

# KEADBY 3 CARBON CAPTURE POWER STATION

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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**

**Statement of Common Ground with  
Northern Powergrid**

**The Planning Act 2008**

**Applicant: Keadby Generation Limited**

**Date: May 2022**

## DOCUMENT HISTORY

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## GLOSSARY

<b>Abbreviation</b>	<b>Description</b>
AGI	Above ground installation
AIL	Additional Abnormal Indivisible Load
AONB	Areas of Outstanding Natural Beauty
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, The
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 Northern Powergrid (**Application Document Ref. 8.12**) 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**).
- 1.2.8 Four changes to the Proposed Development (the 'Proposed Development Changes') have resulted from design contractor involvement since the submission of the DCO Application, to refine the detail of this 'First of a Kind' Project implementation.
- Change No. 1 - Inclusion of riverbed within the Waterborne Transport Offloading Area (Railway Wharf)
  - Change No. 2 – not used<sup>1</sup>.
  - Change No. 3 - Increase to the maximum heights of the carbon dioxide absorbers/ stacks, if two are installed.
  - Change No. 4 - Increase to the maximum heights of the carbon dioxide stripper column.
  - Change No. 5 - Increase in proposed soil import volumes to create a suitable development platform.

### **1.3 The Examining Authority accepted the Proposed Development Changes into the examination in a letter dated 12 May 2022 [PD-020] and these form part of the Proposed Development. 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

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<sup>1</sup> The Applicant previously consulted on and, at Deadline 5, proposed another change ("Change No. 2 - Changes to the Additional Abnormal Indivisible Load Route largely within SSE land and all within existing Order Limits". This was subsequently withdrawn by the Applicant by letter dated 26 April 2022 (REP6-018) and forms no part of the DCO examination.

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:

- a 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 Palfrey 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 Northern Powergrid ('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;
- Effect on existing apparatus; and
- Any connection issues.

## **1.6 Status of this version**

1.6.1 This is the fourth draft of this SoCG. It has been updated following the Deadline 6A Version of this document due to agreement now reached on the form of Protective Provisions and progress made on the Side Agreement.

1.6.2 The document is structured as follows:

- Section 2 – summarises the role of Northern Powergrid;
- Section 3 - sets out details of consultation with Northern Powergrid to date; and
- Section 4 - sets out the matters agreed between the parties in respect of the Application.

## **2.0 THE ROLE OF NORTHERN POWERGRID**

- 2.1.1 Northern Powergrid is a statutory consultee and electricity undertaker that is responsible managing the electricity network for more than eight million people across the North East, Yorkshire and northern Lincolnshire including the network in the area in which the Proposed Development Site is situated.

### 3.0 SUMMARY OF CONSULTATION

3.1.1 Consultation and technical engagement has been ongoing with Northern Powergrid since the scoping stage for the Proposed Development (May 2020). Consultation comments received from Northern Powergrid for the Proposed Development are presented in Table 3.1 below.

**Table 3.1: Consultation Summary**

Date	Details
May 2020 (consultation on Environmental Impact Assessment (EIA) Scoping)	<p>Northern Powergrid was consulted by PINS in respect of a request made by the Applicant for an EIA Scoping Opinion for the Consented Development.</p> <p>Standard response by Northern Powergrid on 21 May 2020 objecting to the DCO in order to protect their plant and apparatus and ensure that statutory obligations and duties to provide supplies of electricity to the area are not compromised. Request to Applicant's engineers to engage and contact details provided.</p>
January 2021 (formal Stage 2 Consultation/response)	<p>Northern Powergrid replied reiterating their duty to ensure their electricity network is not compromised and that if and when more information were to be provided they would be able to discuss the project requirements. Noted that Northern Powergrid is embarking on a project to replace apparatus and extend into third party land adjacent to the existing substation site at Keadby, and that this will be formalised in due course.</p>
Northern Powergrid Relevant Representation dated 02 September 2021 (RR-012)	<p>Northern Powergrid within their Relevant Representation noted that in principle they are supportive of the Proposed Development but have concerns regarding impacts on existing assets (noting the Proposed Development seeks interacts with Northern Powergrid's existing 132kV primary substation, pylons, overhead cables, underground cables and access and</p>

Date	Details
	<p>servicing rights) and also pending improvement works.</p> <p>Noted concerns regarding compulsory purchase powers sought and preference for voluntary agreement. Further noted issues regarding Protective Provisions proposed.</p> <p>Northern Powergrid also outlined that the Proposed Development boundary impacts on land which Northern Powergrid are currently in negotiation with National Grid for the replacement of the existing 132kV primary substation noting that although the expansion project is in early stages, it is critical for business and operational requirements.</p>
<p>26/11/21</p> <p>14/12/21</p> <p>20/12/21</p> <p>11/01/22</p> <p>19/01/22</p> <p>27/01/22</p> <p>31/01/22</p> <p>11/02/22</p> <p>24/02/22</p> <p>01/03/22</p> <p>13/04/22</p> <p>22/04/22</p> <p>26/04/22</p> <p>03/05/22</p> <p>04/05/22</p> <p>09/05/22</p>	<p>Engagement between Northern Powergrid and the Applicant's legal representatives.</p>

Date	Details
10/5/22	
13/5/22	
17/5/22	
19/5/22	
23/5/22	

## 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 Northern Powergrid**

Matter Agreed	Commentary
Consultation	A summary of pre-application consultation is contained in the Consultation Report ( <b>APP-030</b> ) and ES Volume I ( <b>APP-058</b> ) and in Section 3 of this SoCG. It is agreed that the consultation summary in Section 3 of this SoCG provides an accurate record of consultation with Northern Powergrid on pre-application matters.
Effect on existing apparatus and any connection issues.	<p>The Parties agree that the description and plans presented in the DCO Application for the electrical connection works proposed by the Applicant to and from the existing 132kV substation on Chapel Lane for the import of electricity for the proposed carbon capture plant (CCP) (Work No. 3B) provide adequate information to enable National Powergrid to assess impacts on their assets.</p> <p>It is agreed that in respect of the connection sought by the Applicant, the standard application process will be followed and on this basis, the Parties are working together to ensure that Northern Powergrid’s infrastructure and land are adequately protected so that the standard objection raised can be removed.</p>
Draft Development Consent Order and any relevant Protective Provisions	Protective Provisions have now been agreed between the parties. Draft provisions were provided to Northern Powergrid on 11 February 2022. Amendments were made by Northern Powergrid and returned to the Applicant on 22 April 2022. As set out in Weightman LLP on behalf of Northern Powergrid’s Deadline 6a Submission – Position Statement ( <b>REP6a-072</b> ), a revised form of protective provisions have now been agreed for inclusion within the dDCO.

<b>Matter Agreed</b>	<b>Commentary</b>
	A Side Agreement is in the process of being agreed between the parties with the intention that this will be in place before the end of the examination period.



## 5.0 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.*

## 6.0 SIGNATURES

6.1.1 This Statement of Common Ground is agreed:

### On behalf of Northern Powergrid:

Name JENNY MORRIS

Signature 

Date 24.05.2022

### On behalf of the Applicant:

Name Colin Turnbull, DWD

Signature 

Date

24 May 2022