

KEADBY 3 CARBON CAPTURE POWER STATION

A collaboration between **SSE Thermal** and **Equinor**

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The Keadby 3 (Carbon Capture Equipped Gas Fired Generating Station) Order

**Land at and in the vicinity of the Keadby Power Station site,
Trentside, Keadby, North Lincolnshire**

**Initial Draft Statement of Common Ground
with Severn Trent Water**

The Planning Act 2008

Applicant: Keadby Generation Limited

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GLOSSARY

Abbreviation	Description
AGI	Above ground installation
AIL	Additional Abnormal Indivisible Load
CCGT	Combined Cycle Gas Turbine
CCP	Carbon dioxide capture plant
CEMP	Construction and Environmental Management Plan
DCO	Development Consent Order
EIA	Environmental Impact Assessment
ES	Environmental Statement
HP	High pressure
HRSG	Heat Recovery Steam Generator
MW	megawatts
NLC	North Lincolnshire Council
NSIP	Nationally Significant Infrastructure Project
PCC	Proposed Power and Carbon Capture
PINS	Planning Inspectorate
SoCG	Statement of Common Ground
SoS	The Secretary of State
ZCH	Zero Carbon Humber

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1.0 INTRODUCTION

1.1 Overview

- 1.1.1 This Statement of Common Ground ('SoCG') with Severn Trent Water (**Application Document Ref. 8.16**) has been prepared on behalf of Keadby Generation Limited ('the Applicant') which is a wholly owned subsidiary of SSE plc. It forms part of the application (the 'Application') for a Development Consent Order (a 'DCO'), that has been submitted to the Secretary of State (the 'SoS') for Business, Energy and Industrial Strategy, under Section 37 of 'The Planning Act 2008' (the '2008 Act').
- 1.1.2 The Applicant is seeking development consent for the construction, operation and maintenance of a new low carbon Combined Cycle Gas Turbine (CCGT) Generating Station ('the Proposed Development') on land at, and in the vicinity of, the existing Keadby Power Station, Trentside, Keadby, Scunthorpe DN17 3EF (the 'Proposed Development Site').
- 1.1.3 The Proposed Development is a new electricity generating station of up to 910 megawatts (MW) gross electrical output, equipped with carbon capture and compression plant and fuelled by natural gas, on land to the west of Keadby 1 Power Station and the (under commissioning) Keadby 2 Power Station, including connections for cooling water, electrical, gas and utilities, construction laydown areas and other associated development. It is described in **Chapter 4: The Proposed Development of the Environmental Statement (ES) (ES Volume I - APP-047)**.
- 1.1.4 The Proposed Development falls within the definition of a 'Nationally Significant Infrastructure Project' (NSIP) under Section 14(1)(a) and Sections 15(1) and (2) of the 2008 Act, as it is an onshore generating station in England that would have a generating capacity greater than 50MW electrical output (50MWe). As such, a DCO application is required to authorise the Proposed Development in accordance with Section 31 of the 2008 Act.
- 1.1.5 The DCO, if made by the SoS, would be known as 'The Keadby 3 (Carbon Capture Equipped Gas Fired Generating Station) Order' ('the Order').

1.2 The Proposed Development

- 1.2.1 The Proposed Development will work by capturing carbon dioxide emissions from the gas-fired power station and connecting into the Zero Carbon Humber (ZCH) Partnership export pipeline and gathering network for onward transport to the Endurance saline aquifer under the North Sea.
- 1.2.2 The Proposed Development would comprise a low carbon gas fired power station with a gross electrical output capacity of up to 910MWe and associated buildings, structures and plant and other associated development defined in the

Schedule 1 of the draft DCO (**APP-005**) as Work No. 1 – 11 and shown on the Works Plans (**APP-012**).

1.2.3 At this stage, the final technology selection cannot yet be made as it will be determined by various technical and economic considerations and will be influenced by future UK Government policy and regulation. The design of the Proposed Development therefore incorporates a necessary degree of flexibility to allow for the future selection of the preferred technology in the light of prevailing policy, regulatory and market conditions once a DCO is made.

1.2.4 The Proposed Development will include:

- a carbon capture equipped electricity generating station including a CCGT plant (**Work No. 1A**) with integrated cooling infrastructure (**Work No. 1B**), and carbon dioxide capture plant (CCP) including conditioning and compression equipment, carbon dioxide absorption unit(s) and stack(s) (**Work No. 1C**), natural gas receiving facility (**Work No. 1D**), supporting uses including control room, workshops, stores, raw and demineralised water tanks and permanent laydown area (**Work No. 1E**), and associated utilities, various pipework, water treatment plant, wastewater treatment, firefighting equipment, emergency diesel generator, gatehouse, chemical storage facilities, other minor infrastructure and auxiliaries/ services (all located in the area referred to as the 'Proposed Power and Carbon Capture (PCC) Site' and which together form **Work No. 1**);
- natural gas pipeline from the existing National Grid Gas high pressure (HP) gas pipeline within the Proposed Development Site to supply the Proposed PCC Site including an above ground installation (AGI) for National Grid Gas's apparatus (**Work No. 2A**) and the Applicant's apparatus (**Work No. 2B**) (the 'Gas Connection Corridor');
- electrical connection works to and from the existing National Grid 400kV Substation for the export of electricity (**Work No. 3A**) (the 'Electrical Connection Area to National Grid 400kV Substation');
- electrical connection works to and from the existing Northern Powergrid 132kV Substation for the supply of electricity at up to 132kV to the Proposed PCC Site, and associated plant and equipment (**Work No. 3B**) (the 'Potential Electrical Connection to Northern Powergrid 132kV Substation');
- Water Connection Corridors to provide cooling and make-up water including:
 - underground and/ or overground water supply pipeline(s) and intake structures within the Stainforth and Keadby Canal, including temporary cofferdam (**Work No. 4A**) (the 'Canal Water Abstraction Option');
 - in the event that the canal abstraction option is not available, works to the existing Keadby 1 power station cooling water supply pipelines and

- intake structures within the River Trent, including temporary cofferdam (**Work No. 4B**) (the ‘River Water Abstraction Option’);
 - works to and use of an existing outfall and associated pipework for the discharge of return cooling water and treated wastewater to the River Trent (**Work No. 5**) (the ‘Water Discharge Corridor’);
 - towns water connection pipeline from existing water supply within the Keadby Power Station for potable water (**Work No. 6**);
 - above ground carbon dioxide compression and export infrastructure comprising an above ground installation (AGI) for the undertaker’s apparatus including deoxygenation, dehydration, staged compression facilities, outlet metering, and electrical connection (**Work No. 7A**) and an above ground installation (AGI) for National Grid Carbon’s apparatus (**Work No. 7B**);
 - new permanent access from A18, comprising the maintenance and improvement of an existing private access road from the junction with the A18 including the western private bridge crossing of the Hatfield Waste Drain (**Work No. 8A**) and installation of a layby and gatehouse (**Work No. 8B**), and an emergency vehicle and pedestrian access road comprising the maintenance and improvement of an existing private track running between the Proposed PCC Site and Chapel Lane, Keadby and including new private bridge (**Work No. 8C**);
 - temporary construction and laydown areas including contractor facilities and parking (**Work No. 9A**), and access to these using the existing private roads from the A18 and the existing private bridge crossings, including the replacement of the western existing private bridge crossing known as ‘Mabey Bridge’ over Hatfield Waste Drain (**Work No. 9B**) and a temporary construction laydown area associated with that bridge replacement (**Work No. 9C**);
 - temporary retention, improvement and subsequent removal of an existing Additional Abnormal Indivisible Load Haulage Route (**Work No. 10A**) and temporary use, maintenance, and placement of mobile crane(s) at the existing Railway Wharf jetty for a Waterborne Transport Offloading Area (**Work No. 10B**);
 - landscaping and biodiversity enhancement measures (**Work No. 11A**) and security fencing and boundary treatments (**Work No. 11B**); and
 - minor associated development.
- 1.2.5 The Proposed Development includes the equipment required for the capture and compression of carbon dioxide emissions from the generating station so that it is capable of being transported off-site. ZCH Partnership will be responsible for the construction, operation and decommissioning of the carbon dioxide gathering network linking onshore power and industrial facilities including the Proposed Development in the Humber Region. The carbon

dioxide export pipeline does not, therefore, form part of the Proposed Development and is not included in the Application but will be the subject of separate consent applications by third parties, such as the Humber Low Carbon Pipeline DCO Project by National Grid Ventures.

- 1.2.6 The Proposed Development is designed to be capable of operating 24 hours per day, 7 days a week, with plant operation dispatchable to meet electricity demand and with programmed offline periods for maintenance. It is anticipated that in the event of CCP maintenance outages, for example, it could be necessary to operate the Proposed Development without carbon capture, with exhaust gases from the CCGT being routed via the Heat Recovery Steam Generator (HRSG) stack.
- 1.2.7 Various types of associated and ancillary development further required in connection with and subsidiary to the above works are detailed in Schedule 1 'Authorised Development' of the draft DCO (**APP-005**). This along with **Chapter 4: The Proposed Development in the ES Volume I (APP-047)** provides further description of the Proposed Development. The areas within which each numbered Work (component) of the Proposed Development are to be built are defined by the coloured and hatched areas on the Works Plans (**APP-012**).

1.3 The Proposed Development Site

- 1.3.1 The Proposed Development Site (the 'Order Limits') is located within and near to the existing Keadby Power Station site near Scunthorpe, Lincolnshire and lies within the administrative boundary of North Lincolnshire Council (NLC). The majority of land is within the ownership or control of the Applicant (or SSE associated companies) and is centred on national grid reference 482351, 411796.
- 1.3.2 The existing Keadby Power Station site currently encompasses the operational Keadby 1 and Keadby 2 Power Station (under commissioning) sites, including the Keadby 2 Power Station Carbon Capture and Readiness reserve space.
- 1.3.3 The Proposed Development Site encompasses an area of approximately 69.4 hectares (ha). This includes an area of approximately 18.7ha to the west of Keadby 2 Power Station in which the generating station (CCGT plant, cooling infrastructure and CCP) and gas connection will be developed (the Proposed PCC Site).
- 1.3.4 The Proposed Development Site includes other areas including:
- high pressure gas pipeline to supply the CCGT including a gas compound for National Grid Gas's (NGG) apparatus and a gas compound for the Applicant's apparatus;

- the National Grid 400kV Substation located directly adjacent to the Proposed PCC Site, through which electricity generated by the Proposed Development will be exported;
 - Emergency Vehicle Access Road and Potential Electrical Connection to Northern Powergrid Substation;
 - Water Connection Corridors:
 - Canal Water Abstraction Option which includes land within the existing Keadby Power Station site with an intake adjacent to the Keadby 2 Power Station intake and pumping station and interconnecting pipework;
 - River Water Abstraction Option which includes a corridor that spans Trent Road and encompasses the existing Keadby Power Station pumping station, below ground cooling water pipework, and infrastructure within the River Trent; and
 - a Water Discharge Corridor which includes an existing discharge pipeline and outfall to the River Trent and follows a route of an existing easement for Keadby 1 Power Station;
 - an existing river wharf at Railway Wharf (the Waterborne Transport Offloading Area) and existing temporary haul road into the into the existing Keadby 1 Power Station Site (the 'Additional Abnormal Indivisible Load (AIL) Route');
 - a number of temporary Construction Laydown Areas on previously developed land and adjoining agricultural land; and
 - land at the A18 Junction and an existing site access road, including two existing private bridge crossing of the Hatfield Waste Drain lying west of Pilfrey Farm (the western of which is known as Mabey Bridge, to be replaced, and the eastern of which is termed Skew Bridge) and an existing temporary gatehouse, to be replaced in permanent form.
- 1.3.5 In the vicinity of the Proposed Development Site the River Trent is tidal. Therefore, parts of the Proposed Development Site are within the UK marine area. No harbour works are proposed.
- 1.3.6 Further description of the Proposed Development Site and its surroundings is provided in **Chapter 3: The Site and Surrounding Area** in ES Volume I (**APP-046**).

1.4 The Development Consent Process

- 1.4.1 As a NSIP project, the Applicant is required to seek a DCO to construct, operate and maintain the generating station, under Section 31 of the 2008 Act. Sections 42 to 48 of the 2008 Act govern the consultation that the promoter must carry out before submitting an application for a DCO and Section 37 of the 2008 Act

governs the form, content and accompanying documents that are required as part of a DCO application.

- 1.4.2 An application for development consent for the Proposed Development has been submitted to and accepted for examination by the Planning Inspectorate (PINS) acting on behalf of the Secretary of State. PINS is now examining the Application and will make a recommendation to the Secretary of State, who will then decide whether to make (grant) the DCO.

1.5 The Purpose and Structure of this Document

- 1.5.1 The purpose of this document is to summarise clearly the agreements reached between the Applicant and Severn Trent Water ('the Parties') on matters relevant to the examination of the Application and to assist the Examining Authority. It has been prepared with regard to the guidance in 'Planning Act 2008: examination of application for development consent' (Department for Communities and Local Government, March 2015).

- 1.5.2 This version of the document summarises the agreements reached between the Parties regarding matters listed below:

- Draft Development Consent Order and any relevant Protective Provisions;
- The effect on existing apparatus and infrastructure, including the capacity of the sewerage network and any mitigation required to ensure adequate capacity;
- Whether there is a need to divert any existing water infrastructure or provide protection to existing water infrastructure.
- Water environment effects including flooding effects and risks to drainage matters; and
- Water quality.

1.6 Status of this version

- 1.6.1 This is the first draft of this SoCG.

- 1.6.2 The document is structured as follows:

- Section 2 – summarises the role of Severn Trent Water;
- Section 3 - sets out details of consultation with Severn Trent Water to date;
- Section 4 - sets out the matters agreed between the parties in respect of the Application; and
- Section 5 – sets out any matters that are yet to be agreed and where discussions are on-going between the parties and summarises next steps.

2.0 THE ROLE OF SEVERN TRENT WATER

- 2.1.1 Severn Trent Water is not a statutory consultee however they have been consulted by the Applicant in the capacity of a potential sewerage undertaker for the Proposed Development.

3.0 SUMMARY OF CONSULTATION

3.1.1 Consultation and technical engagement has been undertaken with Severn Trent Water since the Scoping Stage for the Proposed Development (June 2020) when PINS identified them as a relevant water/ sewage undertaker. Consultation comments received from Severn Trent Water for the Proposed Development are presented in Table 3.1 below.

Table 3.1: Consultation Summary

Date	Details
November 2020 (Stage 2 Consultation/response)	Severn Trent Water responded to confirm the enquiry was being dealt with. However, no further response to the consultation was received.
December 2021	<p>The Applicant provided a draft Statement of Common Ground to Severn Trent Water on 8 December 2021. Severn Trent Water confirmed that the Applicant's original correspondence of 8th December 2021 hadn't been received by the relevant department. However, given the nature of the site and number of public sewers of various sizes, including some major assets, the following requirements would apply:</p> <ul style="list-style-type: none"> • Gravity sewers up to and including 299mm diameter - require 3m no build zone/ protective strip, either side of the pipe (6m across the diameter). • Pressurised sewers up to and including 299mm diameter - require 5m no build zone/ protective strip, either side of the pipe (10m across the diameter). <p>Severn Trent Water has confirmed that at this stage, they cannot comment on capacity, because they have not had the opportunity to assess this. In order to do this, they would require the proposed</p>

Date	Details
	figures and it's possible a Developer Enquiry application may be required.

4.0 MATTERS AGREED

4.1.1 The below Table 4.1 contains a list of ‘matters agreed’ along with a concise commentary of what the item refers to and how it came to be agreed between the two parties.

Table 4.2: List of Matters Agreed between the Applicant and Severn Trent Water

Matter Agreed	Commentary
<p>The effect on existing apparatus and infrastructure, including the capacity of the sewerage network and any mitigation required to ensure adequate capacity</p>	<p>Chapter 4: The Proposed Development of the Environmental Statement (ES) Volume I (APP-047) (paragraph 4.3.56) explains that operation of the Proposed Development is anticipated to create up to circa 50 full time operational roles and that the Applicant’s proposes to discharge foul drainage from permanent welfare facilities using a tie-in to the existing foul sewer connection within the Keadby Site. It is agreed that these proposals to discharge into the local sewerage system would be subject to agreement with Severn Trent, the local sewerage undertaker.</p> <p>It is agreed that the Applicant does not propose to discharge any contaminated wastewater from the Proposed Development Site into the foul sewer or obtain a Trade Effluent Discharge consent and that the proposals to separate foul flows from the surface drainage network outlined in the conceptual drainage strategy presented within Section 5 of Appendix 12A: Flood Risk Assessment (AS-010) are appropriate.</p>
<p>Whether there is a need to divert any existing water infrastructure or provide protection to existing water infrastructure</p>	<p>It is agreed that the Proposed Development does not require any diversion or protection of existing Severn Trent Water infrastructure. The foul sewer pipeline connecting the Proposed Development Site to the Severn Trent Water treatment plant is owned by the Applicant. A plan will be provided showing these assets at Deadline 2.</p>
<p>Draft Development Consent Order and any relevant Protective Provisions</p>	<p>It is agreed that control measures within Requirement 5(5) (Detailed Design), and Requirement 13 (Foul Water Drainage) of the draft DCO (APP-005) are appropriate with regards to the foul sewer connection</p>

Matter Agreed	Commentary
	and that no protective provisions for infrastructure are required.

5.0 MATTERS NOT AGREED AND NEXT STEPS

5.1.1 This SoCG sets out the agreements that have been reached between the Parties to date in respect of the matters relating to the Proposed Development requested by the ExA outlined in Section 1.7 of this SoCG.

5.1.2 The Parties confirm that there are no outstanding matters to be agreed.

6.0 REFERENCES

HM Government (2020a) *Energy White Paper, Powering our Net Zero Future.*

SSE (2020) *A Greenprint for Building a Cleaner More Resilient Economy.*

SSE plc (2020b) *Our Strategy.*