

## **Eggborough CCGT Project**

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**The Eggborough CCGT (Generating Station) Order  
Land within and adjacent to the Eggborough Power Station site,  
Goole, East Yorkshire DN14 0BS**

### **Environmental Impact Assessment: Scoping Report**

**The Planning Act 2008**

**The Infrastructure Planning (Environmental Impact Assessment)**

**Regulations 2009 (as amended)**

**Regulations – 6(1)(b) and 8(1)**

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**Applicant: Eggborough Power Limited**  
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## GLOSSARY

<b>Abbreviation</b>	<b>Description</b>
ADMS	Atmospheric Dispersion Monitoring System
AGI	Above Ground Installation
ALC	Agricultural Land Classification
AQMA	Air Quality Management Area
APIS	Air Pollution Information System
BAT	Best Available Techniques
BGS	British Geological Survey
BRP	Bat Roost Potential
BS	British Standard
CAA	Civil Aviation Authority
CCGT	Combined Cycle Gas Turbine
CCR	Carbon Capture Readiness
CCS	Carbon Capture and Storage
CDM	Construction (Design and Management) Regulations 2007
CEMP	Construction Environmental Management Plan
CHP	Combined Heat and Power
CifA	Chartered Institute for Archaeologists
CMS	Construction Method Statement
CO <sub>2</sub>	carbon dioxide
COPA	Control of Pollution Act 1974
CRTN	Calculation of Road Traffic Noise
DCLG	Department of Communities and Local Government
DCO	Development Consent Order
DCO Site	The proposed DCO Application boundary (see also Main Site below)
DECC	Department for Energy and Climate Change
DMRB	Design Manual for Roads and Bridges
DTM	Digital Terrain Model
EH	English Heritage (now Historic England)
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
EMR	Electricity Market Reform

<b>Abbreviation</b>	<b>Description</b>
EPL	Eggborough Power Limited
ERYC	East Riding of Yorkshire Council
ES	Environmental Statement
Flood Zone	Areas defined by the Environment Agency according to the annual probability of flooding (in the absence of flood defences)
FRA	Flood Risk Assessment
Gas Connection Search Area	The area within which the gas connection for the Proposed Development is anticipated to be located – see Figure 2
GW	Gigawatts
HA	Highways Agency (now known as Highways England)
HCA	Homes and Communities Agency
HE	Historic England
HGV	Heavy Goods Vehicle
HHRA	Human Health Risk Assessment
HMSO	Her Majesty's Stationary Office
HRSO	Heat Recovery Steam Generator
HIS	Habitat Suitability Index
IED	Industrial Emissions Directive
IEEM	Institute of Ecology and Environmental Management
IEMA	Institute of Environmental Management and Assessment
ISO	International Organization for Standardization
JEP	Joint Environment Programme
km	Kilometre
LCA	Landscape Character Area
LCT	Landscape Character Type
LNR	Local Nature Reserve
m	metres
Main Site	The proposed boundary of the land required for the Proposed Development (excluding the gas connection at this stage) – see Figure 2
MCZ	Marine Conservation Zone
MW	Megawatts
NPPF	National Planning Policy Framework
NPPG	National Planning Policy Guidance
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
NTS	Non-Technical Summary
NYCC	North Yorkshire County Council
OCGT	Open Cycle Gas Turbine
OS	Ordnance Survey
PEI	Preliminary Environmental Information
PINS	Planning Inspectorate
PIG	Pipe Inline Gauging
Power Station site	The existing Eggborough Power Station site, comprising the land owned by EPL
PRoW	Public Right of Way
SAC	Special Area of Conservation

<b>Abbreviation</b>	<b>Description</b>
SBR	Supplemental Balancing Reserve
SDC	Selby District Council
SoS	Secretary of State
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
WFD	Water Framework Directive
WMDC	Wakefield Metropolitan District Council
ZTV	Zone of Theoretical Visibility

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### APPENDIX 1: CCGT PLANT SITE AND GAS CONNECTION SEARCH AREA OPTIONS

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## 1.0 INTRODUCTION

### Background

- 1.1 AECOM Infrastructure and Environment Ltd ('AECOM') has been commissioned by Eggborough Power Ltd (hereafter referred to as 'the Applicant') to prepare this Environmental Impact Assessment (EIA) Scoping Report to inform the scope and content of an EIA for a proposed Combined Cycle Gas Turbine (CCGT) power station near Eggborough, East Yorkshire (hereafter referred to as the 'Proposed Development') (see Figure 1).
- 1.2 The Proposed Development will provide around 2 gigawatts (GW) electrical generation capacity and will be constructed largely within the boundary of the existing Eggborough coal-fired Power Station site (and associated land within the ownership of the Applicant), although it will also include a gas supply pipeline connection to the National Transmission System (NTS) outside the existing Power Station site.
- 1.3 This Scoping Report considers the environmental context of the Proposed Development Site and the potential environmental impacts of the Proposed Development. Where impacts are considered to have the potential to cause significant environmental effects, these are identified and the proposed approach to be used to characterise the impacts and understand the significance of their effects is outlined. This report also outlines issues perceived to be non-significant which it is proposed do not require formal assessment as part of the EIA.
- 1.4 The EIA is an iterative process that feeds into the engineering design process to mitigate significant environmental effects where they are predicted to occur. The final design iteration, along with the findings of the EIA will be reported in an Environmental Statement (ES), in accordance with The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended) ('EIA Regulations') and will be submitted with the Development Consent Order (DCO) Application in accordance with Regulation 5 (2)(a) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 ('APFP Regulations').

### Consenting Regime

- 1.5 The Proposed Development falls within the definition of a 'nationally significant infrastructure project' (NSIP) under Section 14(1)(a) and 15(2) of the Planning Act 2008 as a 'generating station exceeding 50 MW'. It is also a 'Schedule 1' development under The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended) ('EIA Regulations') as it constitutes "*Thermal power stations and other combustion installations with a heat output of 300 megawatts or more*". As such, an EIA is required for the Proposed Development and an ES must be prepared in accordance with these Regulations to accompany the DCO application.
- 1.6 As a NSIP project, the Applicant is required to seek a DCO to construct and operate the power station, under Section 31 of the Planning Act 2008. The DCO application will be prepared in accordance with Section 37 of this Act and secondary legislation including the EIA Regulations and the APFP Regulations (detailed above). The DCO application will be submitted to the Planning Inspectorate (PINS) who will examine the application and make recommendations to the Secretary of State, who will subsequently determine whether or not a DCO should be granted for the Proposed Development.



- 1.7 Figure 2 illustrates the Indicative DCO Site boundary, which comprises the proposed generating station and associated infrastructure including water and electricity connections. A gas connection will also be required, but the connection point and route for this is not yet defined. The indicative areas of search for the gas connection are shown on Figure 2.
- 1.8 A description of the Indicative DCO Site and Proposed Development is presented in Sections 2 and 3 of this report.
- 1.9 As the Applicant proposes to provide an Environmental Statement with the Application for a DCO, this Report constitutes the Applicant's notification under Regulation 6(1) of the EIA Regulations 2009 that it proposes to provide an Environmental Statement in respect of the Proposed Development.

### Objectives of Scoping

- 1.10 Having determined that the Proposed Development requires an EIA ('screening'), scoping forms the next key stage of the EIA process, providing a framework for identifying likely significant environmental impacts arising from the Proposed Development and distinguishing the priority issues to be addressed within the ES. Scoping also allows stakeholders an early opportunity to comment on the proposed structure, methodology and content of the EIA.
- 1.11 This Scoping Report has been prepared as part of a request to the PINS for a formal Scoping Opinion on the information to be provided in the ES, pursuant to Regulation 8 of the EIA Regulations.
- 1.12 Table 1.1 presents a list of information that should be included in a Scoping Report, as prescribed by EIA Regulation 8 and as highlighted in PINS Advice Note 7 'Environmental Impact Assessment: Screening, Scoping and Preliminary Environmental Information' (PINS, 2015), and the location in this report where the information is presented.

**Table 1.1: Information provided in the Scoping Report (based on Advice Note 7)**

Description of Information Required	Section in Scoping Report where the Information is Presented
A plan showing: <ul style="list-style-type: none"> <li>• the DCO site boundary and associated development;</li> <li>• permanent land take required for the NSIP;</li> <li>• temporary land take required for construction, including construction compounds;</li> <li>• existing infrastructure which would be retained or upgraded for use as part of the NSIP;</li> <li>• existing infrastructure which would be removed; and</li> <li>• features including planning constraints and designated areas on and around the site, such as national parks or historic landscapes</li> </ul>	Figures 1-5
A description of: <ul style="list-style-type: none"> <li>• the NSIP Site;</li> </ul>	Section 2 (Description of the Existing Environment)

Description of Information Required	Section in Scoping Report where the Information is Presented
<ul style="list-style-type: none"> <li>the NSIP development; and</li> <li>its possible effects on the environment.</li> </ul>	Section 3 (Project Description) Section 6 (Scope of the Assessment for each environmental topic)
An outline of the main alternatives considered and the reasons for selecting a preferred option	Section 4 (Project Alternatives)
Results of desktop and baseline studies where available	Section 6 (Baseline Conditions for each environmental topic)
Guidance and best practice to be relied upon, and whether this has been agreed with the relevant bodies	Section 6 (Scope of the Assessment for each environmental topic)
Methods used or proposed to be used to predict impacts and the significance criteria framework used	Section 6 (Scope of the Assessment for each environmental topic) and Section 8 (EIA Process)
Any mitigation proposed and predicted residual impacts	Section 6 (Scope of the Assessment for each environmental topic)
Where consequential or cumulative development has been identified, how the developer intends to assess these impacts in the ES	Section 8 (EIA Process)
An indication of any European designated nature conservation sites that are likely to be significantly affected by the proposed development and the nature of the likely significant impacts on these sites	Section 6 (Habitats Regulations Assessment)
Where a developer seeks to scope out matters, a full justification for scoping out such matters	Section 7 (Non-Significant Issues)
Key topics covered as part of the developer's scoping exercise	Sections 6 (Potentially Significant Environmental Issues) and 7 (Non-Significant Issues)
An outline of the structure of the proposed ES	Section 8 (EIA Process)

## 2.0 DESCRIPTION OF THE EXISTING ENVIRONMENT

- 2.1 For the purposes of this report, the Proposed Development Site is split into two linked areas – the ‘Main Site’ and ‘Gas Connection Search Areas’ (see Figure 2).
- 2.2 The Main Site encompasses the proposed gas-fired generating station, construction lay down area, electricity and water connections, and access points. The majority of the land required for these components is within the boundary of the existing Eggborough Power Station site and/or the Applicant’s existing land ownership.
- 2.3 The Gas Connection Search Areas show the areas under consideration for the gas supply connection to National Grid Transmission gas network and associated infrastructure. At present, there are two potential indicative route corridors for the gas connection, both of which are shown on Figure 2:
- a northern route corridor, which extends between 3 and 4 km north of the Main Site, to the east of Chapel Haddlesey and connecting to the National Grid Feeder 29 at one of the following:
    - west of Top House Farm;
    - south of Burn Lane Farm; or
    - south-west of Burn Lane Crossing.
  - a north-western route corridor, which extends approximately 5 km north-west of the Main Site, connecting to Feeder 29 south of Gateforth.
- 2.4 The Main Site and the Gas Connection Search Areas are both located within the administrative areas of Selby District Council (SDC) and North Yorkshire County Council (NYCC).

### The Main Site

- 2.5 The purpose of the Proposed Development is to continue power generation at the Power Station site, providing high efficiency gas-fired plant that can achieve a similar, or greater, electrical output capacity to the existing coal-fired units whilst reducing carbon emissions, avoiding the need for solid fuel handling, transport and storage and reducing the footprint of the power plant.
- 2.6 The timing of the construction of the CCGT plant and the decommissioning and demolition of the existing coal-fired plant is still under review. However, the CCGT will not be operational until 2022 at the earliest, by which time the coal-fired power station will have ceased generation. The two power stations will not be able to be operated concurrently as they require the same export grid connection, river water abstraction and discharge infrastructure, and groundwater abstraction. There is, however, expected to be some overlap in the timing of the coal-fired plant decommissioning and demolition works and the construction and operation of the CCGT and this will be considered and conservatively assessed in the EIA in order to provide a realistic assessment of the potential cumulative environmental effects. The decommissioning and demolition of the existing coal-fired Power Station does not form part of the DCO application.
- 2.7 A description of the appraisal process that was undertaken to identify a preferred location for the proposed generating station within the existing Power Station is provided in Section 4. The Main Site as shown on Figure 2 comprises approximately 114 ha, including land for electricity and water connections.

- 2.8 The Proposed Development will connect to the existing National Grid 400 kV sub station within the Power Station site, and cooling water abstraction and discharge will be via the existing power station's abstraction and discharge points on the River Aire to the north. Boiler make-up water will be abstracted from existing boreholes within the Eggborough Power Station Golf Course and near the A19/ A645 Weeland Road junction.
- 2.9 The Main Site currently comprises the existing coal-fired power station, including the sub-station, turbine and boiler houses, cooling towers, a range of other buildings and structures, the main coal stockyard and associated rail loop, a large lagoon for back-up cooling water storage, temporary offices, strategic (emergency) coal stockyard, access roads and open storage areas. The existing sewage treatment works is excluded from the Main Site.
- 2.10 Vegetation within the Main Site is limited, with the majority of the Main Site comprising hardstanding, buildings/ structures and bare ground, although there are areas of woodland around the Main Site boundaries.
- 2.11 The CCGT plant would be located to the east and south-east of the existing power station buildings as shown on Figures 4A and 4B (potential layout options for the Proposed Development are discussed in Section 4).
- 2.12 The Main Site is bounded to the north-west by the Eggborough Power Station Golf Course, Sports and Social Club, cricket ground and model steam railway and the A19; to the north, east and south by agricultural fields, Wand Lane and Hazel Old Lane; and to the south-west by agricultural land, beyond which lies Saint Gobain glass factory.
- 2.13 A number of environmental receptors have been identified within the vicinity of the Main Site, each of these are detailed below under each environmental discipline (note this may not be an exhaustive list at this stage). All distances are given as the shortest distance between the receptor and the closest point of the Main Site boundary (see Figure 2).

Residential:

- The villages of
  - Chapel Haddlesey, immediately north of the Main Site's River Aire abstraction point at the northern extent of the Main Site boundary,
  - Eggborough 100 m to the south-west of the A19/ Weeland Road junction at the Main Site's south-western extent,
  - Kellington 1.8 km to the west of the Tranmore Lane/ A19 junction at the western extent of the Main Site boundary,
  - West Haddlesey 0.8 km to the west of the River Aire abstraction point, and
  - Gallows Hill and Hensall 200 m and 800 m to the east of the Main Site, respectively.
- In addition, there are a small number of individual residential properties in close proximity to the perimeter of the Main Site, including:
  - several properties surrounding the Hazel Old Lane/ Weeland Road junction, including Springfield Farm and Hazelgrove Farm and caravan park; all located approximately 500 m to the south of the coal stockyard ;

- two properties off the A19 near Roall Water Works opposite the Tranmore Lane/ A19 junction; and
- Roall Hall Farm approximately 300 m to the north-west of the existing Power Station main access road.
- Tranmore Farm farmhouse located immediately west of the coal stockyard is within the ownership of the Applicant and is not currently occupied.

#### Traffic and Transport:

- The A19 runs north-south along the western boundary of the Main Site, linking to the M62 to the south and A63 to the north.
- There are two Public Rights of Way (PRoW) within 500 m of the Main Site – a public footpath located immediately to the east, passing in a north/south direction from Gallows Hill to Eggborough Ings via Ings Lane, and short (less than 200 m long) public footpath leading off the A19 and passing along the north side of Tranmore Lane to the south of the Power Station cricket pitch.

#### Ecology:

- There are no Sites of Special Scientific Interest (SSSIs) within 5 km of the Main Site, the closest being Forlorn Hope Meadows SSSI approximately 7 km to the south-west.
- There are no Special Areas of Conservation (SACs), Special Protection Areas (SPAs) or Ramsar sites within 10 km of the Main Site, the closest being the River Derwent SAC approximately 10 km to the north-east.

#### Hydrology/ Flood Risk, Geology and Hydrogeology:

- The River Aire is located adjacent to the water abstraction and discharge points and approximately 600 m north of Wand Lane.
- Ings and Tetherings Drain is located approximately 300 m to the north of Wand Lane and is crossed by the cooling water abstraction pipework.
- The Calder Navigation (canal) is located approximately 1 km to the south of the A19/ Weeland Road junction at the Main Site's south-western extent
- Selby Canal is located approximately 800 m to the west of the water abstraction point.
- Hensall Dyke is located immediately to the east of the Main Site.
- The Main Site is located primarily within Flood Zone 1; however, a small section, within the emergency coal stockpile area is located within an area identified as Flood Zone 3 on Environment Agency mapping.
- There are five historic and three authorised landfill sites within 1 km, the closest of these are Hazel Grove Quarry (authorised) located <100 m south of the coal stockyard and Roall Lane Cross Roads, Roall Lane and Whitley Bridge (all historic), all located immediately east of the A19, opposite the existing Power Station's main entrance.
- The Main Site is located in a Groundwater Source Protection Zone three.

#### Cultural Heritage:

- A Scheduled Monument (Roman fort) is located approximately 630 m to the north-west of the existing Power Station's main entrance on the A19.
- A number of listed buildings/ structures are located in the vicinity of the Main Site, the closest of these being two Grade II structures: Pair Of Gate Piers To Roall House 250 m to the north-west of the existing Power Station's main entrance on the A19, and a milestone 270 m north-east of the existing Power Station's main entrance on the A19. In addition, two Grade II and two Grade II\* buildings in Hensall between 900 m and 1 km to south-east of the coal stockyard, and the Grade II Temple Manor is located approximately 1.5 km north-east of the Main Site on the north bank of the River Aire.
- There are no Conservation Areas within 5 km of the Main Site.
- There are a number of non-designated heritage assets within and around the Main Site, including the existing Power Station itself.

#### Landscape:

- The Main Site is located entirely within the Humberhead Levels National Landscape Character Area, which is a "*flat, low-lying and large scale agricultural landscape*" (Natural England, 2014a).

#### **Gas Connection Search Areas**

- 2.14 As discussed above, two corridors are currently under consideration for the gas connection to the north of the Main Site. These search areas are shown on Figure 2.
- 2.15 Both indicative gas connection corridors comprise mainly agricultural land but also include roads, a railway, the River Aire and a number of drains and ditches. The gas connection route will be designed to avoid, wherever possible, residential areas, woodland and other major technical and environmental constraints. A description of the environmental constraints for both route options is outlined below.
- 2.16 The following environmental receptors have been identified within the vicinity of the **northern gas connection corridor**:

#### Residential:

- The villages of Chapel Haddlesey 100 m west; East Haddlesey 100 m east and Burn 800 m east of Connection Point A. In addition, there are a small number of individual receptors, located within the broad corridor, including:
  - Manor Cottages;
  - Haddlesey Manor; and
  - Burn Lodge Farm.

#### Traffic and Transport:

- The corridor crosses a PRoW at Eggborough Ings. The corridor to Connection Point A crosses a bridleway to the east of Burn Lodge Farm. The corridor to Connection Point C crosses a PRoW adjacent to the connection point.

- The corridor crosses Millfield Road to the east of Chapel Haddlesey, and the route to Connection Point A would cross the A19 and West Lane near Burn.
- The corridor to Connection Points B and C crosses the East Coast Main Line railway.

Ecology:

- There are no SSSIs within 5 km, the closest being Burr Closes SSSI approximately 6 km to the north-east of Connection Point B.
- The River Derwent SAC is located approximately 8.5 km to the east of Connection Point C; however, there are no SPAs or Ramsar sites within 10 km.

Hydrology/ Flood Risk, Geology and Hydrogeology:

- The corridor crosses the River Aire at Eggborough Ings and the Selby Canal is located approximately 450 m west of Connection Point A.
- The corridor passes through Flood Zones 1, 2 and 3.
- There are no authorised or historic landfill sites within 1 km of the corridor.

Cultural Heritage:

- A Scheduled Monument (Roman fort) is located approximately 1.5 km to the west of the route corridor at its closest point. There are also a number of listed buildings/ structures located in the vicinity of the route corridor, two of which are located within 1 km of Connection Point A (Paper House Bridge and Selby Canal Paper House Bridge – both of which are Grade II listed and located approximately 900 m to the south-west).
- There are no Conservation Areas within 5 km of the corridor.
- A number of undesignated heritage assets are located within the corridor.

Landscape:

- The corridor is located entirely within the Humberhead Levels National Landscape Character Area, which is a “flat, low-lying and large scale agricultural landscape” (Natural England, 2014a).

2.17 The following environmental receptors have been identified within the vicinity of **the north-western gas connection corridor:**

Residential:

- The village of West Haddlesey lies 100 m west and Gateforth 200 m north of the corridor.

Traffic and Transport:

- The corridor crosses the A19, Birkin Road and Pale Lane.
- The corridor crosses two PRoW, one along Marsh Lane and a second south of Gateforth, adjacent to the connection point.

Ecology:

- There are no SSSIs within 5 km, the closest being Burr Closes SSSI approximately 6.5 km to the north-east of the connection point.

- There are no SACs, SPAs or Ramsar sites within 10 km.

Hydrology/ Flood Risk, Geology and Hydrogeology:

- The corridor crosses the River Aire south of West Haddlesey and is located approximately 500 m south-west of Selby Canal at its closest point.
- The corridor passes through Flood Zone 1, 2 and 3.
- There are two landfill sites within 1 km – Roall Lane Quarry (authorised), located approximately 400 m south and Cross Lane Roads (historic), located 500 m south.

Cultural Heritage:

- A Scheduled Monument (Roman fort) is located approximately 500 m to the south-west, and a number of listed buildings/ structures are located in the vicinity of the corridor, three of which are located within 1 km (Milestone, Pair Of Gate Piers To Roall House, and Tankards Bridge – all of which are Grade II listed).
- There are no Conservation Areas within 5 km of the corridor.
- A number of undesignated heritage assets are located within the corridor.

Landscape:

- The corridor is located entirely within the Humberhead Levels National Landscape Character Area, which is a “*flat, low-lying and large scale agricultural landscape*” (Natural England, 2014a).

**Historic Site Use**

- 2.18 Historic Ordnance Survey (OS) maps have been studied to determine the previous land uses within the area proposed for the CCGT plant. The area is shown as agricultural land on maps for the period 1852 to 1948. A sand and gravel pit was excavated in the vicinity of the current rail loop between 1948 and 1956, and the existing Power Station was constructed prior to the publication of the 1973 map. The lagoon is shown for the first time on the 1983 map as a ‘reservoir’ and the eastern and southern parts of the Main Site are denoted as ‘ash tip’ on the 2002 – 2014 maps.
- 2.19 A similar study will be conducted for the wider Main Site and Gas Connection Search Areas to inform the refinement of these areas and selection of a preferred gas connection route.



## 3.0 PROJECT DESCRIPTION

### The Proposed Development

- 3.1 The Proposed Development comprises the construction and operation of a CCGT power station with a capacity of around 2 GW, comprising up to three high efficiency combined cycle gas turbines and associated steam turbines, plus up to two 'fast response' open cycle gas turbines (OCGT) or reciprocating gas engines to be installed in the same area.
- 3.2 The CCGT plant will be designed to operate for an expected period of at least 25 years after which ongoing operation will be reviewed and if it is not appropriate to continue operation the plant will be decommissioned.
- 3.3 The Proposed Development will comprise a range of buildings and structures (see Figures 4A and 4B), the tallest of which will be the CCGT exhaust stacks (up to 90 m above ground). The number of stacks is currently under consideration, though at this stage it is expected that there would be up to three main stacks, with the potential for up to two additional, smaller stacks (up to 45 m in height) associated with the OCGT units or multiple low level stacks (one per engine up to 10 m in height) associated with the gas engines. There will also be a stack for the 'black start' facility (see paragraph 3.26 below).
- 3.4 The main buildings and structures are anticipated to include:
- up to three CCGT units, each comprising a turbine hall, heat recovery steam generator (HRSG), exhaust stack, feedwater pump building, air intake filter, electrical building, generator transformer, hybrid cooling towers and cooling water pumps;
  - peaking plant comprising up to two open cycle gas turbines, including a turbine hall, exhaust stack and generator transformer or circa 50 gas engines;
  - 'black start' gas turbine;
  - two above ground fuel oil tanks and forwarding area;
  - gas receiving area and gas compression building;
  - auxiliary boiler;
  - workshop and stores;
  - electrical, control room and admin building;
  - water treatment plant, fire pumps and laboratory;
  - above ground raw and fire water tank;
  - above ground demineralised water tank;
  - GIS electrical building;
  - standby diesel generators for plant start-up, comprising skid-mounted units;
  - waste water treatment plant;
  - storm water attenuation lagoon;
  - gatehouse; and

- access roads and car parking.
- 3.5 Gas will be supplied via a new pipeline connection to the existing National Grid Transmission gas network to the north of the Site.
- 3.6 Cooling water is expected to be supplied from the existing surface water abstraction point on the River Aire that is currently used by the coal-fired power station, and the existing outfall to the River Aire is proposed to be used for discharge. However, the connecting pipes between the abstraction/ discharge points and the generating station may be upgraded as part of the Proposed Development and additional works may be required at the abstraction point to fulfil the obligations of the Eels (England and Wales) Regulations 2009.
- 3.7 Raw water will be abstracted from an existing groundwater boreholes that are currently used by the coal-fired power station. There are two existing boreholes, one within the golf course area and one near the A19/ A645 Weeland Road junction.
- 3.8 Electricity generated by the Proposed Development will be exported to the National Grid via the existing National Grid 400 kV sub station at the existing Power Station, to the west of the existing coal-fired plant. Additional above ground or below ground cables will be installed between the CCGT and the sub station, potentially also with a second sub station being constructed adjacent to the CCGT as well.
- 3.9 At present there are two potential CCGT plant layout options under consideration:
- one with the CCGT power station positioned on the coal stockyard in the south-east of the Main Site, with construction laydown (and subsequently the land reserved for future carbon capture and compression equipment (should it be required)) in the north-east of the Main Site; and
  - the other with the CCGT power station positioned in the north-east of the Main Site and the construction laydown area (and subsequently the land reserved for future carbon capture and compression equipment) in the south-east of the Main Site.
- 3.10 The layout will be refined following consultation with stakeholders and on conclusion of further technical and environmental studies.
- 3.11 Land must be set aside for future carbon capture and compression equipment in order to meet the requirements set out in the EU Directive on the geological storage of carbon dioxide 2009/31/EC (European Commission, 2009) for the Proposed Development to be Carbon Capture Ready. It should also be noted that any carbon capture plant will not form part of the DCO application, since its deployment is currently not viable in the UK, but an area of land has been allocated for it, which will be retained by the Applicant as required. A Carbon Capture Readiness (CCR) report will be prepared for the Proposed Development and submitted to support the DCO application. The area set aside for CCR will initially be used for construction laydown for the Proposed Development.
- 3.12 The main components of the development are described in further detail below.

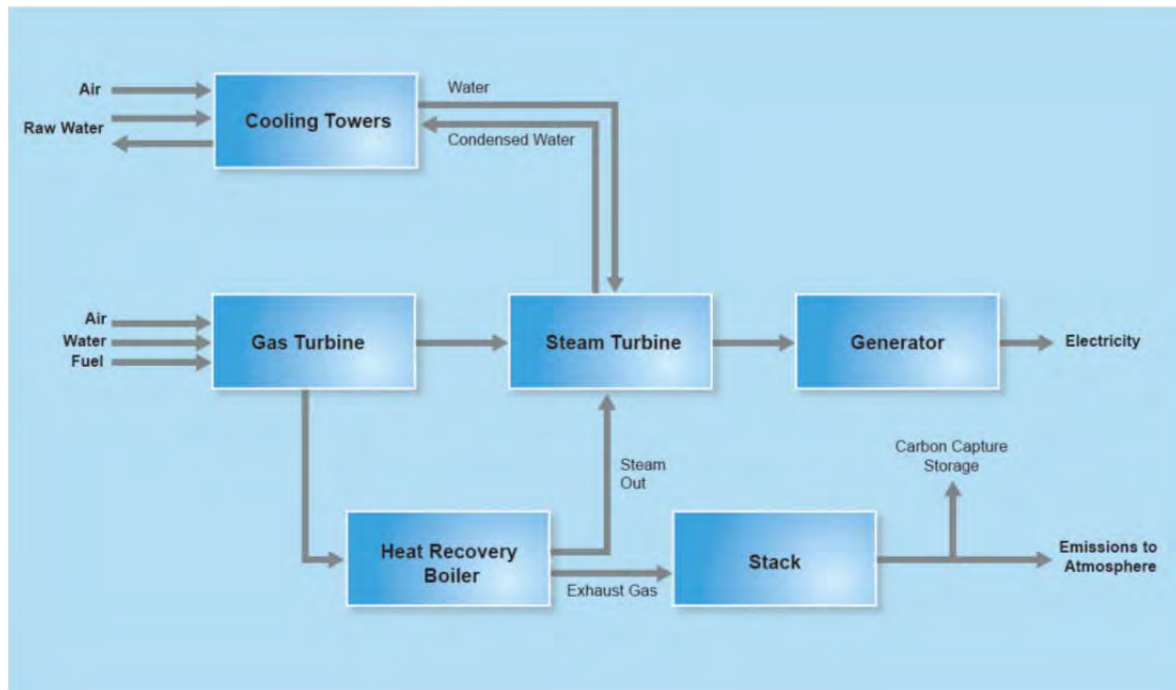
### **Combined Cycle Gas-Fired Power Plant**

- 3.13 In a CCGT power station natural gas fuel is fired in the combustion system to drive a gas turbine, which is connected to a generator producing electricity. An amount of heat remains in the gas turbine exhaust, and this is passed into an HRSG, a type of boiler, to make steam to generate additional electricity via a steam turbine. The exhaust steam from the steam turbine is condensed back into water which is returned to the HRSG to continue the process.
- 3.14 The electrical efficiency of a modern CCGT power station is greater than 60%, which is considerably higher than that for a conventional coal, biomass or oil-fired generating plant.
- 3.15 The fuel source for the turbines will be natural gas supplied via a new pipeline to the north, connecting to the National Grid Transmission network.

#### Power Generation Process

- 3.16 The power plant is anticipated to consist of up to three CCGT trains (gas turbines and associated steam turbine(s)), with a total output of around 2 GW, the final total being dependent on the selection of turbine manufacturer prior to construction of the plant.
- 3.17 In the gas turbine, gas will be mixed and combusted with compressed air and the hot combustion gases will expand, rotating the turbine blades at high speed. This will drive the generators to produce electricity for export to the national transmission system.
- 3.18 The hot exhaust gases from the gas turbine will then be passed through a heat recovery boiler (HRSG) to produce high pressure steam. This will in turn be used to drive a steam turbine connected to the same generator; thereby maximising electricity generation from the fuel being combusted. The waste gases from the heat recovery boiler will be released into the atmosphere via an exhaust stack, following appropriate treatment.
- 3.19 Each generating module may have an individual stack, or alternatively the flues from each unit may be grouped together in one multi-flue stack. This will be determined during the preliminary design and subject to the findings of the air quality assessment.
- 3.20 A schematic of the power generation process associated with the Proposed Development is provided below in Plate 1.

**Plate 1: Power Generation Process (for a single shaft generating module)**



### Cooling System

3.21 There is a requirement for a cooling system to condense/ cool the steam used in the power generation process once it has been exhausted through the steam turbine, and before it is returned to the boiler for re-use.

3.22 Three types of methods for cooling are available to this type of plant:

- Direct wet-cooling technology. This consists of high efficiency water-cooled condensers. It requires the abstraction of large quantities of water from an accessible water source and the discharge of warmer water back into the water source after it has been used for cooling. This method of cooling requires the construction of an intake and outfall structure within an appropriate controlled water body. The main advantage of this cooling method is that it uses a colder cooling medium (river water as opposed to air) and avoids the electrical consumption of the fans used in air cooled condensers thereby improving the thermal efficiency of the fuel used. However, the abstraction and discharge of water can only be undertaken in locations and in a way that would not give rise to significant impacts on the water body and the environment.
- Hybrid-cooling technology. This is essentially a combination of dry-cooling and wet-cooling. Water must still be abstracted from a controlled water source but by using a bank of low height cooling cells a smaller volume of water needs to be abstracted than for direct water cooling, and the temperature of the returned water is also lower. However, the use of cooling cells can give rise to visible water plume emissions to air under certain meteorological conditions and also results in a marginally lower plant thermal efficiency than direct water cooling.
- Dry-cooling technology. This consists of a system of air-cooled condenser fans situated in fan banks. The steam is condensed directly by air in a heat exchanger (the air cooled

condenser) and the condensate is returned to the steam cycle in a closed loop. The air flow is induced solely by mechanical draft from the fans. This cooling method requires electrical energy to operate the fans, and therefore results in slightly reduced electrical output to the national transmission system; in effect therefore this slightly increases the emission of exhausts gases for each megawatt of electricity exported and reduces the thermal efficiency of the system. However, the advantages of air cooled condensers are that they require no cooling water abstraction, treatment or discharge and do not give rise to any visible plumes.

- 3.23 At this early stage in the project design, the final cooling technology selection for the Proposed Development has not been made, but initial works indicate that hybrid cooling represents the use of Best Available Techniques (BAT) for the installation, as these balance the environmental effects of the water abstraction and discharge against the efficiency improvements over the use of air cooling.

### **Peaking Plant/ 'Black Start' Capability**

- 3.24 The feasibility of including additional fast response peaking plant or black start capability are currently being investigated and may form part of the Proposed Development.
- 3.25 Fast response OCGTs or reciprocating gas engines (known as 'peaking plant') are used to quickly increase or 'top up' the generating capacity of a generating station during periods of increased need by the National Grid. It is normally dormant and can be fired up at short notice to help cope with periods of high demand or low supply nationally (for example, when the wind is not blowing to enable sufficient output to be achieved from the increasing number of wind farms in the UK). If further feasibility studies and discussions with National Grid identify a need for fast response capacity it would be installed in addition to the CCGT plant, with the combined output totalling around 2 GW.
- 3.26 The installation of a black start gas turbine is also being considered for the Proposed Development, which would also provide the capability of being able to start the CCGT units without any assistance from the national transmission system in the event of a total or partial shutdown of the national transmission system (so called 'black-start' capability). Thereby the Proposed Development could then be used to help restart the national transmission system, whereas power stations without black start capability need to draw power from the transmission system to start operation.
- 3.27 The inclusion of black start capability would require the use and storage of diesel fuel within the Main Site in addition to the use of natural gas during normal plant operation. This capability is subject to further appraisal to determine if there is a need for including it.
- 3.28 In any event, should this additional ancillary peaking plant and/ or black start capability be installed, they would be contained within the Main Site boundary. The peaking plant would be installed in a separate building with a smaller footprint and height than the main CCGT buildings. A separate stack (or stacks) would be needed for the emissions from the plant which again would be of lower height than the proposed main stacks (approximately half the height for OCGTs or significantly less for gas engines). If on site diesel storage is to be undertaken, this would be in one or more above ground tanks, typically cylindrical and enabling storage of several days of fuel.

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### **Electricity Sub Station and Grid Connection**

- 3.29 The Proposed Development will connect to the existing National Grid 400 kV sub station within the Eggborough Power Station site.
- 3.30 The connection between the CCGT plant and National Grid sub station will comprise either overhead or below ground cables, or a combination of both, within the route corridors indicated in Figures 4A and 4B.
- 3.31 There may also be an extra, new sub station as part of the CCGT plant.

### **Cooling Water Connection**

- 3.32 Cooling water will be abstracted from the River Aire at the existing abstraction point on the south side of the River at Chapel Haddlesey, and discharged at the existing discharge point on the south side of the River at Boynton Reach. At present it is assumed that the existing pipework and associated infrastructure in the River is likely to need to be replaced as part of the Proposed Development, due to the age and condition of the existing infrastructure. Additional works may also be required at the abstraction point to fulfil the obligations of the Eels (England and Wales) Regulations 2009, which may require the installation of an eel screen.
- 3.33 The volume of water required for the CCGT Power Station will be less than the abstraction currently required for the coal-fired power station due to the increased efficiency of the CCGT plant.

### **Gas Connection**

- 3.34 The gas supply for the Proposed Development will be via a new connection to the National Grid Transmission gas network (proposed to connect to Feeder 29) approximately 3.5 km to the north of the Site.
- 3.35 The route for the connection pipeline and the connection point has not yet been finalised, and two search areas are currently being considered (see Figure 2).
- 3.36 At the connection point to Feeder 29, a National Grid 'Above Ground Installation' (AGI) compound of approximately 30 x 30 m will be required and an equivalent compound of approximately 30 x 30 m will be required for the Applicant's metering and Pipe Inline Gauging (PIG) equipment.
- 3.37 These compounds and the pipeline itself are proposed to be included as associated development within the DCO application.

### **Access**

- 3.38 It is anticipated at this stage that there will be up to three access points for vehicles during construction and operation: the existing access from Wand Lane; the existing main Power Station entrance from the A19; and the existing access from the A19 via Tranmore Lane (south of the main entrance). Both are capable of accommodating normal Heavy Goods Vehicle (HGV) traffic. The Wand Lane access is currently used by power station contractors and maintenance staff especially during shutdowns of the coal-fired power station.

### **Carbon Capture Readiness (CCR)**

- 3.39 The CCS technology and transport of CO<sub>2</sub> will not form part of the DCO application as the commercial deployment of CCS technology is not currently viable within the UK at this time. For the purposes of this DCO application and in accordance with legislative and policy requirements, CCS will be considered through preparation of a standalone supplementary report to the EIA that addresses the requirements of the DECC CCR Guidance (DECC, 2009).
- 3.40 In accordance with CCR requirements, the Proposed Development will incorporate an area set aside for the potential future installation of carbon capture technology. It is recognised that technological progress and developments in the regulatory framework for the use of carbon capture technology are likely to occur within the lifetime of the Proposed Development. Therefore, the design of the new power station will be developed with consideration for the possible future retrofitting of carbon capture technology at some future date.
- 3.41 The CCR requirement means that applicants must demonstrate that CCS technology (of which there are 3 key types: pre-combustion capture, post-combustion capture and oxy-fuel combustion) has been considered as part of the application and that there is sufficient land available for the future retrofit of that technology in the event that it is commercially proven at some point in the future, i.e. that the Proposed Development is considered Carbon Capture Ready (CCR).
- 3.42 CCR needs to be demonstrable for all new combustion generating stations with a generating capacity at or over 300 MW (and of a type covered by the European Union Large Combustion Plant Directive (European Commission, 2010) as set out in Section 4.7 of the Overarching National Policy Statement (NPS) (EN-1)).
- 3.43 The CCR Report will outline the footprint required for the carbon capture and compression equipment, based on DECC guidance as amended by the Imperial College paper on space requirements for CCS (Imperial College Consultants/ Florin and Fennell, 2010). It is likely that the area to be used for CCGT construction laydown will (at least in part) be retained for CCR purposes. An appropriate route for the transport of compressed CO<sub>2</sub> will be considered, as well as a potential geological storage site and the high level economics of the feasibility of future retrofit of CCS to the Proposed Development.

### **Preparation of the Site**

- 3.44 A number of structures within the footprint of the Proposed Development will, to the extent required to enable the Proposed Development to be built and operated, be removed prior to construction works commencing.
- 3.45 The coal stockyard currently holds a small amount of coal, with coal stocks having been progressively reduced in 2015/ 2016 as the coal-fired plant approached closure, which was subsequently postponed by the Supplemental Balancing Reserve (SBR) contract award. Plans for the future decommissioning and demolition of the coal-fired Power Station are being developed, and demolition is expected to be ongoing during the CCGT construction phase. Demolition of the existing Power Station is being progressed independently of the Proposed Development, and does not form part of the DCO application (other than where relatively small elements of demolition may be required as enabling works for the Proposed Development).

- 3.46 The existing rail loop may need to be partially removed prior to construction of the Proposed Development (depending on which layout option is selected), but this would not preclude the consideration of rail use for the delivery of construction materials as the Main Site would still be rail-connected.
- 3.47 The finished ground level for the Proposed Development is not known at present and will depend on a number of factors including flood risk. Where possible a cut and fill balance will be sought to minimise the requirement for import or export of materials (and associated traffic and environmental effects).

### **Construction Programme and Management**

- 3.48 Subject to being granted development consent and following a final investment decision, it is anticipated that construction will commence in 2019, and last approximately three years.
- 3.49 The ES will provide further details of the proposed construction activities and their anticipated duration, along with an indicative programme of each phase of the works. It will also consider the potential cumulative effects of the decommissioning and demolition of the existing Power Station which may be undertaken at the same time as construction of the Proposed Development.
- 3.50 The ES will also be supported by a framework for the Construction Method Statement (CMS) and Construction Environmental Management Plan (CEMP), which will describe the specific mitigation measures to be followed to reduce nuisance impacts from:
- use of land within the Main Site and Gas Connection Search Areas for temporary laydown areas, accommodation, etc.;
  - construction traffic (including parking and access requirements);
  - earthworks;
  - noise and vibration;
  - dust generation; and
  - waste generation.
- 3.51 The full CMS and CEMP will be produced as a Requirement of the DCO and will identify all the procedures to be adhered to throughout construction.
- 3.52 Contracts with companies involved in the construction works will incorporate environmental control, health and safety regulations and current guidance with the intention that construction activities are sustainable and that all contractors involved with the construction stages are committed to agreed best practice and meet all relevant environmental legislation including: Control of Pollution Act 1974 (COPA), Environment Act 1995 and Hazardous Waste (England and Wales) Regulations 2005.
- 3.53 All construction works will adhere to the Construction (Design and Management) Regulations 2015 (CDM).



### **Decommissioning**

- 3.54 The Proposed Development is expected to operate for at least 25 years. At the end of operation it is expected that the Proposed Development will have some residual life remaining and an investment decision would then be made based on the market conditions prevailing at that time. If the operating life were to be extended the Proposed Development would be upgraded and re-permitted in line with the legislative requirements at that time.
- 3.55 At the end of its operating life, the most likely scenario is that the Proposed Development would be shut down and all above ground structures removed from the Site. There is limited information available at this stage regarding decommissioning methods and timescales.

## 4.0 PROJECT ALTERNATIVES

4.1 Alternatives to the Proposed Development that have or are being considered include:

- similar development at an alternative site;
- alternative development within the existing Power Station site; and
- alternative technologies.

4.2 A 'no development' alternative would not deliver the additional electricity generation capacity associated with this Nationally Significant Infrastructure Project and which NPS EN-1 recognises is urgently needed (see Section 5), and has therefore not been considered further.

### Alternative Sites

#### Gas-Fired Power Station

4.3 The Eggborough Power Station site has been selected by the Applicant for the development of a CCGT generating station, as opposed to other potentially available sites for the following reasons:

- the site has a long history of power generation;
- the existing coal-fired power station is facing closure and future redevelopment of the Power Station site would potentially allow retention of some of the existing workforce in similar employment;
- the site has excellent grid, water and transport links and is a brownfield site which is considered more attractive to redevelop than a greenfield one for large scale power generation; and
- the site is largely in the freehold ownership of the Applicant.

4.4 Within the Eggborough Power Station site, three potential Site Options for the Proposed Development have been identified and considered:

- Golf Course Site Option, located between the existing power station infrastructure and the A19, on the site of the existing golf course;
- Coal Stockyard Site Option, located within the existing coal stockyard; and
- Lagoon Site Option, located to the north-east of the coal stockyard, on land currently comprising a man-made lagoon, strategic coal stockyard (not in use) and contractor site offices.

4.5 Indicative locations for each of these Site Options are illustrated in Appendix 1 (Figure A1).

4.6 Based on an appraisal of technical, environmental, planning and legal considerations, the Golf Course Site Option was ruled out on the basis of:

- space constraints (the available area is too small to accommodate the Proposed Development);
- proximity to and interaction with existing overhead power lines;

- the potential for fogging and icing on the A19 from operation of the proposed hybrid cooling towers;
- loss of the golf course, sports and social club, wider sports amenity and established woodland; and
- the proximity to designated heritage assets (including a Scheduled Monument approximately 540 m to the west and Grade II listed milestone on the western boundary of the area).

4.7 The Coal Stockyard and Lagoon Site Options were therefore shortlisted for more detailed analysis, and remain under consideration.

#### Gas Connection

4.8 In addition to consideration of options for the main CCGT plant, three potential route corridors for the gas pipeline to connect to Feeder 29 have also been considered:

- one to the north-west, approximately 3.5 km in length, joining Feeder 29 to the south of Gateforth (adjacent to the proposed connection point for the proposed Knottingley CCGT power station);
- one to the north, approximately 4 km in length, joining Feeder 29 to the south or west of Burn (the shortest identified route from the Site to Feeder 29); and
- one to the east, approximately 5 km in length, joining Feeder 29 to the north-west of Carlton (adjacent to the proposed connection point for the proposed Thorpe Marsh CCGT power station).

4.9 These three indicative route corridors are shown in Appendix 1 (Figure A2).

4.10 A 'heat mapping' exercise was conducted to develop these routes, taking account of a range of technical, environmental, and health and safety considerations.

4.11 The eastern route was ruled out because it:

- is the longest route, and would therefore be likely to take longer, would require more land and would be more costly to construct;
- would require not only a crossing of the River Aire (as all three route corridors do) but also a crossing of at least one railway line;
- would affect a wider area; and
- runs closer to existing residential areas.

4.12 The northern and north-western routes remain under consideration. Both routes cross the River Aire and may not require a railway crossing (depending on the connection location).

#### **Alternative Developments**

4.13 The Applicant considered the conversion of the coal-fired station to biomass fuel and received planning consent in 2013. However this was economically unviable and the project was not progressed.

- 4.14 Alternative layouts and technologies for the new CCGT power station will be considered during the design process. A full detailed appraisal of the development options considered will be presented as part of the ES, discussing the rationale for the final site layout and design selection, as well as explaining the flexibility sought within the consent in this regard.

#### **Alternative Technologies**

- 4.15 A brief overview and justification for the chosen technology will be provided in the ES, including the evaluation of what constitutes BAT for this Proposed Development regarding the options currently under investigation mentioned above, for example cooling technology.

## 5.0 PLANNING POLICY AND NEED

5.1 This section sets out the main planning policy documents taken into account in terms of defining the scope of the EIA.

### National Policy Statements

5.2 The policy framework for examining and determining applications for NSIPs is provided by NPSs. Section 104 of the Planning Act 2008 requires the Secretary of State to determine applications for NSIPs in accordance with the relevant NPSs, unless this would:

- lead to the UK being in breach of its international obligations;
- be in breach of any statutory duty that applies to the Secretary of State;
- be unlawful;
- the adverse impacts of the development outweigh its benefits; or
- be contrary to any Regulations that may be made prescribing other relevant conditions.

5.3 In July 2011 the Secretary of State for the Department of Energy and Climate Change ('DECC' which has recently by the Department for Business, Energy and Industrial Strategy) designated a number of NPSs relating to nationally significant energy infrastructure. The NPSs that are considered to be of relevance to the Project include:

- Overarching National Policy Statement for Energy (EN-1) ('EN-1') (DECC, 2011a);
- National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2) ('EN-2') (DECC, 2011b);
- National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) ('EN-4') (DECC, 2011c); and
- National Policy Statement for Electricity Networks Infrastructure (EN-5) ('EN-5') (DECC, 2011d).

5.4 These documents, from a planning policy perspective, have been the main focus in terms of scoping the EIA.

5.5 Part 4 of EN-1 sets out a number of 'assessment principles' that must be taken into account by applicants and the Secretary of State in preparing and determining applications for nationally significant energy infrastructure. General points include (paragraph 4.1.2) the requirement for the Secretary of State, given the level and urgency of need for the infrastructure covered by the energy NPSs, to start with a presumption in favour of granting consent for applications for energy NSIPs. This presumption applies unless any more specific and relevant policies set out in the relevant NPS clearly indicate that consent should be refused or any of the considerations referred to in Section 104 of the 2008 Act (noted above) apply.

5.6 Paragraph 4.1.3 goes on to state that in considering any project, and in particular, when weighing its adverse impacts against its benefits, the Secretary of State should take into account:

- its potential benefits, including its contribution to meeting the need for energy infrastructure, job creation and any long-term or wider benefits; and

- its potential adverse impacts, including any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts.
- 5.7 Paragraph 4.1.4 continues by stating that within this context the Secretary of State should take into account environmental, social and economic benefits and adverse impacts, at national, regional and local levels.
- 5.8 Other assessment principles include the matters to be covered within any ES, the Habitats and Species Regulations; the consideration of alternatives; criteria for ‘good design’; consideration of CHP; consideration of CCS and CCR; climate change adaptation; and grid connection, amongst others.
- 5.9 Part 5 of EN-1 lists a number of ‘generic impacts’ that relate to most types of energy infrastructure, which both applicants and the Secretary of State should take into account when preparing and considering applications. These include air quality and emissions; biodiversity; landscape and visual; and flood risk impacts, amongst others. Paragraph 5.1.2 stresses that the list of impacts is not exhaustive, and that applicants should identify the impacts of their projects in the ES in terms of both those covered by the NPSs and others that may be relevant. In relation to each of the generic impacts listed within Part 5 of EN-1, guidance is provided on how the applicant should assess these within their application and also the considerations that the SoS should take into account in decision-making.
- 5.10 In addition to a number of the assessment principles and generic impacts covered by EN-1 (where relevant to fossil fuel generating stations); EN-2, EN-4 and EN-5 set out the factors (e.g. factors influencing site selection) and ‘assessment and technology specific’ considerations to be taken into account in the preparation and assessment of applications for fossil fuel generating stations, gas pipelines and electricity network infrastructure; including relevant environmental matters, such as, amongst others, noise and vibration, landscape and visual, air quality, water quality, soil and geology, transport, and biodiversity.

### **Other Matters that may be ‘Important and Relevant’**

- 5.11 In making decisions on applications for NSIPs, Section 104 of the PA 2008 also states that the Secretary of State must also have regard to any other matters that they consider to be both ‘important and relevant’ to their decision. Paragraph 4.1.5 of EN-1 provides some clarification on the other matters that the Secretary of State may consider both important and relevant. It confirms that these may include development plan documents or other documents in the local development framework.
- 5.12 EN-1 is clear (reflecting the terms of the Planning Act 2008), however, that in the event of a conflict between these and any other documents and a NPS, the latter prevails for the purposes of Secretary of State decision-making given the national significance of the infrastructure concerned.

### National Planning Policy Framework and Planning Practice Guidance

- 5.13 The National Planning Policy Framework (‘NPPF’) (Department of Communities and Local Government (DCLG), 2012) was adopted in March 2012 and replaced the majority of Planning Policy Statements and Planning Policy Guidance Notes. The policies contained within the NPPF are expanded upon and supported by the ‘Planning Practice Guidance’, which was published in March 2014.

- 5.14 The NPPF sets out the Government's planning policies for England and how these are to be applied. It is a material consideration in planning decisions. Paragraph 3 of the NPPF makes it clear that the document does not contain specific policies for NSIPs and that applications in relation to NSIPs are to be determined in accordance with the decision making framework set out in the Planning Act 2008 and relevant NPSs, as well as any other matters that are considered both important and relevant. However, paragraph 3 goes on to confirm that matters that can be considered to be both important and relevant to NSIPs may include the NPPF and the policies within it.
- 5.15 Policies of particular relevance to the scope of the EIA include promoting sustainable transport; requiring good design; promoting healthy communities; conserving and enhancing the natural and historic environment; and meeting the challenge of climate change and mitigating its effects.

#### Local Planning Policy

- 5.16 The Main Site and Gas Connection Search Areas lie entirely within the administrative areas of SDC and NYCC. The local development plan for the area, which EN-1 confirms may be 'important and relevant', currently comprises the following documents:
- the 'saved' policies of the North Yorkshire Waste Local Plan – adopted 2006;
  - the 'saved' policies of the North Yorkshire Minerals Local Plan – adopted 1997;
  - the 'saved' policies of the Selby District Local Plan – adopted February 2005; and
  - the Selby District Core Strategy Local Plan – adopted October 2013.
- 5.17 Both the Selby District Local Plan and the Selby District Core Strategy Local Plan contain a number of policies of relevance to the EIA of the Proposed Development, as follows:
- SP 1 (Selby Core Strategy) Presumption in Favour of Sustainable Development;
  - SP 15 (Selby Core Strategy) Sustainable Development and Climate Change;
  - Policy SP 16 (Selby Core Strategy) Improving Resource Efficiency;
  - SP 18 (Selby Core Strategy) Protecting and Enhancing the Environment;
  - SP 19 (Selby Core Strategy) Design Quality;
  - ENV 1 (Selby District Local Plan) Control of Development;
  - ENV 2 (Selby District Local Plan) Environmental Pollution and Contamination;
  - ENV 3 (Selby District Local Plan) Light Pollution;
  - ENV 4 (Selby District Local Plan) Hazardous Substances;
  - ENV 9 (Selby District Local Plan) Sites of Importance for Nature Conservation Importance;
  - ENV27 (Selby District Local Plan) Scheduled Monuments and Important Archaeological Sites;
  - ENV28 (Selby District Local Plan) Other Archaeological Sites;
  - EMP10 (Selby District Local Plan) Additional Industrial Development at Drax and Eggborough Power Stations;
  - T 1 (Selby District Local Plan) Development in Relation to the Highway Network;

- T2 (Selby District Local Plan) Access to Roads; and
  - T8 (Selby District Local Plan) Public Rights of Way.
- 5.18 The majority of the 'saved' policies of the North Yorkshire Waste Local Plan relate to waste management facilities (defined in the Plan as "*Facilities associated with the processing and disposals of waste materials*") and are not therefore considered relevant to the Project as it is not a waste management proposal. However, Policy 5/1 'Waste Minimisation', which covers waste arisings from major new development proposals, is of some relevance.
- 5.19 None of the 'Saved' policies contained in the North Yorkshire Minerals Local Plan are considered to be of relevance to the Proposed Development.
- 5.20 In terms of emerging documents:
- SDC is preparing a 'Sites and Policies Local Plan' to deliver the strategic vision outlined in the Core Strategy, which is intended to supersede the remaining saved policies in the Selby District Local Plan; and
  - NYCC is currently preparing a Joint Minerals and Waste Plan.
- 5.21 These documents are in the early stages of preparation and have not been considered further for the purposes of scoping the EIA.

### **The Need for the Proposed Development**

- 5.22 The Energy White Paper 'Meeting the Energy Challenge' published in 2007 by the Department for Trade and Industry, which formed the basis of the Energy Act 2008, sets out the Government's plans for tackling climate change by reducing carbon emissions whilst ensuring the availability of secure, clean, affordable energy.
- 5.23 The White Paper and the Overarching NPS for Energy (EN-1) (DECC, 2011a) both emphasise the importance of a diverse mix of energy generating technologies, including renewables, nuclear and fossil fuels, to avoid over-dependence on a single fuel type and thereby ensure security of supply. The NPS for Fossil Fuel Electricity Generating Infrastructure (EN-2) (DECC, 2011b) further emphasises that fossil fuel generating stations play a vital role in providing reliable electricity supplies as the UK makes the transition to a low carbon economy.
- 5.24 A significant amount of guidance relating to the need for new energy infrastructure is provided in EN-1. Part 3 of the document outlines the need for the development of nationally significant energy infrastructure and highlights the vital role to economic prosperity and social well-being from ensuring the UK has secure and affordable energy. Furthermore, producing the energy the UK requires and getting it to where it is needed necessitates a significant amount of infrastructure, both large and small scale.
- 5.25 Paragraph 3.1.2 states that it is for industry to propose new energy infrastructure and that the Government does not consider it appropriate for planning policy to set targets for or limits on different technologies. Notably, paragraph 3.1.3 stresses that the Secretary of State should assess applications for development consent for the types of infrastructure covered by the energy NPSs "*...on the basis that the Government has demonstrated that there is a need for those types of infrastructure and that the scale and urgency of that need...*" is as described for each of them. Paragraph 3.1.4 continues that the Secretary of State should give substantial weight to the



contribution that all projects would make toward satisfying this need when considering applications under the Planning Act 2008.

- 5.26 As such, the need that exists for new energy infrastructure is not open to debate or interpretation and is clearly confirmed by EN-1. Indeed, as a large number of existing oil, coal and nuclear power stations, including the existing Eggborough coal-fired Power Station, close over the next 5-10 years due in part to the requirements of Directive 2010/75/EU of the European Parliament and the Council on Industrial Emissions (IED) (European Parliament and the Council, 2010) and/or as plants reach the end of their operational lives, a change in the current mix of energy will occur. Projections in EN-1 indicate 22 GW of electricity generating capacity will close over this period. This creates a significant need for new major energy infrastructure which would help meet energy security needs by replacing closing electricity generating capacity, while at the same time contributing to the Government's plan for a minimum need of 59 GW new electricity generating capacity by 2025.
- 5.27 The UK Government has undertaken Energy Market Reform (EMR), which is intended to deliver low carbon energy and reliable supplies that the UK needs, while minimising costs to consumers. The EMR introduces a key mechanism to provide incentives for the investment required in energy infrastructure – the Capacity Market, which provides a regular retainer payment to reliable forms of capacity (both demand and supply side), in return for such capacity being available when needed.
- 5.28 The reformed electricity market is intended to transform the UK electricity sector to one in which low-carbon generation can compete with conventional, fossil-fuel generation – ensuring a cleaner, more sustainable energy mix. Nevertheless, gas generation is still required to meet demand and it also contributes to the objective of reducing national carbon dioxide (CO<sub>2</sub>) emissions as generating electricity from gas is more efficient and of lower carbon intensity than other fossil fuels such as coal, resulting in significantly lower CO<sub>2</sub> emissions per generated MW from gas-fired power stations compared to coal-fired power stations.
- 5.29 The long lead-in for new nuclear power stations also means that new fossil fuel and renewable generating capacity will need to be progressed to meet demand.
- 5.30 Renewable energy is important to achieve the UK's targets for reductions in carbon emissions, but EN-1 also emphasises the ongoing requirement for fossil fuel power stations as they offer more flexibility in response to changes in energy demand compared to many renewable energy technologies. Recent DECC projections indicate that more than 15 GW of fast response generation plant is required in the UK to support the intermittency of renewable electricity generation. However, over-emphasis on small scale peaking plant – many of which are diesel-fired – is leaving the Government increasingly concerned that such plants will not be able to meet a predicted energy supply gap for the UK in short to medium term. Modifications to the Capacity Market are therefore under review in order to provide sufficient investment stimulus to enable deployment of projects such as the one proposed by the Applicant. The investment required to transform the UK's electricity infrastructure will stimulate the economy, support the growth of UK supply chains and boost the jobs market.
- 5.31 The UK faces closure of existing generating capacity as older, more polluting, power stations close, whilst UK electricity demand is projected to grow as heat and transport systems are increasingly electrified. EN-1 stresses the need to replace closing electricity generating capacity as well as increasing capacity in response to a possible doubling of electricity consumption by

2050. Expected closure of the existing coal-fired Eggborough Power Station in March 2016 was announced in September 2015, but a subsequent SBR contract enabled its continued operation in the short term up to March 2017.

- 5.32 For these reasons, the Applicant considers that there is a clear and compelling national need for the development of a new gas-fired electricity generating station and has selected the Main Site on which to do so for technical, environmental and commercial reasons. The Applicant therefore proposes to seek Development Consent for the construction and operation of a gas-fired power station at the Main Site.

## 6.0 POTENTIALLY SIGNIFICANT ENVIRONMENTAL ISSUES

6.1 The following sections present a discussion of the potential environmental impacts associated with the Proposed Development that it is proposed will be considered as part of the EIA. The methodology and assessment criteria that will be used to assess the potential significance of the identified impacts are also outlined alongside potential mitigation measures for implementation following assessment.

### Air Quality

#### Baseline Conditions

- 6.2 A small Air Quality Management Area (AQMA) in Selby town (New Street/ The Crescent) was designated by SDC in February 2016 due to consistent elevated levels of nitrogen dioxide (NO<sub>2</sub>) being recorded over a number of years, primarily as a result of traffic emissions. An Air Quality Action Plan is now being prepared. This AQMA is approximately 8 km to the north/north-east of the Proposed Development Site.
- 6.3 There is also a large AQMA along the M62 corridor through Wakefield District, designated by Wakefield Metropolitan District Council for elevated levels of NO<sub>2</sub>. The boundary of the AQMA is approximately 4.5 km to the west/south-west of the Site (see Figure 5B).
- 6.4 SDC currently undertakes diffusion tube monitoring within Selby town in respect of the AQMA at roadside locations, and obtains automatic monitoring data for data validation from automatic monitors in Hull, Barnsley and York (SDC, 2015), the closest of which is 25 km away. The available data is therefore not considered representative of background air quality in the vicinity of the Site.
- 6.5 The Applicant previously undertook monitoring of the existing power station emissions as part of the Aire Valley Power Stations Joint Environment Programme (JEP), the closest of which was at West Bank, approximately 4 km west (downwind) of the Power Station. The monitoring location was intended as compliance monitoring to capture process contributions (NO<sub>x</sub> as NO<sub>2</sub>, SO<sub>2</sub> and PM) from the Power Station, and therefore does not represent a "background" location, however over 12 years the monitoring data consistently showed pollutant concentrations well below the air quality standards.
- 6.6 Baseline, or existing, background air quality at the Site will be determined from available monitoring data and Defra background air quality maps (UK-AIR) (Defra, 2016). A summary of currently available data, assumed for the opening year (2022), is provided in Table 6.1.

**Table 6.1: Background Air Quality Data (annual mean)**

Station name/ ID	Site type	Location	Distance	Pollutant (µg/m <sup>3</sup> )		
				NO <sub>x</sub>	NO <sub>2</sub>	CO
EPL (JEP) (2012)	Compliance monitoring	West Bank	4 km downwind of proposed CCGT plant	-	8.5	-
Defra Background Maps (2022)	Estimated	Background	Onsite	14.7	10.7	131

- 6.7 Given the absence of representative local monitoring data, EPL proposes to conduct a limited ambient air monitoring survey to inform the EIA, using diffusion tube monitoring, to supplement the background data above. The monitoring survey will include several 'background' locations in the vicinity of the Main Site (within a 2 km radius) targeting potentially sensitive receptor locations, and will be undertaken over a period of 3-6 months to capture temporal variations.
- 6.8 The existing air quality concentrations at the designated habitat sites will be obtained from UK-AIR (Defra, 2016) and the existing acid and nutrient nitrogen deposition rates will be obtained from the UK Air Pollution Information System (APIS) (APIS, 2016).

#### Scope of the Assessment

- 6.9 The following potential impacts may be associated with the Proposed Development:
- emission of pollutants to air from CCGT stacks during operation;
  - emission of pollutants to air from vehicles associated with construction, operation and decommissioning; and
  - construction dust and mobile plant exhaust emissions generated during construction and decommissioning.
- 6.10 The Proposed Development, when operational, will emit known pollutants to air, via a stack(s). These will include the combustion products nitrogen oxides and carbon monoxide, for which Air Quality Objectives (AQS) have been set as part of the National Air Quality Strategy, as well as CO<sub>2</sub> and potentially additional trace pollutants. The plant will be designed to comply with the requirements of the IED and in accordance with Environment Agency guidance (Environment Agency, 2016a).
- 6.11 An atmospheric impact assessment will be undertaken for the main point source emissions, utilising air dispersion modelling to assess the impact to air quality potentially brought about through the generation and dispersion of emissions from the Proposed Development. The study will be desk-based and will assess the predicted concentrations of combustion pollutants specifically detailed in the IED, which are potentially hazardous to human health and designated habitats sites, at identified receptors (such as residential homes, schools, nature sites) within the local area, as well as the potential effect on the nearby AQMAs.
- 6.12 The modelling will be based on Emission Limit Values set by the IED and at full operating load, thereby presenting a worst-case scenario in the ES. Should it be deemed appropriate to model lower loads, justification for this will be provided and the load clearly stated in the assessment. Modelling will be undertaken in accordance with Environment Agency guidance (Environment Agency, 2016a).
- 6.13 The atmospheric dispersion modelling study of operational emissions will be undertaken using the Atmospheric Dispersion Modelling System (ADMS) model, currently version 5.1. ADMS is widely used by industry and the regulatory authorities.
- 6.14 The dispersion modelling study will be used to determine the most appropriate height for the chimney stacks (for the CCGT and peaking plant) and configuration (single or combined stacks) based on the resultant maximum short term and long term ground level concentrations predicted.

- 6.15 Potential impacts on ecological receptors will be assessed, including statutorily designated habitat sites within 10 km of the proposed CCGT plant and non-statutory habitat sites within 2 km of the proposed CCGT plant, in accordance with EA guidance (Environment Agency, 2016a).
- 6.16 An air quality impact assessment will also be undertaken on the effects of road traffic on the local road network associated with the construction of the Proposed Development, in accordance with the methods outlined in the guidance for local authorities (LAQM.TG09) (Defra, 2009)). The Highways Agency's (HA) Design Manual for Roads and Bridges (DMRB) (Highways Agency, 2007) screening model will be used, supplemented by detailed ADMS-Roads dispersion model as necessary, depending on background concentrations and predicted percentage traffic increase as a result of the Proposed Development. Both tools have been specifically designed to assess the impact of road traffic emissions in the UK.
- 6.17 Should modelling be required, the assessment would utilise local traffic data attained during the proposed traffic and transport assessment (see Traffic and Transport section below), including traffic numbers, fleet composition, and average vehicle speeds, to calculate emission fluxes for the above listed pollutants from each road source. A number of traffic scenarios would be modelled using designated HGV routes, including present-day, and a given future date both with and without the Proposed Development and with specific reference to the AQMAs.
- 6.18 In addition, potential impacts and nuisance from site clearance, construction dust and mobile plant exhaust emissions generated during the construction phase of the plant and any associated pipeline will be considered using a screening assessment (Institute for Environmental Management and Assessment (IEMA), 2016) and supplemented by case studies where appropriate. Similar effects during the decommissioning stage will also be considered. Where necessary, mitigation measures will be recommended for the control of dust and site plant emissions during site preparation and construction works to minimise the potential effects.
- 6.19 The AQS objectives set within the National Air Quality Strategy are intended to protect the most sensitive parts of the population, and therefore compliance with such objectives removes the need for a separate Human Health Risk Assessment (HHRA) for this type of development.
- 6.20 Given the subjectivity that can occur when attempting to assign a level of significance to a given air quality impact, AECOM has produced a set of quantitative significance criteria for air quality matters. These are based on regulatory and expert guidance (Environment Agency, 2016a) (Highways Agency, 2007) (Environmental Protection UK, 2010).

## **Noise and Vibration**

### Baseline Conditions

- 6.21 The Proposed Development will be located within the existing industrial setting of Eggborough Power Station, adjacent to the coal fired power plant, waste water treatment works and Air Liquide air separation unit. The areas surrounding the Power Station site are mainly rural.
- 6.22 The closest residential properties to the proposed CCGT plant in the east/ south-east of the Main Site are in Gallows Hill and Hensall, approximately 300 m and 800 m to the east respectively. A number of noise sensitive receptors (residential properties) are also located to the west and south of the Main Site (including two properties opposite the Tranmore Lane entrance to the Main Site) and in the vicinity of the Gas Connection Search Areas, as set out in Section 2.

6.23 Continuous noise monitoring is undertaken at three locations around the Power Station site: near the weighbridge on Tranmore Lane; at the eastern end of the rail loop; and at the south-eastern corner of the strategic coal stockyard. These data, together with monitoring data to be collected at up to five representative locations around the Main Site (to be agreed with SDC Environmental Health Officer), will be used to establish the baseline conditions around the Main Site.

#### Scope of the Assessment

6.24 The following potential impacts are likely to be associated with the Proposed Development:

- construction and decommissioning noise and vibration impacts (including construction and decommissioning traffic on public roads);
- operational noise impacts from the new plant; and
- operational noise impacts from road traffic on public roads.

6.25 Based on the distance between the Main Site and the nearest residential receptors, significant vibration impacts associated with operational activities are considered unlikely, although they will still be considered as part of the EIA.

6.26 The scope of the noise and vibration assessment will be:

- identification of nearest noise sensitive receptors;
- liaison with Local Authorities' Environmental Health Officer(s) to agree scope and methodology of noise assessment, including baseline noise monitoring locations and measurement protocol;
- establishment of baseline noise levels in the locality; and
- assessment of the impact of predicted noise levels at the nearest noise sensitive receptors from the construction, operation and decommissioning of the proposed power station and associated connections, including:
  - construction noise and vibration (including construction traffic on public roads); and
  - operational noise and vibration (including site traffic on public roads).

6.27 The noise and vibration assessment will be carried out in accordance with the following guidance:

- Overarching National Policy Statement for Energy (EN-1), July 2011 (NPS EN-1);
- National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2), July 2011 (NPS EN-2);
- National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4), July 2011 (NPS EN-4);
- National Planning Policy Framework, 2012;
- Noise Policy Statement for England, 2010; and
- Planning Practice Guidance for Noise, 2014.

6.28 Additionally, reference will be made, but not be limited, to the following:

- British Standard (BS) 5228-1 2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites. Part 1: Noise';
- BS 5228-2 2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites. Part 2: Vibration';
- International Organisation for Standardisation (ISO) 9613-2: 1996 'Attenuation of sound during propagation outdoors. Part 2: General method of calculation';
- BS 4142: 2014 'Methods for rating and assessing industrial and commercial sound';
- BS 7385: 1993 'Evaluation and measurement for vibration in buildings';
- BS 6472: 2008 'Guide to evaluation of human exposure to vibration in buildings';
- Control of Pollution Act 1974;
- Calculation of Road Traffic Noise (CRTN) (DoT, 1988); and
- Design Manual for Road and Bridges (DMRB) Volume 11 Section 3 Part 7 HD213/11 (Revision 1) 'Traffic Noise and Vibration' (Highways Agency, 2011).

6.29 Baseline noise monitoring requirements will be agreed in advance with the Environmental Health Officer at SDC. The monitoring procedures will conform to BS 7445: 2003 'Description and Measurement of Environmental Noise', and monitoring will be undertaken in close proximity to local sensitive receptors including weekend and weekday times, ideally (subject to adequate security) over a minimum five day unmanned monitoring period (Thursday to Monday suggested).

6.30 Noise levels associated with enabling and construction works will be calculated (at chosen sensitive receptors) using the data and procedures given in BS 5228. The need for prediction of vibration levels will be further considered depending upon the types of activities required. Additionally, noise increases at sensitive receptors due to any construction traffic on public roads will be calculated according to the methods given in CRTN. The assessment of construction works will include the electrical, water and gas connections.

6.31 The operational noise impact of the Proposed Development will be predicted using computer noise modelling software (SoundPLAN or Cadna-A), based on information on plant layout, and the operating conditions and the levels of noise generated by plant items and vehicles, as provided by the client. The modelling software enables a detailed implementation of the proposed equipment and buildings, existing surrounding buildings and ground features. The software implements the methodology in ISO 9613-2 for the calculation of noise levels from industrial sources.

6.32 The significance of the noise impact of the Proposed Development during operation will be assessed using the method given in BS 4142 and World Health Organisation (WHO) guidance (WHO, 2009). BS 4142 provides a method for rating the acceptability of increases in existing noise levels at noise-sensitive receptors affected by noise from industrial sources at proposed developments, and the WHO guidance provides information regarding assessment of sleep disturbance. Further details of the approach will be discussed and agreed as required with the Environmental Health Officer at SDC.

6.33 Additionally, the tonal, impulsive and irregular characteristics of the noise emissions from the new power station will be considered and assessed against the prevailing noise climate to the sensitive receptors.

- 6.34 The operational assessment will include the electrical, water and gas connections.
- 6.35 The construction, operation and decommissioning of the Proposed Development may have a potentially significant impact on traffic flows on local roads around the site. The change in road traffic noise levels, at a selection of relevant receptors, will be predicted using the standard methodology outlined in the CRTN. The predictions will be based on baseline and with-development traffic data provided as part of the proposed traffic and transport assessment (see Traffic and Transport section below).
- 6.36 The significance of changes in road traffic noise levels will be assessed based on a range of relevant guidance including the DMRB.

## Ecology

### Baseline Conditions

- 6.37 There are no Sites of Special Scientific Interest (SSSIs) within 5 km of the Main Site, the closest being Forlorn Hope Meadows SSSI approximately 7 km to the south-east (see Figure 5A). There are no Special Areas of Conservation (SACs), Special Protection Areas (SPAs) or Ramsar sites within 10 km of the Main Site, the closest being the River Derwent SAC approximately 10.5 km to the north-east (see Figure 5A). The SAC lies upstream of the confluence of the River Aire with the River Ouse and Humber Estuary. There is therefore no pathway by which the River Derwent SAC could be adversely affected by the Proposed Development, and it will be scoped out of detailed assessment in the ES (and Habitats Regulations Assessment).
- 6.38 The Humber Estuary SPA/ SAC/ Ramsar/ SSSI, into which the River Aire flows after joining the River Ouse, lies approximately 15 km downstream of the abstraction and outfall point for the Power Station. There is therefore habitat connectivity between the Power Station abstraction and outfall point and the internationally designated site. On this basis, and despite the relatively large distance between the Proposed Development and the internationally designated site, the Humber Estuary SPA/ SAC/ Ramsar/ SSSI has been scoped into the ES for assessment (including Habitats Regulations Assessment Screening) as a precaution.
- 6.39 There are also no SSSIs within 5 km of the Gas Connection Search Areas, and only one SAC, SPA or Ramsar site within 10 km of the Gas Connection Search Areas; this is the River Derwent SAC approximately 8.5 km to the east of Connection Point C. As discussed above, there is no pathway for impacts on the River Derwent SAC and it will be scoped out of detailed assessment. However, the assessment will consider potential impacts on the Humber Estuary SPA/ SAC/ Ramsar/ SSSI should any source-receptor pathways be identified e.g. via the crossing of the River Aire or field drainage ditches that may outfall to the River Aire.
- 6.40 An Extended Phase I Habitat survey of the Main Site (excluding the water connection and the Gas Connection Search Areas) was undertaken in June 2016. The Site is dominated by hardstanding, buildings, coal stockpiles and road and rail infrastructure associated with the operational power station, which are of negligible ecological value. There are areas of mixed broadleaved and conifer plantation woodland on screening bunds around the coal stockpile area, and along the eastern boundary of the site. These habitats are likely to support nesting birds, and may be of value to foraging and commuting bats.
- 6.41 Within the Main Site, the area of highest ecological interest was found to be associated with the lagoon, which is a large man-made open waterbody (lined) surrounded by mature plantation



woodland. This provides a sheltered habitat for foraging bats, with the ongoing programme of bat surveys recording good numbers of foraging common pipistrelles (*Pipistrellus pipistrellus*) in this area to date.

- 6.42 As part of the Extended Phase I Habitat survey of the Main Site, waterbodies in or within 250 m of the Main Site were subject to a Habitat Suitability Index survey to establish their potential to support great crested newt populations. The majority of the waterbodies within the Power Station Site comprise cooling water storage lagoons, and were discounted from further survey due to their unsuitability for great crested newts. Three waterbodies were subsequently tested using the eDNA method in spring 2016; the large lagoon and a pond near the northern boundary (within the Main Site), and the golf course pond (within the wider Power Station site). All returned negative results for great crested newt DNA and have therefore been scoped out of further survey for this species.
- 6.43 Waterbodies in or within 250 m of the Gas Connection Search Areas (including a third search area to the east that has since been ruled out – see Section 4) were identified from Ordnance Survey mapping and/or aerial photography and surveyed using the Habitat Suitability Index. Nine waterbodies were subsequently tested using the eDNA method. Of these five lie within 250 m of the eastern route corridor, and have therefore been discounted because the route option was subsequently ruled out. Two ponds are within 250 m of the northern route corridor; one returned a positive result for great crested newt DNA and one returned a negative result. In light of this the northern route corridor was revised to avoid the 250 m zone around the pond and negate the requirement for further detailed survey for great crested newts in spring 2017. The two ponds within 250 m of the north-western route corridor both returned negative results.
- 6.44 Should any additional waterbodies be identified within 250 m of the Gas Connection route options or AGIs following completion of the Phase 1 Habitat survey of the routes, these will be subject to Habitat Suitability Index (HSI) and further survey for great crested newts as necessary.

#### Scope of the Assessment

- 6.45 The following potential impacts may be associated with the Proposed Development:
- permanent loss of habitats within the Main Site and at the AGI during construction;
  - disturbance of ecological receptors (including noise, dust and light impacts) in the vicinity of the Main Site and Gas Connection Search Area during construction, operation and decommissioning;
  - temporary impacts on habitats within the Gas Connection Search Areas during construction;
  - temporary and permanent impacts on aquatic habitats and water quality in the River Aire due to construction works at the abstraction and outfall points; and
  - air quality impacts on ecological receptors in the vicinity of the Main Site during operation.
- 6.46 Potential impacts on ecological receptors will be assessed using the Institute for Ecology and Environmental Management (IEEM) Ecological Impact Assessment Guidelines (2006) (IEEM, 2006). Any likely significant adverse effects will be mitigated or compensated for and a number of ecological enhancements will also be recommended where appropriate, in accordance with relevant NPS. Following the implementation of mitigation and compensation, any residual effects on ecological receptors will be identified.

6.47 A summary of the additional ecological surveys (with timescales) proposed to be undertaken to facilitate an adequate assessment of the likely effects of the Proposed Development on designated sites and protected/ notable species and to adequately inform the DCO application, is provided in Table 6.2 below.

6.48 Surveys for the following species have been scoped out:

- Reptiles – there is no suitable reptile habitat within the Main Site area. Grass snakes (*Natrix natrix*) may be present in habitats affected by the Gas Connection route options e.g. in ditches/ streams/ ponds and the River Aire and its associated riparian habitat, but it is considered appropriate to mitigate the temporary impacts on this species with a precautionary working method statement for the avoidance of killing/ injury.
- Breeding birds – the layout of the Proposed Development within the Main Site is being designed to avoid impacts on the existing woodland within the Power Station site and a breeding bird survey is therefore not considered to be required for the Main Site. Survey is also not considered to be necessary for the gas connection pipeline as the impacts will be temporary and vegetation removal can be programme to be undertaken outside the breeding bird season.
- Wintering and passage birds – there is negligible potential for the arable farmland crossed by the Gas Connection route in the floodplain of the River Aire to support important assemblages of wintering and passage birds, including qualifying species of the Humber Estuary internationally designated site. Furthermore, the impacts of the Proposed Development will be temporary, with all arable land affected fully restored upon completion of the Gas Connection.
- White clawed crayfish (*Austropotamobius pallipes*) – there are no known records of this species in the lower reaches of the River Aire, and it is reasonable to assume that the species is absent given its proximity to the tidal influence and salinity of the Humber Estuary.

**Table 6.2: Scope of Ecology Studies and Surveys for EIA**

Study/ Survey	Scope/ Methodology	Timing	Main Site	Gas Connection Route(s)	AGI Location(s)	Abstraction & Discharge Point to River Aire
Desk study	Development footprint, Gas Connection Search Area and 1 km radius for protected species records and locally designated sites; 5 km radius for nationally designated sites (SSSIs); and 10 km radius for internationally designated sites (SPA, SAC, Ramsar and Marine Conservation Zones (MCZ)).	July/ Aug 2016	P	✓	✓	✓
Phase 1 Habitat survey	All habitats within development footprint and immediate surrounds to place site into context. Survey corridor for Gas Connection Search Area is 500m in width.	June to Aug 2016	C	✓	✓	✓
Great crested newt – HSI	HSI of all ponds within Main Site, within Gas Connection Search Areas and within 250 m.	June to Aug 2016	C	IR	IR	x
Great crested newt – eDNA	eDNA surveys of all ponds identified as potentially suitable for GCN on Main Site, within Gas Connection Search Areas and within 250m	June 2016	C	IR	IR	x
Great crested newt – presence/ absence	A minimum of four surveys using a range of techniques in the period March to June, with at least two in the peak period mid-April to mid-May.	Mar to May 2017	x	IR	IR	x
Bat activity – walked transects	1 walked dusk/dawn transect per month of suitable foraging/ commuting habitat.	July to Sept 2016	P	x	✓	x

Study/ Survey	Scope/ Methodology	Timing	Main Site	Gas Connection Route(s)	AGI Location(s)	Abstraction & Discharge Point to River Aire
Bat activity – remote static detector	Minimum of 5 days of automated bat monitoring per month (July to September) using a minimum of 2 remote recording devices (SM2s).	July to Sept 2016	P	x	✓	x
Bat roost potential (BRP)	Site walkover to assess the suitability of buildings and trees for roosting bats.	July/ Aug 2016	✓	✓	✓	✓
Bat roost – trees	Tree climbing to inspect features identified in the BRP survey. Dusk emergence and dawn swarming surveys where necessary to determine roost presence/ likely absence.	Aug/ Sept 2016	IR	IR	IR	IR
Bat roost – buildings	Dusk emergence and dawn swarming surveys of buildings identified with bat roost potential.	Aug/ Sept 2016	IR	IR	IR	IR
Badger	All habitats within development footprint and within 30 m.	Aug 2016	✓	✓	✓	✓
Fish	Fish surveys of the River Aire at the abstraction and discharge locations Fish survey of the lagoon on Main Site.	July to Oct 2016	✓	x	x	✓
Macrophytes (aquatic plants)	River corridor and macrophyte survey of River Aire between the abstraction and discharge points.	July to mid-Oct 2016	x	x	x	✓
Macro-invertebrates	Macro-invertebrate survey of affected section of River Aire at abstraction and discharge points.	Sept/ Oct 2016	✓	x	x	✓

Study/ Survey	Scope/ Methodology	Timing	Main Site	Gas Connection Route(s)	AGI Location(s)	Abstraction & Discharge Point to River Aire
	Macro-invertebrate survey of the lagoon on Main Site.					
Otter and water vole	All suitable riparian habitats within Main Site, Gas Connection Search Areas including River Aire and field drainage ditches within Gas Connection Search Areas.	Aug/ Sept 2016	✓	✓	✓	✓
KEY: ✓ = will be undertaken; ✗ = will not be undertaken; C = completed; P = in progress, IR = if required						

- 6.49 The majority of ecology surveys will be completed by the end of 2016; the only exception is any great crested newt surveys that may be required. Where possible the Proposed Development is being designed to avoid potential impacts on great crested newt by maintaining a minimum offset of 250 m from waterbodies with potential to support/ confirmed populations of great crested newt. If for any reason this is not possible, great crested newt surveys of any ponds that have not previously been identified for survey during the eDNA testing period (but are identified during the Phase I Habitat survey of the Gas Connection Search Areas) may be required in spring 2017. It may not be possible to incorporate any such survey results into the DCO application given the seasonal constraints associated with this survey, and if necessary the results would be provided to the Secretary of State following discussion with relevant statutory consultees.
- 6.50 The results of the surveys, the desk study, consultation responses and the Extended Phase 1 Habitat survey will be used to undertake an ecological impact assessment. Once the ecological baseline for the Proposed Development Site has been fully described, any ecological receptors that are likely to be significantly impacted by the Proposed Development will be identified and appropriate and proportionate mitigation will be described where necessary. Mitigation and enhancement proposals will consider wider strategic aims and options for mitigation of development in the Selby area.
- 6.51 As described in Section 3, an eel screen is expected to be required at the cooling water abstraction from the River to fulfil the obligations of the Eels (England and Wales) Regulations 2009.
- 6.52 As outlined in the Air Quality section above, it is expected that the Proposed Development will emit a range of pollutants into the air, including nitrogen oxides and some trace species. However as there are no SSSIs within 5 km of the proposed CCGT plant and no SACs, SPAs or Ramsar sites within 10 km of the proposed CCGT plant, there are considered to be no likely significant effects on statutory designated nature conservation sites as a result in changes in air quality.

### **Habitats Regulations Assessment**

- 6.53 There are no SACs, SPAs or Ramsar sites (collectively known as Natura 2000 sites) within 10 km of the Main Site (the closest is at 10 km distant). The only Natura 2000 site within 10 km of the Gas Connection Search Areas is the River Derwent SAC, approximately 8.5 km away at the closest point. The Humber Estuary SPA/ SAC/ Ramsar/ SSSI is approximately 15 km downstream of the abstraction and outfall on the River Aire, and will be scoped into the Habitats Regulations Assessment Screening as a precaution due to its direct connectivity to the Proposed Development via the River Aire.
- 6.54 As discussed previously, there is no pathway by which the Proposed Development could give rise to likely significant effects on the River Derwent SAC because the SAC lies upstream of the River Aire, with the River Derwent flowing first into the River Ouse before the Rivers Ouse and Aire join at the Humber confluence.
- 6.55 The distance of the Humber Estuary SPA/ SAC/ Ramsar/ SSSI from the Proposed Development precludes the potential for water quality impacts via the River Aire pathway to result in likely significant effects on the designated site. The implementation of standard environmental control measures will minimise the risk of a pollution event to the River Aire during construction; however even in the event of an unforeseen release of contaminants into the watercourse, it is

reasonable to assume that there would be significant dilution before it reached the Humber Estuary such that it would not give rise to any adverse effects.

- 6.56 Due to the distance from the Proposed Development to the nearest Natura 2000 sites and given the nature of potential impacts due to the Proposed Development, there is considered to be no potential for likely significant effects on Natura 2000 sites. A Habitats Regulations Assessment Screening Report will be completed for consultation with Natural England, but it is considered unlikely that a full Appropriate Assessment would be required. The relevant matrices from PINS' Advice Note 10: Habitats Regulations Assessment (PINS, January 2016) will be completed as required.

## **Water Resources and Flood Risk**

### Baseline Conditions

- 6.57 The River Aire is located adjacent to the water abstraction and discharge points and approximately 600 m north of Wand Lane (see Figure 5C). The River is tidal downstream of Haddlesey Weir. Ings and Tetherings Drain is located approximately 300 m to the north of Wand Lane and is crossed by the cooling water abstraction pipework. Hensall Dyke is located immediately to the east of the Main Site. The Calder Navigation (canal) is located to the south and Selby Canal is located to the north. There are also a number of land drains and ditches in the vicinity of the Main Site, and crossing the Gas Connection Search Areas, and a number of waterbodies (see Ecology section above).
- 6.58 Surface water runoff within the existing Power Station site is currently collected, passed through three oil interceptors and used for pumping ash slurry to Gale Common ash lagoons to the south of the M62. When the coal-fired power station ceases to operate, there will be no requirement for water to create ash slurry and an alternative strategy is to be implemented for the management of surface water runoff. This surface water drainage strategy is currently being developed, and will be discussed with the Environment Agency and the local Internal Drainage Boards.
- 6.59 The Environment Agency Flood Map identifies that the Main Site includes areas of Flood Zones 1 and 3 (see Figures 5C and 5E). Parts of the Gas Connection Search Areas are also within Flood Zone 2. The definition of these flood zones according to the National Planning Policy Guidance (NPPG) (DCLG, 2014a) are:
- Flood Zone 1 is land that has a low probability of flooding (less than 1 in 1,000 annual probability of river or sea flooding (<0.1%));
  - Flood Zone 2 is land that has a medium probability of flooding (between 1 in 100 and 1 in 1,000 annual probability of river flooding (0.1-1%), or between 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.1-0.5%); and
  - Flood Zone 3 is land that has a high probability of flooding (1 in 100 year or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%).

### Scope of the Assessment

6.60 The following potential impacts may be associated with the Proposed Development:

- permanent loss of at least one surface waterbody (the man-made lagoon) within the Main Site during construction;
- possible change to Hensall Dyke (which has previously been culverted/ infilled within the Main Site but historically ran through it);
- potential temporary changes to surface water flows within Flood Zones 2 and 3 (including functional floodplain) during the construction;
- change to the impermeable area within the Main Site and at the gas connection point, and associated changes to surface water flows during operation;
- potential loss of floodplain storage if the footprint of the Proposed Development (e.g. AGI) is located in Flood Zone 3 (for which compensation would be required);
- pollution of surface watercourses within or near the Main Site and Gas Connection Search Areas during construction and decommissioning, due to spillages or polluted surface water runoff entering the watercourse (if an appropriate Environmental Management Plan is not adhered to); and
- pollution of surface watercourses within or near the Main Site and Gas Connection Search Areas during operation, due to spillages or polluted surface water runoff entering the watercourse (if materials are not appropriately stored at the Proposed Development in accordance with an appropriate Operational Environmental Management Plan and/or an appropriate drainage system is not implemented and maintained).

6.61 Potential impacts on groundwater are considered in the Geology, Hydrology and Land Contamination section below.

6.62 A Flood Risk Assessment (FRA) is required in accordance with the National Planning Policy Framework (NPPF) (DCLG, 2012) and NPS EN-1 (DECC, 2011) due to the size (over 1 ha) and location of the Proposed Development (partly in Flood Zones 2 and 3). The FRA will be undertaken with reference to the emerging surface water drainage strategy for the wider Power Station site, and will consider risks to the Proposed Development from flooding as well as the potential for the Proposed Development to increase flood risk off site. This will inform the design of the Proposed Development (including finished ground and floor levels) as well as the EIA.

6.63 The EIA will also consider the potential for impacts on surface watercourses and waterbodies, including the loss of the existing lagoon, potential impacts on Hensall Dyke, impacts on the River Aire due to the construction of the water abstraction and outfall infrastructure, and impacts on land drains and ditches crossed by the water and gas connections.

## **Geology, Hydrogeology and Land Contamination**

### Baseline Conditions

6.64 A review of the site-specific Groundsure report for the Main Site and publicly available British Geological Survey (BGS) borehole records and geological maps indicate that the Main Site is underlain by made ground (associated with coal stockpiles, lagoons, and the existing power station development), and dependent on the relative location, sand, silt, clay and gravel deposits



variously associated with recent alluvium, Brighton Sand Formation, glacial till, Hemingbrough Formation glacio-lacustrine deposits and Lacustrine Beach Deposits. Bedrock beneath the Main Site comprises Sherwood Sandstone.

- 6.65 Coal mining has taken place in the vicinity of the Main Site (with the last seams mined approximately 730 – 760 m beneath the southern and eastern parts of the Main Site worked in December 2015). Despite the relative depth beneath the Main Site, the longwall mining techniques employed can result in surface subsidence for several years after cessation of mining activities and ground subsidence may potentially be ongoing in southern and eastern parts of the Main Site. The Coal Authority Report records four damage claims relating to ground subsidence having been submitted, one relating to the existing power station which was subsequently withdrawn and one relating to a neighbouring property immediately east of the Main Site. Two further claims have been made for neighbouring properties to the south-east and south-west of the Main Site respectively.
- 6.66 The Environment Agency groundwater vulnerability classifies soils within and around the Main Site as either being of a high leaching potential for major aquifers (defined as deep, permeable, coarse textured soils that readily transmit a wide range of pollutants because of their rapid drainage and low attenuation potential) or being of a high leaching potential for minor aquifers (soils which readily transmit liquid discharges because they are shallow or susceptible to rapid flow directly to rock, gravel or groundwater).
- 6.67 The superficial deposits associated with the Lacustrine Beach Deposits, Alluvium and Brighton Sand Formation are classed as a Secondary A aquifer. This is defined by the Environment Agency (EA) as permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These deposits could represent pathways between the Main Site and the River Aire to the north.
- 6.68 The Glacial till deposits in the south-west of the Main Site are classified as Secondary undifferentiated, which is defined by the Environment Agency as an aquifer where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.
- 6.69 The Hemingbrough Glaciolacustrine Formation is classed as unproductive strata, which is defined by the Environment Agency as rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.
- 6.70 The Sherwood Sandstone bedrock is designated as a Principal aquifer which is defined by the Environment Agency as layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.
- 6.71 The Main Site is located in a Groundwater Source Protection Zone three, defined as *“the area around a source within which all groundwater recharge is presumed to be discharged at the source”* (Environment Agency, 2016b).
- 6.72 The Environment Agency ‘What’s in Your backyard’ website (Environment Agency, 2016c) indicates the extreme eastern part of the Main Site lies within a Groundwater Drinking Water Safeguard Zone.

- 6.73 There are four records of groundwater abstraction licenses located within the Applicant's landholding for the use of groundwater for irrigation, boiler feed and potable water. There are three other groundwater abstraction licenses within 1 km of the Main Site, one for potable water and two for farming and domestic use.
- 6.74 The environmental sensitivity of groundwater beneath the Main Site is considered to be high, due to the relatively thin and permeable superficial deposits which do not afford much protection to the groundwater should a pollution incident occur.

#### Scope of the Assessment

- 6.75 The following potential impacts may be associated with the Proposed Development:
- disturbance of contaminated soils and contamination perched groundwater and creation of new pathways to sensitive receptors (including construction workers and controlled waters) during construction;
  - pollution of soils, and controlled waters within or near the Main Site and Gas Connection Search Areas during construction and decommissioning, for example due to the spillage of polluting materials (if an appropriate Environmental Management Plan is not adhered to); and
  - pollution of soils and controlled waters within or near the Main Site and Gas Connection Search Areas during operation, for example due to the spillage of polluting materials (if materials are not appropriately stored at the Proposed Development in accordance with an appropriate Operational Environmental Management Plan and/or an appropriate drainage system is not implemented and maintained).
- 6.76 A desk based assessment (Phase 1) will be completed to identify potential contaminative uses of the Main Site and Gas Connection Search Areas. This desk based assessment will identify the potential for land contamination and potential pathways to sensitive receptors. The desk based assessment will consider the potential for contaminants associated with current and historic land use in and around the Main Site and Gas Connection Search Areas to be present within the footprint of the Proposed Development.
- 6.77 The results of the desk based assessment and conceptual site model will be used to assess data gaps and uncertainties and, if required an initial scope for additional site investigation. It is anticipated that the requirements for intrusive investigation will be discussed and agreed in advance with the Environment Agency and SDC.
- 6.78 An assessment of potential impacts on existing ground conditions and sterilisation of potential mineral deposits will be undertaken as part of the EIA, including the potential for the Proposed Development to result in land contamination, as defined in the Environment Act 1995 Part 2A (HMSO, 1995). Consideration will also be given to potential impacts associated with the construction and operation of the Proposed Development and how these will be prevented or minimised.
- 6.79 Based on the assessment of the baseline and the identification of any potential impacts, the ES will make recommendations for mitigation measures. These may include the recommendation for further intrusive investigation to address residual data gaps or better delineate identified contamination hotspots or plumes, quantitative risk assessment, remediation and validation. It

will also make recommendations for possible mitigation measures to be employed by contractors, should any previously unidentified contamination be encountered during the construction phase.

## **Cultural Heritage**

### Baseline Conditions

- 6.80 A Scheduled Monument (Roman fort 600 m west of Roall Hall) is located approximately 1.4 km to west of the Main Site/ 500 m west of the Gas Connection Search Areas (Indicative Gas Connection Corridor 2) (see Figures 5B and 5F).
- 6.81 A number of listed buildings/ structures are located in the vicinity of the Main Site and Gas Connection Search Areas (see Figures 5A and 5F). These include three Grade II and two Grade II\* buildings in Hensall between 1 and 1.2 km to east/ south-east of the Main Site, a grade II Templar Preceptory 1.2 km to the north-east, a Grade II milestone immediately on the western boundary of the Proposed Site and a pair of Grade II listed gates 215 m to the west.
- 6.82 There are no Conservation Areas within 5 km of the Main Site or the Gas Connection Search Areas.
- 6.83 There are a number of non-designated assets located within the footprint of the Main Site and Gas Connection Search Areas, including historic landscape character areas as identified by the North Yorkshire Historic Environment Record. These include the Eggborough Power Station itself which is also a historic landscape character area in its own right, the site of the now destroyed Sherwood Hall and associated manor, cropmarks of a possible Iron Age/Romano-British ditched enclosure, the manor associated with Sand Hall, the remains of Haram Lane – post-medieval trackway, a large moated site north of the river with numerous buildings associated, Burn Airfield and remnants of medieval agricultural activity. These have the potential to experience direct, physical impacts from the Proposed Development. The Gas Connection Search Areas run through a number of different historic landscape character units including large areas of modern improved fields, piecemeal enclosure, linear villages, lowland meadows and mixed plantation. All of these elements have varying legibility and historic significance.
- 6.84 There are many more non-designated assets, including historic landscape character areas in close proximity to the Main Site and Gas Connection Search Areas which have the potential to experience impacts upon their setting. There is the possibility that non-designated assets of archaeological interest may be demonstrably of equivalent significance to Scheduled Monuments. If any such assets are identified (such as Hall Garths which was identified by NYCC), they will be assessed as a designated asset and in accordance with the relevant designated asset planning policies.

### Scope of the Assessment

- 6.85 The following potential impacts may be associated with the Proposed Development:
- physical impacts and/ or impacts on the setting on non-designated heritage assets, including historic landscape character areas, within the Main Site and Gas Connection Search Areas during construction; and

- impacts on the setting of designated and non-designated heritage assets, including historic landscape character areas, in the vicinity of the Main Site and Gas Connection Search Areas during construction and operation.
- 6.86 A desk-based archaeological assessment will determine, as far as is reasonably possible from existing records (including the North Yorkshire HER, Historic England Archive and the National Heritage List) and visits to relevant archives and local studies libraries, the nature of the archaeological resource within a study area of 1 km for non-designated assets. A larger study area of 5 km, or larger if appropriate, will be used to identify designated heritage assets and the results will be used to identify any impacts that the Proposed Development may have on the receptors. An inventory of all heritage assets will be cross-referenced to drawings (base maps) and the report narrative. This baseline collation of data will be supported by site visits to identify any unknown archaeological assets, the potential for survival of archaeology and to establish the setting of identified archaeological assets.
- 6.87 Due to the scale of the Proposed Development there is the potential for the setting of these heritage assets to be impacted; therefore potential setting impacts upon designated and non-designated assets will be assessed. The Zone of Theoretical Visibility (ZTV) (to be undertaken as part of the landscape and visual impact assessment as discussed in the Landscape and Visual Amenity section below) will be used as a tool of assessment to identify areas of visibility, however as the setting of a heritage asset is not a solely visual concept, other aspects such as aural intrusion and historical associations must also be taken into account. The assessment will follow current professional good practice and guidance including that produced by the Chartered Institute for Archaeologists (CIfA) and Historic England (HE) (formerly English Heritage (EH)):
- CIfA (2014) – Standard and Guidance for historic environment desk-based assessment;
  - CIfA (2014) – Code of Conduct;
  - EH (2008) – Conservation Principles: Policies and Guidance for the Sustainable Management of the Historic Environment;
  - EH (2011) – Seeing History in the view;
  - HE (2015) – Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment;
  - HE (2015) – Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets; and
  - HE (2015) – Historic England Advice Note 4: Tall Buildings.
- 6.88 It is possible that sufficient heritage information is presently available to provide an adequate baseline assessment for the EIA. However, should this prove not to be the case following the initial assessment, the need for further archaeological evaluation such as geophysical survey will be discussed and agreed with North Yorkshire County Council (NYCC). It is also intended that an archaeologist will be present to undertake a watching brief during any intrusive ground works that are carried out during the preparation of the EIA (such as ground investigation).
- 6.89 The purpose of the EIA will be to assess the potential impacts of the Proposed Development upon the significance of the heritage resource and to understand the level of harm to that resource. The aim will then be to propose appropriate mitigation to resolve the harm caused, where possible.

- 6.90 Once all of the potential heritage receptors have been identified, they will be assigned a 'value'. This is not solely a reflection of their designated or non-designated status but is determined through a number of factors including their values which can be expressed as artistic, archaeological, architectural or historic. The impact from the Proposed Development upon the significance of the heritage assets will then be quantified and expressed within the EIA. This will produce an initial significance of effect of the Proposed Development upon the heritage resource, taking into account any design or embedded mitigation.
- 6.91 Following the impact assessment process, any potential mitigation strategies required will be considered and recommendations made. The significance of residual effects remaining after mitigation will be assessed according to accepted criteria for assessing heritage assets.

## **Traffic and Transport**

### Baseline Conditions

- 6.92 The A19 runs north-south along the western boundary of the Power Station site, linking to junction 34 of the M62 to the south and the A63 to the north (see Figure 1).
- 6.93 There are two PRoWs within 500 m of the Main Site – a public footpath located immediately east of the Main Site, passing in a north/south direction from Gallows Hill to Eggborough Ings, via Ings Lane, and a public footpath located alongside Tranmore Lane, to the east of the A19 (see Figure 5D).
- 6.94 The Gas Connection Search Areas cross a number of PRoW and roads, and the routes to two of the possible connection points would cross the East Coast Mainline (see Figure 5F).
- 6.95 There are four existing points of access to the Power Station site – two on the A19 to the west of the Main Site, one on Wand Lane to the north of the Main Site and one on Hazell Old Road to the east of the Main Site (which is not currently used).

### Scope of the Assessment

- 6.96 The following potential impacts may be associated with the Proposed Development:
- generation of traffic during construction (and decommissioning) affecting the local and strategic road network;
  - generation of traffic during operation affecting the local and strategic road network; and
  - construction of gas pipeline affecting road and rail links and PRoWs.
- 6.97 A preliminary assessment has been undertaken to establish the level of traffic that is likely to be associated with the Proposed Development. The principal vehicle movements are anticipated to be associated with the construction phase of the development. The volume of construction vehicles associated with the delivery of plant and the labour force has not been determined at this stage but based on other similar sized CCGT power station construction projects is likely to be between 600 and 900 one-way vehicle movements per day during the peak construction period.
- 6.98 During the operational phase of the development, it is anticipated that there will be a work-force of approximately 40 people that will be required on a shift basis to be spread over a 24 hour period, as well as around 30 corporate staff based at the site. Staff will travel to and from work in

a variety of directions. Fuel will be delivered by pipeline and other operational and maintenance consumables are likely to be minimal. Therefore it is considered that the effects of operational traffic would be negligible and a detailed assessment of the operational phase of the development is not proposed for the ES.

6.99 To fully address the impacts of the construction phase on the transport network, a Transport Assessment (TA) will be produced (though this will be confirmed following determination of the number of construction movements, in liaison with SDC and NYCC). The scope for the TA will follow the guidelines set out in the Department of Communities and Local Governments 'Planning Practice Guidance' document (March 2014) (DCLG, 2014b). SDC, NYCC and Highways England will be consulted so that their specific requirements can be accommodated within the TA scope.

6.100 The traffic and transport chapter in the ES will summarise the salient points from the TA. It will also relate the magnitude and significance of potential impacts to criteria contained in the 'Guidelines for the Environmental Assessment of Road Traffic' document, produced by the Institute of Environmental Management & Assessment (IEMA, 1993).

6.101 The scope of the TA will cover the following key areas:

- a review of national, regional and local transport policy including the National Planning Policy Framework (DCLG, 2012) and the North Yorkshire Local Transport Plan (2016 – 2045) (NYCC, 2016);
- a description of baseline and future baseline conditions, including link and junction flows (described further below), a review of highway safety issues including examination of personal injury accident data and consideration of accessibility by all main transport modes;
- calculation of construction traffic flows over the period of construction;
- distribution and assignment of construction traffic flows to the road network, including the identification of routes for abnormal loads such as the delivery of generators and transformers;
- local network impact analysis – the size of the study area is to be confirmed with the local authorities and Highways England, and key junctions may be identified by these stakeholders that require detailed capacity analysis;
- consideration of the local public rights of way for leisure and commuting uses, and whether their use would be affected by the Proposed Development;
- cumulative impact assessment – including consideration of the traffic likely to be generated by the decommissioning and demolition of the coal-fired power station, which is likely to be concurrent with the Proposed Development construction phase; and
- the formulation of mitigation measures, such as a Construction Worker Travel Plan to promote sustainable journeys during the construction phase of the development and where possible reduce single occupant car journeys, and a Construction Traffic Management Plan to seek to control the routing and impact that HGVs will have on the local road network during construction.

6.102 An initial review of the road network in the vicinity of the site suggests junction counts will be required at the A19/ A63, M62 Junction 34 and the A19 / Weeland Road junctions. This will be supplemented by link counts on the A19 to the north and south of the construction site access. It

is likely that additional traffic surveys may need to be undertaken to supplement the count locations identified above, though this will be determined in liaison with SDC and NYCC. The data will be used to quantify baseline vehicular demand along key routes to and from the Site. The data will also form the basis of calculations to quantify the impact of construction traffic on the surrounding road network.

6.103 As described earlier, it is considered that traffic and transport impacts are more likely to occur during the construction phase of the development. A summary of any residual and cumulative impacts will be provided should the proposed mitigation not fully address the impact of the development on the transport network.

## Land Use, Agriculture and Socio-Economics

### Baseline Conditions

6.104 The Main Site is located within the existing Eggborough Power Station and surrounded by mainly agricultural land. The Gas Connection Search Areas traverse mainly agricultural land, which is identified as a combination of Provisional Agricultural Land Classification (ALC) Grade 3 (Good to Moderate) and Grade 2 (Very Good).

6.105 A small number of other industrial land uses are located in and around the Power Station site:

- a sewage treatment plant to the north-east of the Power Station site and Main Site;
- an Air Liquide air separation unit located within the Power Station site, immediately to the north of the Main Site;
- Euroauctions (plant, commercial and machinery auctioneers) and other small industrial units are located opposite the Power Station entrance on the A19;
- a Saint Gobain Glass UK plant is located to the south-west of the Main Site, on the east side of the A19; and
- North Point Business Park is located to the south-west of the Main Site, also off the A19.

6.106 Residential areas and PRoW in the vicinity of the Main Site and Gas Connection Search Areas are described in Section 2 above.

6.107 Eggborough Power Station Golf Course, Sports and Social Club and a model steam railway are located within the Power Station site, to the east of the Main Site.

6.108 The Power Station currently employs approximately 200 permanent staff, plus maintenance contractors, although these jobs are due to be lost when the coal-fired Power Station ceases generation (which is assumed to be September 2019 at the latest).

### Scope of the Assessment

6.109 The following potential impacts may be associated with the Proposed Development:

- temporary loss of agricultural land and disruption to agricultural activities during construction of the gas connection pipeline and AGI;
- permanent loss of an area of agricultural land (approximately 30 x 60 m) at the gas connection point;

- creation of direct and indirect employment during construction, operation and decommissioning;
- temporary disruption to PRoWs within the Gas Connection Search Areas during construction of the gas connection; and
- nuisance and health and safety.

6.110 Potential traffic, noise, air quality/ dust and visual impacts on local residents and other sensitive receptors will be assessed as part of the Traffic and Transport, Noise and Vibration, Air Quality, and Landscape and Visual Amenity assessments described above.

6.111 The methodology for assessing land use, agriculture and socio-economic impacts will follow standard EIA guidance and will involve:

- review of relevant baseline conditions at the Main Site/ Gas Connection Search Areas and locality;
- assessment of socio-economic policy justification for the Proposed Development and the contribution of these activities to SDC's socio-economic policy objectives;
- estimate of employment generated during the construction, operational and decommissioning phases;
- assessment of the impact of the Proposed Development on agricultural land and businesses, and PRoWs, that may be affected by the Proposed Development;
- consideration will also be given to whether there are any impacts that are not assessed in other ES chapters (Traffic and Transport, Noise and Vibration, Air Quality, and Landscape and Visual Amenity) that might affect recreational activities and land use in the immediate surrounds, including the Eggborough Power Station Golf Course/ Sports and Social Club/ model steam railway; and
- assessment of the likely scale, permanence and significance of effects.

6.112 Although the gas connection will affect a relatively large area of Provisional ALC Grade 2 and 3 land, only the area of permanent land take for the AGI and PIG equipment (approximately 0.18 ha) will be permanently affected.

6.113 The social and economic policy context review will consider relevant policy at various levels including: local (SDC), regional (Yorkshire and Humber) and national (in terms of urban regeneration and neighbourhood renewal). The assessment will be carried out using a number of recognised data sources including, but not limited to the following:

- Office of National Statistics Labour Force and Neighbourhood Statistics;
- Annual Business Inquiry;
- Annual Population Survey;
- Census 2011; and
- Travel to Work Data.

6.114 Wherever possible the impacts of the socio-economic assessment will be appraised against relevant national standards such as those provided by HM Treasury and Homes and Communities



Agency (HCA). Where no standards exist, professional experience and judgement will be applied and justified.

6.115 A summary will be provided of key residual impacts of the Proposed Development and how the Proposed Development fits into local and regional socio-economic objectives, as well as its overall impact on the contribution to the local economy and community.

## Landscape and Visual Amenity

### Baseline Conditions

6.116 The Main Site and Gas Connection Search Areas are located entirely within the Humberhead Levels National Landscape Character Area (LCA), which is a “flat, low-lying and large scale agricultural landscape” (Natural England, 2014a).

6.117 A Landscape Character Assessment was undertaken by SDC in 1999 (Woolerton Dodwell Associates, 1999). The Main Site and Gas Connection Search Areas are located within the River Aire Corridor Local LCA, which is described as follows:

*“The River Aire Corridor...was a prime highway for trade and communication and is fringed by strategically sited historic villages. Although much of it is open or semi-enclosed farmland, the character of this river corridor is strongly influenced by large scale industrial and infrastructure development, in particular by power stations and the M62 motorway.”*

6.118 A Landscape Character Assessment has also been prepared by NYCC (Chris Blandford Associates, 2011). The Main Site is located within the Levels Farmland Landscape Character Type (LCT), and the Gas Connection Search Areas are located within both this and the River Floodplain LCT.

6.119 Key characteristics of the Levels Farmland LCT are described as:

- *“Predominantly flat, low-lying landscape which encompasses a patchwork of arable fields;*
- *Large scale, open and rectilinear field pattern;*
- *Dykes or ditches often form field boundaries, with an general absence of hedgerows;*
- *Industrial scale farm buildings, large embankments and drains, and major energy and transport infrastructure contribute human elements; and*
- *Historical features, such as windmills, recording past attempts to drain the landscape are key features.”*

6.120 The sensitivity of this LCT to visual change is considered to be high due to the open and flat nature of the landform, whereas its sensitivity of change in landscape character is moderate due to the “presence of historic drainage features, moated sites and grange sites” (NYCC, 2011a).

6.121 Key characteristics of the River Floodplain LCT are described as:

- *“A series of flat, low lying, relatively narrow river corridors which flow through the different types of Vale Farmland Landscape Character Types within the Study Area;*
- *The ‘Ings’ - flood meadows maintained by traditional hay making activities;*

- *Landscape pattern comprises a mixture of flood meadows, neutral grasslands and floodplain mires;*
- *Halls and manor houses are key landscape features;*
- *River engineering features such as Levees assert a human influence over the landscape;*
- *Power stations, pylons and former collieries are present in parts of this Landscape Character Type; and*
- *The A1 (M) introduces a source of noise and visual intrusion in several places.”*

6.122 The sensitivity of the River Floodplain LCT is considered to be high for both visual and landscape aspects due to *“the open and flat nature of the landform and presence of numerous historic/ archaeological sites and designated landscapes”* (NYCC, 2011b).

6.123 Landscape character assessments have also been undertaken by East Riding of Yorkshire Council (ERYC) and Wakefield Metropolitan District Council (WMDC). Given the proximity of these areas to the Main Site, these are also considered to be relevant to the consideration of baseline conditions.

6.124 Sensitive visual receptors including residents, road users and users of PROWs are located around the Main Site and Gas Connection Search Areas (see description in Section 2 above).

#### Scope of the Assessment

6.125 The following potential impacts may be associated with the Proposed Development:

- temporary changes to landscape character and views from sensitive receptors in the vicinity of the Main Site and Gas Connection Search Areas during construction and decommissioning; and
- permanent changes to landscape character and views from sensitive receptors in the vicinity of the Main Site and AGI during operation.

6.126 The proposed method of landscape and visual impact assessment has been devised to address the specific impacts likely to result from a development of its scale and nature. The methodology draws upon the following established best practice guidance:

- Guidelines for Landscape and Visual Impact Assessment, Third Edition. (Landscape Institute and Institute of Environmental Management and Assessment, 2013), referred to as GLVIA3 in this assessment;
- An Approach to Landscape Character Assessment (Natural England, 2014b); and
- Landscape Institute Advice Note 01/11: Photography and photomontage in landscape and visual impact assessment (Landscape Institute, 2011).

6.127 The EIA process requires that a clear distinction is drawn between landscape and visual impacts, as follows:

- landscape impacts relate to the degree of change to physical characteristics or components of the landscape, which together form the character of that landscape, e.g. landform, vegetation and buildings; and

- visual impacts relate to the degree of change to an individual receptor's view of that landscape, e.g. local residents, users of public footpaths or motorists passing through the area.

6.128 The assessment of impacts on built heritage, including impacts on the setting of listed buildings and structures, will be addressed by the cultural heritage assessment – see the Cultural Heritage section above.

6.129 A detailed study of the existing landscape components, character and views of the Site and an identified study area will be carried out in consideration of the following:

- site context;
- topography;
- vegetation including green infrastructure;
- roads, public rights of way and access;
- settlement and land-use;
- landscape character; and
- representative views.

6.130 This will be supported by and photographs as appropriate. The planning context with respect to landscape character and visual amenity will also be assessed, taking into account relevant European, national, regional and local planning policies. The baseline study will form the basis of the assessment of the predicted impacts of the Proposed Development.

6.131 Up to ten representative views will be identified within the Zone of Theoretical Visibility (ZTV) for the main building envelope and the potential stack, as well as around the AGI for the gas connection. The ZTV will be generated using a bare ground Digital Terrain Model (DTM) and be reviewed in the field against the following criteria in order to determine the selection of representative views which form the basis of the visual assessment:

- receptor function/ activity;
- distance from the Site;
- topography and elevation;
- degree and period of exposure;
- designation of the viewing place; and
- distribution of receptors.

6.132 From the initial site visit and planning policy context review, and based on a stack height of up to 90 m, a 10 km radius study area is proposed for the landscape and visual impact assessment of the Proposed Development. It is not considered that any significant landscape or visual impacts would occur beyond 10 km.

6.133 Up to four accurate Visual Representations of the Proposed Development for agreed representative views (visual receptors) will be produced in line with the guidance within the Landscape Institute Advice Note 01/11: Photography and photomontage in landscape and visual impact assessment (Landscape Institute, 2011).

- 6.134 The location of representative views and photomontages will be agreed in consultation with SDC, NYCC, ERYC and WMDC as appropriate.
- 6.135 Where the assessment indicates the need for mitigation as a result of significant effects on landscape character or visual amenity, these will be outlined within the ES. A detailed landscaping strategy including green infrastructure will be prepared in liaison with SDC as a Requirement of the DCO.

## **Waste Management**

### Baseline Conditions

- 6.136 Waste arisings from the existing coal-fired Power Station are managed in accordance with the Standard Operating Procedure for the Management of Controlled Waste (Hazardous & Non-Hazardous).
- 6.137 All waste from Eggborough Power Station and Gale Common is defined as Controlled Waste and is regulated by the Environmental Protection Act 1990, Hazardous Waste (England & Wales) Regulations 2005 (as amended 2009) and Waste (England & Wales) (Amendment) Regulations 2012.
- 6.138 As a producer of waste, EPL has a Duty of Care to ensure that its waste is managed effectively and in full compliance with these above regulations and all applicable guidance including the Waste Hierarchy and Technical Guidance Note WM3 (Environment Agency, 2015).

### Scope of the Assessment

- 6.139 The following potential impacts may be associated with the Proposed Development:
- generation of hazardous and non-hazardous waste during construction, operation and decommissioning.
- 6.140 As there are only a small number of existing buildings and structures within the Main Site that will require demolition (and no demolition is anticipated to be required for the construction of the gas connection), the volume of waste that is anticipated to be generated is not anticipated to be significant. In the interests of cost and environmental impact, cut and fill volumes will be balanced as closely as possible.
- 6.141 A Construction Environmental Management Plan (CEMP), which will be produced in draft for inclusion with the ES and finalised following grant of a DCO, will set out how waste will be managed during construction, and opportunities to recycle waste will be explored.
- 6.142 During the operational phase, waste will be managed in accordance with existing waste management procedures at the Power Station. There is anticipated to be relatively little waste produced from the operation of the Proposed Development, except for general waste associated with office/ administrative activities.
- 6.143 The waste management assessment will involve a desk-based study to identify relevant legislation, sources of information and local strategies and plans, and estimate the likely types and volumes of wastes that are likely to arise at each stage of the Proposed Development.

6.144 Construction waste will be based on engineering calculations, industry benchmark figures and on experience gained from constructing similar facilities. Operational waste will be estimated, based on typical waste figures applicable for power station facilities.

6.145 The potential significance of the projected waste arisings will be assessed in the context of baseline conditions and local infrastructure capacity, and mitigation will be identified if necessary.

## **Sustainability and Climate Change**

### Baseline Conditions

6.146 National, regional and local policy guidance promotes sustainability principles, particularly with regard to the reuse of land and buildings, air quality and land contamination issues, energy conservation, materials and water usage.

### Scope of the Assessment

6.147 The ES will incorporate an assessment of the design against established sustainability criteria to take into account the following:

- land, materials and natural resource use;
- energy consumption and energy efficiency;
- waste minimisation and implementation of the waste hierarchy, including a waste management plan covering the construction and operational phases of the Proposed Development; and
- materials specification and usage in relation to CO<sub>2</sub> emissions and ozone depletion.

6.148 The carbon emissions/ carbon footprint from the combustion and proposed mitigation measures will be assessed in a standalone Climate Change Impact Report, considering proposed plant efficiency and performance against UK data including the average carbon emissions associated with the current electricity fuel mix in the UK.

## **Cumulative Effects**

6.149 An assessment of potentially significant cumulative effects with other proposed developments in the vicinity of the Proposed Development will be undertaken for each of the topics described above, and reported in the ES.

6.150 Based on an initial search of the planning register, Figure 6 presents other known planned developments in the vicinity of the Proposed Development (for which a planning application has been submitted, or which has been specifically requested for consideration by a key stakeholder). These are described below:

- **Decommissioning and Demolition of Eggborough Coal-Fired Power Station:** this may take place at the same time as construction of the Proposed Development;
- **Knottingley Power Project:** a proposed 1,500 MW CCGT power station including a gas supply pipeline and associated infrastructure located at former Oxiris Chemical Works, Knottingley (DCO granted in 2015);

- **Southmoor Energy Centre:** a proposed 26 MWe Energy from Waste facility with CHP potential, located at Kellingley Colliery (planning consent granted in 2015);
- **Thorpe Marsh CCGT Power Station:** a proposed 1,500 MW CCGT power station adjacent to the site of a former coal-fired power station, that has now been decommissioned and demolished (Section 36 consent granted in 2011);
- **Thorpe Marsh Gas Pipeline:** a proposed 18 km buried steel pipeline to transport gas to the proposed Thorpe Marsh CCGT Power Station (described above) (DCO granted 2016);
- **Ferrybridge Multifuel 2:** a proposed 90 MWe multifuel power station, located at Ferrybridge Power Station (DCO granted in 2015);
- **residential development of 55 dwellings:** a planning application was submitted in July 2016 and is still pending a decision, located on land immediately to the south-west of the A19/ A645 Weeland Road junction, at the Main Site's south-western corner;
- **residential development of 64 dwellings:** an outline application was submitted and approved in 2015, located on land between Selby Road and the A19, north of Eggborough and west of the Main Site's south-western corner;
- **single storey production facility:** a planning application (EIA development) was submitted and approved in 2015, located on land at the Saint Gobain glass factory, approximately 250 m east of the A19/ A645 Weeland Road junction at the Main Site's south-western corner;
- **Advanced Thermal Treatment Plant:** a planning application was submitted and approved in 2016, located <100 m south-west of the Tranmore Lane/ A19 junction, between North Point Business Park and Euroauctions; and
- **hydro-electricity generation scheme at Chapel Haddlesey Weir:** a planning application was submitted and approved in 2014 including installation of three Archimedian screws and a fish pass, located immediately to the east of the abstraction point on the River Aire.

6.151 Information on other developments that have the potential for cumulative effects with the Proposed Development will be identified in consultation with the relevant local planning authorities.

### **Combined Heat and Power (CHP) Assessment**

6.152 Although not formally part of the EIA, it is a requirement of the NPS that applicants for all new power stations explore and develop feasible CHP opportunities. This is in order to maximise the use of waste heat and in turn the thermal efficiency of the proposed combustion plant.

6.153 A CHP investigation will be undertaken as part of the DCO application which will involve identifying and contacting potential CHP users in the local area in accordance with the EA **CHP Ready Guidance for Combustion and Energy from Waste Power Plant** (Environment Agency, 2013). This will initially be based on examining a map around the Site based on a predetermined economic radius for heat transportation. Should any potential uses be identified, a 'heat map' of the local area would be produced incorporating community, commercial and industrial heat uses and opportunities. Within this 'heat map' area the identified users would then be classified into user sectors. Community opportunities would mainly consider industrial, residential and housing opportunities, though would also include any hotels, leisure centres, large corporate buildings, hospitals, universities, prisons, defence installations and accommodation complexes. Industrial

opportunities would be readily identified by the industrial sector of those industries inside the 'heat map' radius.

6.154 The CHP feasibility review will consider the heat availability from the proposed CCGT together with future CCR implications and the heat demand opportunities in the locality to justify the approach that will be taken for maximising CHP opportunities for the plant.

## 7.0 NON-SIGNIFICANT EIA ISSUES

7.1 The aim of the Scoping Stage is to focus the EIA on those environmental aspects that may be significantly affected by the Proposed Development. In so doing, the significance of impacts associated with each environmental aspect becomes more clearly defined, resulting in certain aspects being considered 'non-significant'. The following section provides a summary of those issues, which have been considered during the preparation of this Scoping Report, and which are not considered likely to lead to significant environmental effects. It is proposed that these will therefore not be considered in the ES.

### Electronic Interference

7.2 The proposed maximum building heights and expected temporary construction cranes will be no higher than the existing stacks associated with the Power Station. Therefore an assessment of the Proposed Development's effect on electronic interference is unlikely to be required.

7.3 Further to this, analogue 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.

### Aviation

7.4 The Civil Aviation Association (CAA) has a general interest in charting all known structures of 91.4 m (300 feet) or more above ground level. The existing Power Station stack is 198.5 m in height, and the cooling towers are 114 m in height. The stack has lighting at the top for aviation purposes.

7.5 Given the Main Site's distance from the nearest airfield (Burn (Selby) Airfield, approximately 3.8 km to the north of the proposed CCGT plan), and as none of the proposed buildings or structures will be 91.4 m or more above ground level, an assessment of the potential impacts of the Proposed Development on aviation is not required and , it is proposed that aviation is scoped out of the EIA.

7.6 The CAA will however be consulted on the Proposed Development to review any requirements for aviation lighting on the stack(s) (after the existing 198.5 m stack is demolished) and enable the Proposed Development to be charted in future.

### Accidental Events/ Health & Safety

7.7 The description of the Proposed Development in the ES will provide sufficient information to allow the key environmental issues identified to be adequately assessed. Accidental events such as the potential for fuel spillages and abnormal air emissions, and how the risk of these events will be minimised, will be discussed in the relevant chapter of the ES.

7.8 Accidental events will be covered by a brief risk assessment in the ES, which will include reference to the Applicant's overarching principles of emergency management. The majority of emergency response plans and contingency measures will be dealt with in the Environmental Permit, which is regulated by the Environment Agency.



## 8.0 EIA PROCESS

### EIA Methodology and Reporting

- 8.1 The ES will set out the process followed during the EIA including the methods used for the collection of data and for the identification and assessment of impacts. Any assumptions made will be clearly identified.
- 8.2 The EIA process is designed to be capable of, and sensitive to, changes that occur as a result of changes to the design, including any mitigation measures that are incorporated during the EIA. This will be particularly important for the Proposed Development as the design and layout is still being refined, and minor changes are likely to be made following submission of this EIA Scoping Report.
- 8.3 The EIA is based on a number of related activities, as follows:
- establishing existing baseline conditions;
  - consultation with statutory and non-statutory consultees throughout the DCO application process;
  - consideration of relevant local, regional and national planning policies, guidelines and legislation relevant to EIA;
  - consideration of technical standards for the development of significance criteria;
  - review of secondary information, previous environmental studies and publicly-available information and databases;
  - physical surveys and monitoring;
  - desk-top studies;
  - computer modelling;
  - reference to current legislation and guidance; and
  - expert opinion.
- 8.4 Impacts will be considered on the basis of their magnitude, duration and reversibility. Cumulative and combined effects will also be considered where appropriate. Significance will be evaluated on the basis of the scale of the impact and the importance or sensitivity of the receptors, in accordance with standard assessment methodologies (major, moderate, minor and not significant).
- 8.5 Where likely significant environmental effects are identified in the assessment process, measures to mitigate these effects will be put forward in the form of recommendations to be undertaken as part of the project development.

### Structure of the Environmental Statement

- 8.6 The ES will address the direct effects of the Proposed Development in addition to the likely indirect, cumulative, short, medium and long term, permanent, temporary, beneficial and adverse effects. The mitigation measures envisaged in order to prevent, reduce or where possible offset

significant adverse effects will also be described. The concluding chapters will provide a summary of the cumulative and residual impacts.

8.7 The ES will comprise the following set of documents:

- Non-Technical Summary (NTS): this document will provide a summary of the key issues and findings of the EIA in non-technical language.
- Volume I: Environmental Statement: This will contain the full text of the EIA with the proposed chapter headings as follows:
  1. Introduction;
  2. Assessment Methodology;
  3. Description of the Site;
  4. The Proposed Development;
  5. Construction Programme and Management;
  6. Design Evolution and Alternatives Assessment;
  7. Planning Policy Context;
  8. Air Quality;
  9. Noise and Vibration;
  10. Ecology and Nature Conservation;
  11. Flood Risk, Hydrology and Water Resources;
  12. Geology, Hydrogeology and Land Contamination;
  13. Cultural Heritage;
  14. Traffic and Transportation;
  15. Land Use, Agriculture and Socio-economics;
  16. Landscape and Visual Amenity;
  17. Waste Management;
  18. Sustainability and Climate Change;
  19. Cumulative and Combined Effects; and
  20. Summary of Significant Residual Effects.
- Volume II: Figures.
- Volume III: Technical Appendices: these will provide supplementary details of the environmental studies conducted during the EIA including relevant data tables, figures and photographs. This will include the CHP Assessment, FRA and CCR feasibility study. A table outlining the proposed mitigation measures and how they are to be secured will also be provided.

### **Structure of Technical Chapters**

8.8 Chapters 8-18 will be structured based on the following sub-headings:

### Introduction

8.9 The Introduction will describe the format of the assessment presented within the chapter.

### Legislation and Planning Policy Context

8.10 The Legislation and Planning Policy Context section of the technical chapters will provide an overview of the relevant legislation, planning policy and technical guidance relevant to the assessment.

### Assessment Methodology and Significance Criteria

8.11 The methods used in undertaking the technical study will be outlined in this section with references to published standards (e.g. British Standards, Building Research Establishment), guidelines (e.g. Design Manual for Roads and Bridges and Institute of Environmental Management & Assessment guidelines) and relevant significance criteria.

8.12 The significance of effects before and after mitigation will be evaluated with reference to definitive standards, accepted criteria and legislation where available. Where it is not possible to quantify impacts, qualitative assessments will be carried out, based on available knowledge and professional judgment. Where uncertainty exists, this will be noted in the relevant technical assessment chapter.

8.13 Specific criteria for each technical assessment will be developed, giving due regard to the following:

- extent and magnitude of the impact;
- impact duration (whether short, medium or long term);
- impact nature (whether direct or indirect, reversible or irreversible);
- whether the impact occurs in isolation, is cumulative or interactive;
- performance against environmental quality standards where relevant;
- sensitivity of the receptor; and
- compatibility with environmental policies and standards.

8.14 For issues where definitive quality standards do not exist, significance will be based on the:

- local, district, regional or national scale or value of the resource affected;
- number of receptors affected;
- sensitivity of these receptors; and
- duration of the impact.

8.15 In order to provide a consistent approach to expressing the outcomes of the various studies undertaken as part of the EIA, and thereby enable comparison between effects upon different environmental components, the following terminology will be used throughout the ES to define effects:

- adverse – detrimental or negative effect to an environmental resource or receptor; or

- beneficial – advantageous or positive effect to an environmental resource or receptor; and
- negligible – imperceptible effect to an environmental resource or receptor; or
- minor – slight, very short or highly localised effect of no significant consequence; or
- moderate – more than a slight, very short or localised effect (by extent, duration or magnitude) which may be considered significant; or
- major – considerable effect (by extent, duration or magnitude) of more than local significance or in breach of recognised acceptability, legislation, policy or standards.

8.16 As indicated above, for the purpose of this EIA moderate and major effects will be deemed 'significant', and where possible mitigation measures will be identified to reduce the residual effects to 'not significant'.

8.17 Each of the technical chapters will provide the criteria, including sources and justifications, for quantifying the different levels of residual effect. Where possible, this has been based upon quantitative and accepted criteria (for example, the National Air Quality Strategy objectives or noise assessment guidelines), together with the use of value judgement and expert interpretation to establish to the scale of an effect.

#### Baseline Conditions

8.18 In order to assess the potential impacts and effects of the Proposed Development, it is necessary to determine the environmental conditions that currently exist on site and in the surrounding area, for comparison. These are known as the 'existing baseline conditions'. Baseline conditions are determined using the results of site surveys and investigations or desk based data searches, or a combination of these, as appropriate.

8.19 'Future baseline conditions', which are the likely future conditions in the study area in the absence of the Proposed Development, will also be considered and described. In particular, consideration will be given to the proposed decommissioning and demolition of the existing coal-fired Power Station, and how this would alter the existing baseline conditions during construction and operation of the Proposed Development. For the purposes of assessment, each chapter will identify a reasonable 'worst case scenario' with regards the decommissioning and demolition project, for example the Traffic and Transport assessment will assume the peak of demolition traffic will coincide with the peak of CCGT construction traffic.

#### Development Design and Impact Avoidance

8.20 Measures that have been integrated into the Proposed Development in order to avoid or reduce adverse environmental effects will be described. Such measures may include refinement of the design and layout of the Proposed Development to avoid impacts on sensitive receptors, implementation of Construction and Operational Environmental Management Plans, and adherence of relevant legislation, guidance and best practice. The assessment of impacts and effects in the next section takes account of these measures already being in place.

#### Likely Impacts and Effects

8.21 This section will identify the likely impacts resulting from the Proposed Development. The magnitude of impacts are defined with reference to the relevant baseline conditions (existing or

future, as appropriate), and effects are determined in accordance with the identified methodology.

#### Mitigation and Enhancement Measures

8.22 The Mitigation and Enhancement Measures section will describe the measures that will be implemented by the Applicant to reduce any significant adverse effects identified by the assessment and enhance beneficial effects during construction and operation of the Proposed Development.

#### Residual Effects and Conclusions

8.23 Effects of the Proposed Development remaining following the implementation of available mitigation measures are known as 'residual effects'. These will be discussed for each of the potential effects, and their significance level identified.

#### **Cumulative and Combined Effects**

8.24 In accordance with the EIA Regulations, consideration will also be given to the potential for cumulative impacts to arise.

8.25 Cumulative impacts are those that accrue over time and space from a number of development activities. The impact of the Proposed Development will be considered in conjunction with the potential impacts from other projects or activities which are both reasonably foreseeable in terms of delivery (e.g. have planning consent) and are located within a realistic geographical scope where environmental impacts could act together to create a more significant overall effect.

8.26 Combined effects will also be assessed. The combination of predicted environmental impacts resulting from a single development on any one receptor that may collectively cause a greater effect (such as the combined effects of noise and air quality/ dust impacts during construction on local residents), are referred to as combined effects.

#### **Scoping and Consultation**

8.27 The process of consultation is critical to the development of a comprehensive and balanced ES. The views of statutory and non-statutory consultees serve to focus the environmental studies and to identify specific issues that require further investigation. Consultation is an ongoing process, which enables mitigation measures to be incorporated into the project design thereby limiting adverse effects and enhancing environmental benefits.

8.28 The following consultees have been contacted prior to the submission of this Scoping Report, and any initial comments received have been addressed in this Report:

- Natural England;
- Environment Agency;
- North Yorkshire County Council (Planning, Heritage, Transport and Landscape);
- Selby District Council (Planning and Environmental Health);
- Historic England;

- Highways England;
  - Network Rail; and
  - Marine Management Organisation.
- 8.29 Following the publication of this EIA Scoping Report non-statutory consultation on the Proposed Development will be undertaken in late summer/ early autumn 2016, using a range of methods including public exhibitions and a project website. The website will be maintained throughout the project to provide up-to-date information.
- 8.30 As required by Section 47 of the Planning Act 2008 (as amended) the Applicant will prepare a Statement of Community Consultation (SoCC) for publication in early 2018. The SoCC will outline how the Applicant intends to formally consult with the local community about the Proposed Development. The Applicant is required to first consult the relevant local authorities on the draft SoCC and they will have a period of at least 28 days following receipt of the draft SoCC to do so, prior to its publication for inspection by the public.
- 8.31 Preliminary Environmental Information (PEI) will be provided for statutory consultation, which will take place in early 2017. As for the non-statutory consultation, this will use a range of methods including public exhibitions and ongoing use of the project website.
- 8.32 All responses received during consultation will be carefully considered and taken into account in the development of the project, in accordance with Section 49 of the Planning Act 2008. Details of any responses received during consultation and the account taken of those responses will be included in a Consultation Report, as required by section 37 of the Planning Act 2008. This Consultation Report will be submitted with the DCO application to the PINS and will be available for public review at that point.
- 8.33 The Consultation Report will demonstrate how the Applicant has complied with the consultation requirements of the Planning Act 2008 and will be considered by PINS, both when determining whether to accept the application, and then in examining the application.

## 9.0 SUMMARY

- 9.1 This EIA Scoping Report has identified the potential for significant effects to arise from the construction and operation of the Proposed Development. The following specialist assessments are proposed:
- Air Quality;
  - Noise and Vibration;
  - Ecology and Nature Conservation;
  - Flood Risk, Hydrology and Water Resources;
  - Geology, Hydrogeology and Land Contamination;
  - Cultural Heritage;
  - Traffic and Transportation;
  - Land Use, Agriculture and Socio-economics;
  - Landscape and Visual Amenity;
  - Waste Management; and
  - Sustainability and Climate Change.
- 9.2 The detailed assessments for each of these topics will be undertaken in accordance with standard guidance and best practice and reported in the ES. Where significant effects are identified, mitigation measures will be described where possible to reduce the residual effects.
- 9.3 This EIA Scoping Report is now submitted to PINS with a formal request for a Scoping Opinion in accordance with Regulation 8 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 as amended.

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**FIGURE 1: EGGBOROUGH POWER STATION LOCATION PLAN**

LEGEND

 Eggborough Power Station



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Purpose of Issue  
 EIA SCOPING REPORT

Client  
 EGGBOROUGH POWER LTD

Project Title  
 EGGBOROUGH CCGT DCO

Drawing Title  
 EGGBOROUGH POWER STATION  
 LOCATION PLAN

Drawn SJ	Checked JW	Approved EB	Date 02/08/2016
AECOM Internal Project No. 60506766		Scale @ A3 & Inset Map 1:20,000/1:250,000	

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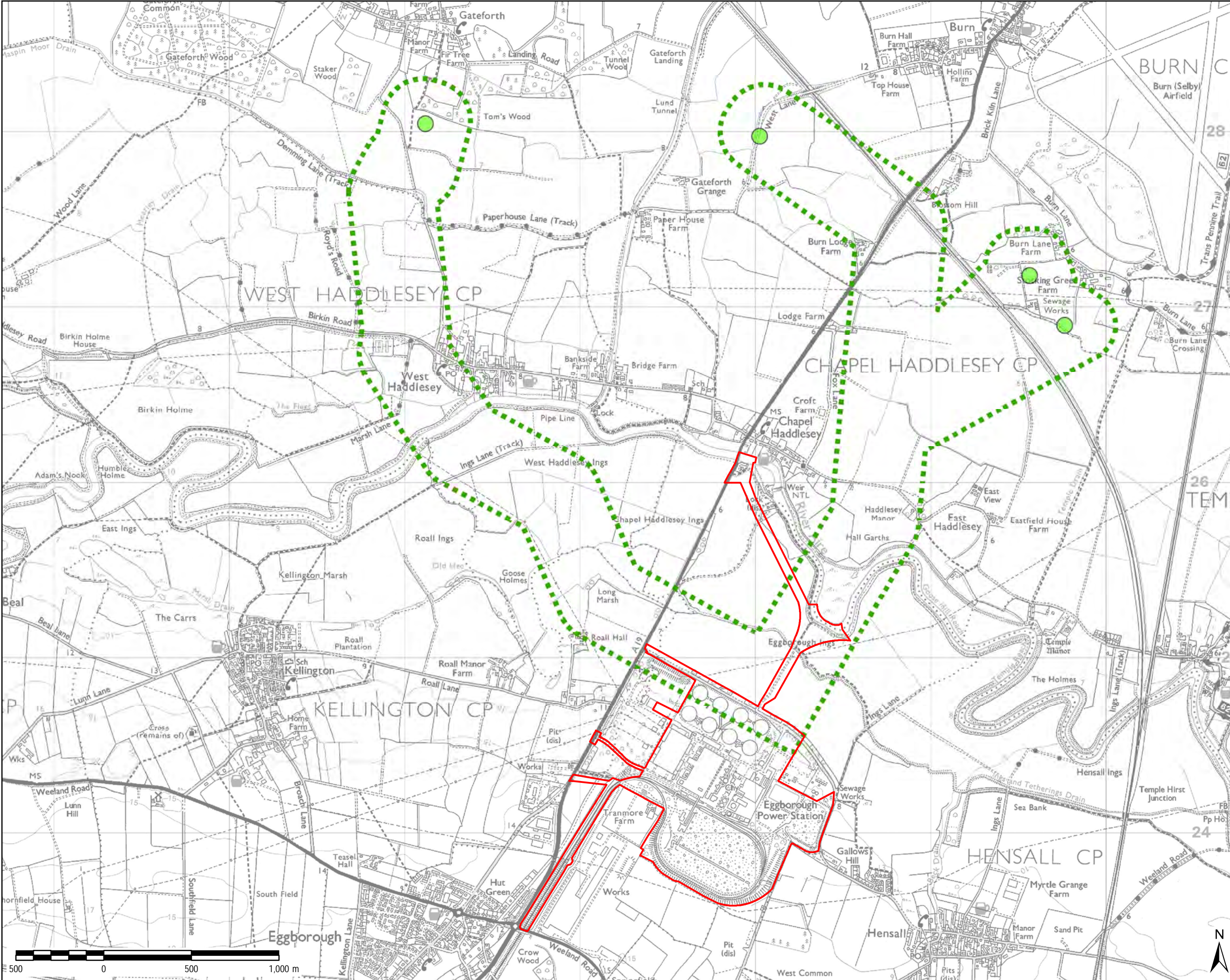
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Drawing Number  
 FIGURE 1

**FIGURE 2: INDICATIVE DCO SITE (MAIN SITE) BOUNDARY AND GAS CONNECTION SEARCH AREAS**

THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

- LEGEND**
- Indicative DCO Site (Main Site)
  - Approximate location of Potential Gas Connection Points
  - Gas Connection Search Areas



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Purpose of Issue  
**EIA SCOPING REPORT**

Client  
**EGGBOROUGH POWER LTD**

Project Title  
**EGGBOROUGH CCGT DCO**

Drawing Title  
**INDICATIVE DCO SITE (MAIN SITE)  
 BOUNDARY AND GAS  
 CONNECTION SEARCH AREAS**

Drawn SJ	Checked JW	Approved EB	Date 17/08/2016
AECOM Internal Project No. 60506766		Scale @ A3 1:20,000	

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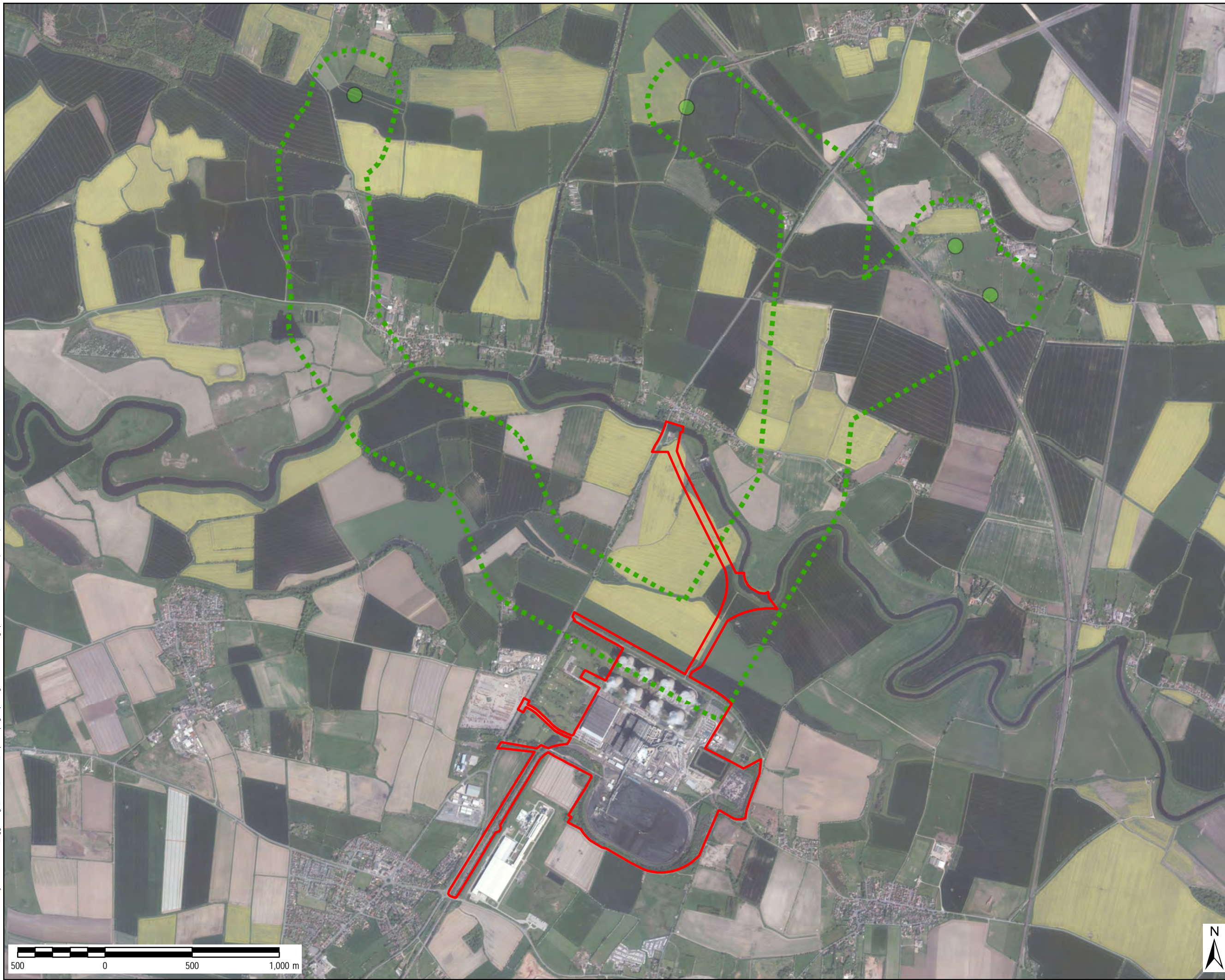
Drawing Number  
**FIGURE 2**

File Name: I:\5004 - Information Systems\60506766\_Eggborough\_CCGT\_DCO\02 - Maps\Scoping Report\Figure 2 - Indicative DCO Site (Main Site) Boundary and Gas Connection Search Areas.mxd



**FIGURE 3: AERIAL PHOTOGRAPH OF INDICATIVE DCO SITE (MAIN SITE)  
BOUNDARY AND GAS CONNECTION SEARCH AREAS**

File Name: I:\5004 - Information Systems\60506766\_Egborough\_CCGT\_DCO\02 - Maps\Scoping Report\Figure 3 - Aerial Photograph of Indicative DCO Site (Main Site) and Gas Connection Search Areas.mxd



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**LEGEND**

- Indicative DCO Site Boundary
- Potential Gas Connection Points
- Gas Connection Search Areas

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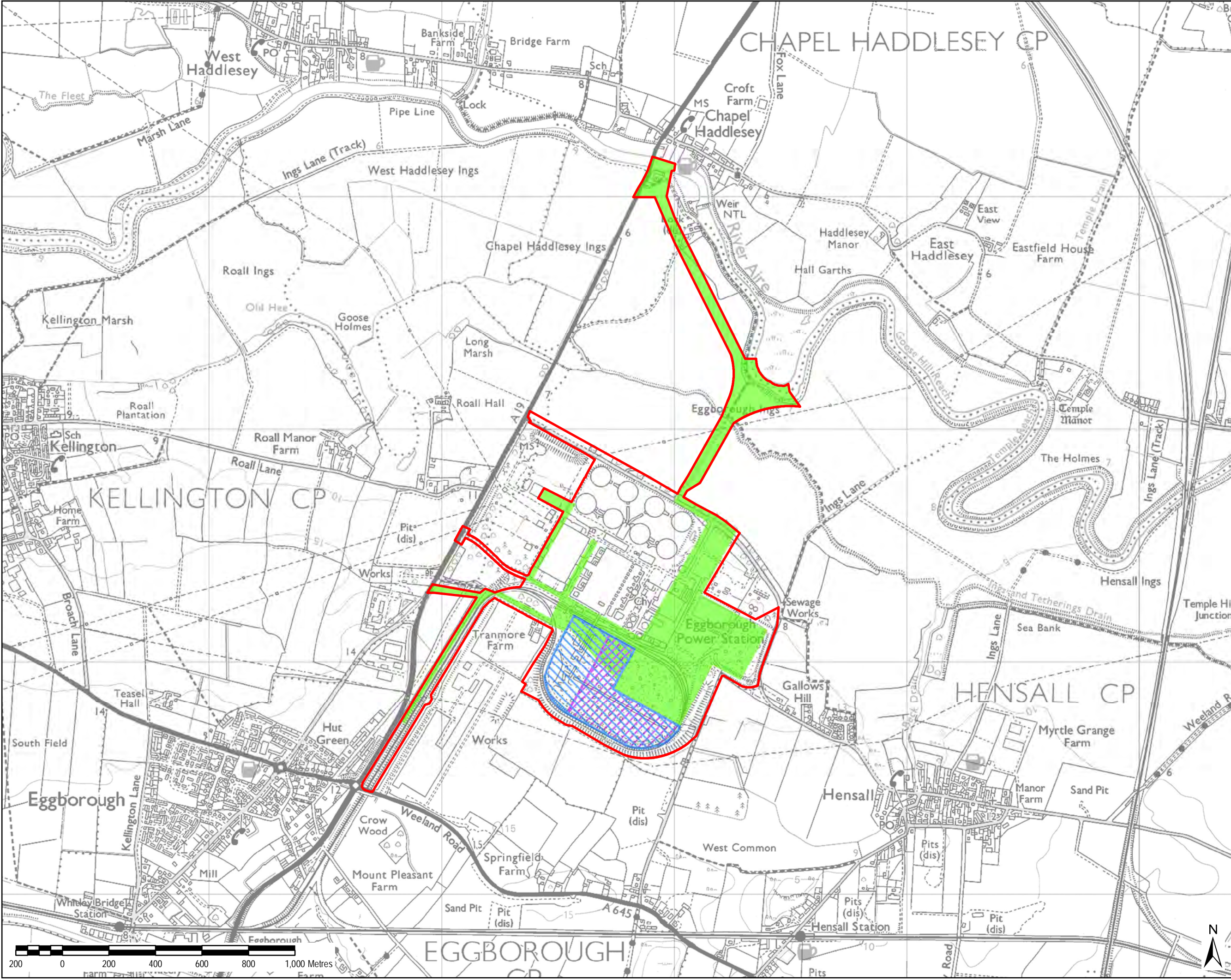
Drawing Number  
**FIGURE 3**





**FIGURE 4A: INDICATIVE DEVELOPMENT FOOTPRINT (LAGOON SITE)**

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- LEGEND**
- Indicative DCO Site (Main Site)
  - Indicative extent of construction laydown area
  - Indicative extent of future CCS land (also used for construction laydown)
  - Indicative extent of permanent development footprint

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 FIGURE 4A

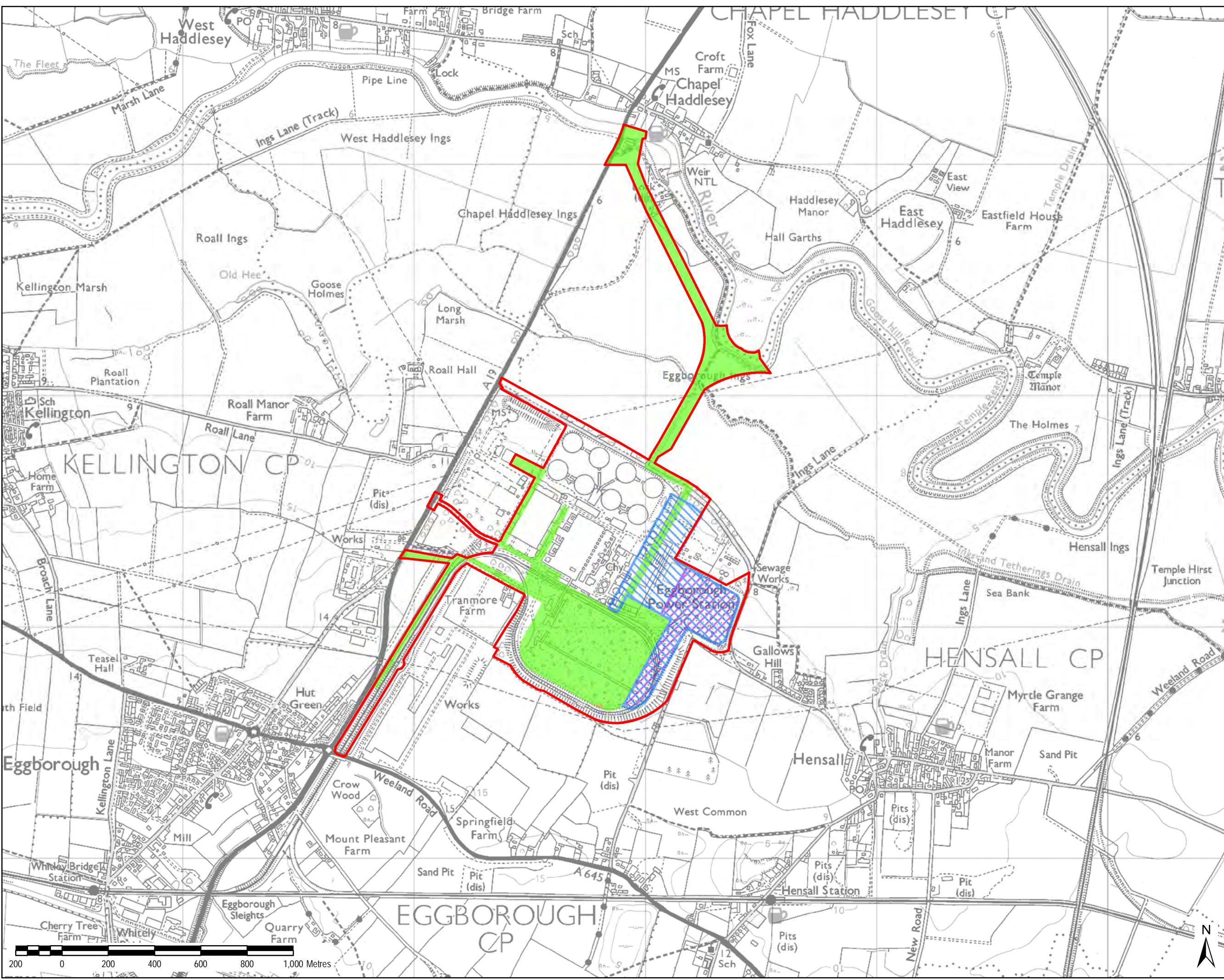
File Name: I:\5004 - Information Systems\60506766\_Eggborough\_CCGT\_DCO\02\_Maps\Scoping Report\Figure 4A - Indicative Development Footprint (Lagoon Site).mxd



**FIGURE 4B: INDICATIVE DEVELOPMENT FOOTPRINT (COAL STOCKYARD SITE)**

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- LEGEND**
- Indicative DCO Site (Main Site)
  - Indicative extent of construction laydown area
  - Indicative extent of future CCS land (also used for construction laydown)
  - Indicative extent of permanent development footprint



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 FIGURE 4B

File Name: \\S004 - Information Systems\60506766\_Eggborough\_CCGT\_DCO\02\_Maps\Scoping Report\Figure 4B - Indicative Development Footprint (Coal Stockyard Site).mxd

