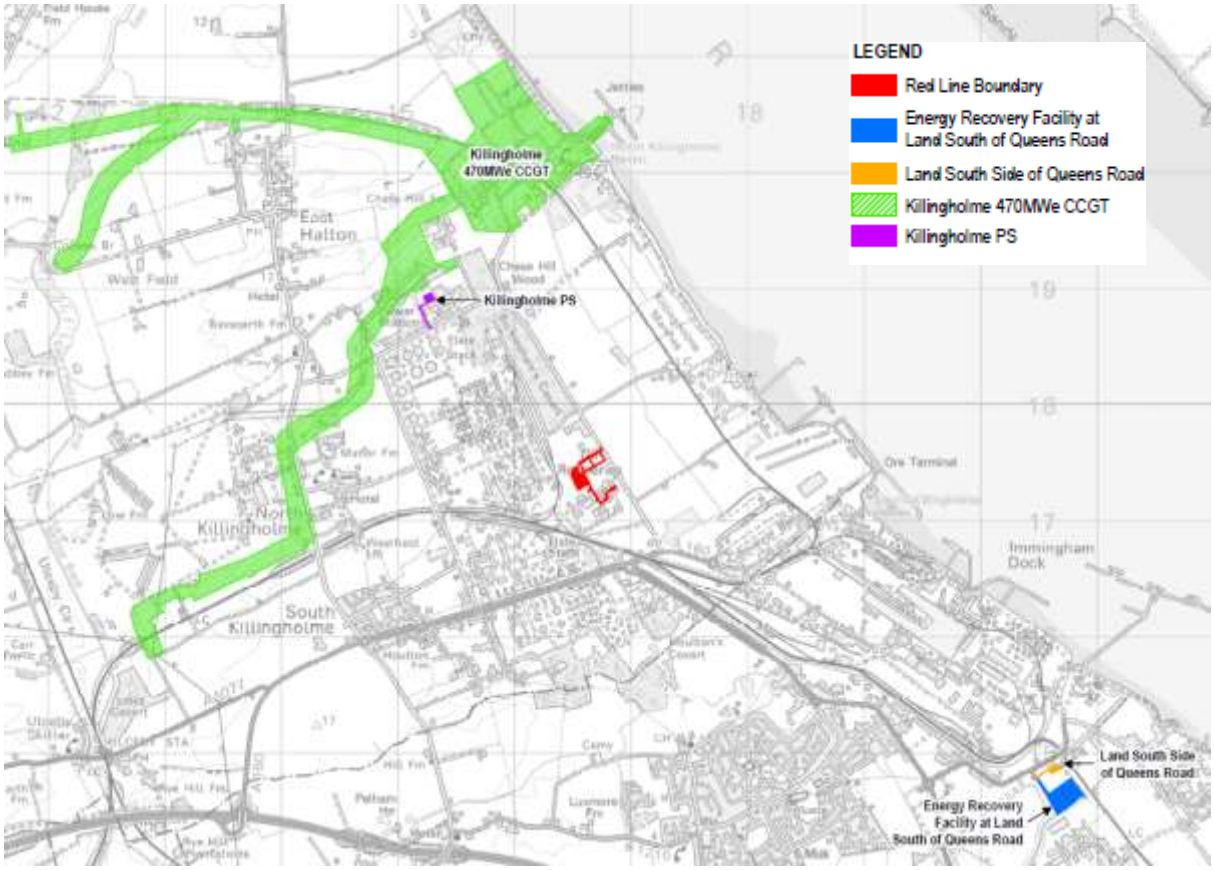
7.8.2 Chapter 14: Cumulative and Combined Effects (ES Volume 1) provides details of other identified proposed schemes in the vicinity of the Proposed Development which were initially considered. Of the developments identified, only those illustrated on Figure NTS8 were considered to have the potential to generate potential cumulative effects and thus scoped into the assessment.

- The consented Killingholme Power Station development for a 14 gas reciprocating engine generators with electrical output of 23MWe (PA/2016/1240);
- The consented North Killingholme Power Project development of a 470MWe CCGT;

- Pending planning decision for the construction of a standing reserve power plant at Land South Side of Queens Road, Immingham comprising 12 gas reciprocating engine generators (DM/0100/18/FUL); and

- Pending planning decision for an Energy Recovery Facility at Land South of Queens Road, Immingham (Ref: DM/0026/18/FUL).

Figure NTS8: Cumulative Schemes



7.8.3 Due to the distances between the Proposed Development and the identified other developments, the only potential cumulative effect identified relates to operational air quality impacts from the developments; all other effects would not have the potential to coincide.

7.8.4 The Killingholme Power Station gas engines are located approximately 1.5km to the North of the Site, and comprise a similar development to that of the Proposed Development. The Killingholme Power Station gas engines are anticipated to run for a maximum of 1,500 hours per year

7.8.5 Due to the prevailing wind coming from a south-westerly direction, and the location of the two sites, the area of peak impact from both developments will not occur at the same location.

7.8.6 In terms of the Human Health impacts the Old Vicarage Receptor was also included in the Killingholme Power Station gas engines Air Quality Assessment as well as in this assessment. The cumulative nitrogen dioxide concentration would be 0.11 microgrammes per cubic metre, which represents 0.3% of the relevant Air Quality Standard, and therefore would be considered to be imperceptible.

7.8.7 In terms of the Ecological impacts, the impacts from the Killingholme Power Station gas engines were predicted to be insignificant at all designated ecological receptors, therefore it is considered that the cumulative impacts with the Proposed Development would not be significant. However, this has been considered further in the HRA screening exercise.

7.8.8 The consented North Killingholme Power Project is located approximately 2km north of the Proposed Development Site and comprises a 470MWe CCGT. Again due to the location of this plant, the prevailing wind direction and the much higher stack, it is considered that cumulative impacts with the Proposed Development would be minimal.

7.8.9 The two developments off Queens Road (Energy Recovery Centre and the 12 reciprocating engines), Immingham are approximately 5km from the Proposed Development site, and therefore it is considered that the cumulative impacts would be minimal.

7.8.10 It should be noted that the Applicant's parent company (Vitol), is investigating the opportunity to develop a further power project on a site adjacent to the existing CHP plant. This is at an early stage of evaluation but it is likely to require an application for a Development Consent Order (DCO) under the Planning Act 2008. As there are no details yet available regarding the potential environmental effects associated with the scheme, it is not yet possible to evaluate potential cumulative effects of the Proposed Development with this scheme. Cumulative effects of the two schemes would therefore be assessed in any future DCO application.

7.9 References

Ref NTS-1 Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended)

Ref NTS-2 The National Planning Policy Framework (NPPF) 2012

Ref NTS-3 Planning Practice Guidance – Environmental Impact Assessment (Updated 2017)

Ref NTS-4 Department of Environment (DoE) 1995 – Preparation of Environmental Statements for Planning Projects that require Environmental Assessment - A Good Practice Guide

Ref NTS-5 The Institute of Environmental Management and Assessment (IEMA) 2004 & 2006 Guidelines for Environmental Impact Assessment