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

Statement of Common Ground with National Grid Carbon Limited (part of National Grid Ventures)

The Planning Act 2008

Applicant: Keadby Generation Limited

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GLOSSARY

Abbreviation	Description
2008 Act	The Planning Act 2008
AGI	Above ground installation
AIL	Additional Abnormal Indivisible Load
Applicant	Keadby Generation Limited
Application	The application
CCGT	Combined Cycle Gas Turbine
CCP	Carbon Capture Plant
DCO	Development Consent Order
ES	Environmental Statement
ha	hectares
HLCP	Humber Low Carbon Pipelines
HLCPP	The Humber Low Carbon Pipelines Project
HP	High pressure
HRSG	Heat Recovery Steam Generator
MW	megawatts
NGCL	National Grid Carbon Limited
NGG	National Grid Gas
NGV	National Grid Ventures
NLC	North Lincolnshire Council
NSIP	Nationally Significant Infrastructure Project
Order Limits	The Proposed Development Site
Parties	National Grid Ventures
PCC Site	Proposed Power and Carbon Capture Site

Abbreviation	Description
PINS	Planning Inspectorate
Proposed Development Site	Keadby Power Station, Trentside, Keadby, Scunthorpe DN17 3EF
SoCG	Statement of Common Ground
SoS	Secretary of State
The Order	The Keadby 3 (Carbon Capture Equipped Gas Fired Generating Station) Order
The Proposed Development	Generating Station
WFD	Water Framework Directive
ZCH	Zero Carbon Humber

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TABLES

1.0 INTRODUCTION

1.1 Overview

1.1.1 This Statement of Common Ground ('SoCG') with National Grid Carbon Limited (NGCL) (part of National Grid Ventures (NGV), a division of National Grid plc) (Application Document Ref. 8.6) 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 (BEIS), 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's infrastructure, specifically the Humber Low Carbon Pipelines Project (HLCPP) pipeline network being promoted by NGCL, for onward transportation to the Endurance storage site 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 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 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 (National Grid Electricity Transmission) 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 Water 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'); and
    - 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 AGI for NGCL apparatus (**Work No. 7B**);
- new permanent access from the 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. 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 NGCL.

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:

- a high pressure gas pipeline to supply the CCGT including a gas compound for NGG apparatus and a gas compound for the Applicant's apparatus;
- the National Grid400kV 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 crossings 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 SoS. PINS is now examining the Application and will make a recommendation to the SoS, 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 NGCL ('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 the matters listed below:

- Carbon Capture and Storage;
- Relationship with, and effect on, the Humber Low Carbon Pipeline, including potential pipeline corridors; and
- Draft Development Consent Order and any relevant Protective Provisions.

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 NGCL;
- Section 3 - sets out details of consultation with NGCL 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 NATIONAL GRID VENTURES

2.1.1 NGCL is part of NGV, a division of National Grid plc responsible for both developing and operating energy projects, technologies and partnerships in the UK and US.

2.1.2 NGCL, as a NGV business, is proposing to develop the Humber Low Carbon Pipelines (HLCP); the deployment of a terrestrial pipeline network in the Humber region. The HLCPP intends to establish a pipeline network in the Humber Region for the transportation of carbon dioxide ($CO_{2)}$ and hydrogen (H_2) to facilitate Carbon Capture, Utilisation and Storage, supporting the ambition of the Zero Carbon Humber (ZCH) partnership to create the world's first net zero industrial cluster.

2.1.3 The HLCPP involves the construction of long distance carbon dioxide transportation pipelines and requires a separate DCO.

2.1.4 NGCL has recently carried out non-statutory consultation on a selection of potential pipeline route corridor options across the area where the HLCPP could be situated and expects to carry out statutory pre-application consultation during 2022.

2.1.5 NGCL's interest in The Keadby 3 Low Carbon Gas Power Station Project relates to the interfaces between the Keadby 3 Low Carbon Gas Power Station Project and HLCPP, which includes the proposed carbon dioxide pipeline connection arrangement and associated works.

2.1.6 NGCL, through NGV, has submitted a Relevant Representation to PINS requesting to be treated as an interested party throughout the Examination process of The Keadby 3 Low Carbon Gas Power Station Project.

3.0 SUMMARY OF CONSULTATION

3.1.1 NGCL was not formally a consulted party during the S42 or S56 consultation processes as they have not to date held the relevant status under the 2008 Act and associated regulations, and HLCPP is at a slightly earlier stage of development and consultation.

3.1.2 However, the Applicant (including through SSE) has consistently corresponded with NGCL through a series of meetings as part of the ZCH partnership. Notable meetings and their frequencies are listed below:

- Zero Carbon Humber Regulation meetings - Monthly (includes NGV, Drax, Uniper, SSE)
- NGV & SSE Bilateral meeting - Monthly (attended by SSE technical, regulatory, programme, commercial representatives)
- Technical and Consenting Committee meetings – Periodic moving to Monthly (between NGV, Drax, Uniper, SSE)
- Commercial Committee meetings – Periodic (with NGV, Drax, Uniper, SSE)
- East Coast Cluster Emitter Forum – bi-weekly technical forum
- Consenting meetings – Periodic beginning 24 November 2021 (including NGV and the Keadby 3 project team)

3.1.3 NGCL (through NGV) provided a Relevant Representation to PINS (Examination Library Ref. RR-009) requesting treatment as an Interested Party throughout the Examination process of the DCO application for The Keadby 3 Low Carbon Gas Power Station Project (PINS ref: EN010114). The Relevant Representation also stated NGCL's interest in the Keadby 3 Low Carbon Gas Power Station Project and its relationship to the HLCPP.

4.0 MATTERS AGREED PRIOR TO EXAMINATION

4.1.1 The sections below set out matters agreed correct at the date of the Preliminary Meeting for the Application (7 December 2021) along with a concise commentary of what the item refers to and how it came to be agreed between the two parties.

4.2 Existing Agreements

4.2.1 It is agreed that the Keadby 3 Low Carbon Gas Power Station Project is an emitter that needs to connect to the HLCPP. As stated in the NGV Relevant Representation, "The HLCP network is the proposed infrastructure for transporting the carbon captured at the power station that is the subject of this application to the interface at landfall with the offshore pipelines for onward transportation to the Endurance saline aquifer for storage".

4.2.2 The Keadby 3 Low Carbon Gas Power Station Project will connect to the HLCPP as detailed in Work no. 7 of the draft Development Consent Order (dDCO) [APP-005].

4.2.3 In principle, the pipeline route corridor options identified within the 'Route Corridor Report' (National Grid, 2021. [redacted] are appropriate options, are feasible and will allow the carbon dioxide captured by the Keadby 3 Low Carbon Gas Power Station Project to be transported to the Endurance offshore geological store. It is, however, agreed that the pipeline route options are at an early stage of development and therefore subject to further assessment of feasibility and consultation.

4.2.4 The construction of Keadby 3 Low Carbon Power Station could (subject to the necessary consents being granted and an investment decision being made) start as early as Quarter 4 of 2022 or more likely during 2023. This would in turn allow operation to start in 2027. The HLCPP DCO application is proposed to be submitted in Q4 2022 and to be decided by the end of Q1 2024. KGL therefore welcomes the ambition of NGCL to begin the construction of the pipeline network in 2024, with an earliest construction completion date (for pipeline section north of the Humber) of 2026.

4.2.5 NGCL, as a business of NGV, will be the promoter of the HLCPP DCO and therefore it is correct for the Applicant to refer to NGCL (and the limited company with the same name) in relevant defined terms and numbered works in Schedule 1 in the DCO [APP-005].

4.2.6 The Applicant agrees to the request by NGCL in its Relevant Representation to be consulted on any approval sought from the relevant planning authority under Requirement 5(7) and will update the DCO at a suitable deadline to secure this.

4.2.7 The Applicant agreed in a meeting held on 24 November 2021 to consider protective provisions to be supplied by NGCL. We will, therefore, update the DCO at a future point and provide relevant updates to the Examining Authority as to the progress of negotiations between the parties in this regard.

5.0 MATTERS NOT AGREED AND NEXT STEPS

5.1.1 Matters not yet agreed:

Table 5.1: Summary of Matters Not Yet Agreed

Matter Not Yet Agreed	NGCL's Position	Applicant Position
Outline of Work No. 7 (Connection of K3 to HLCP Pipeline) in the Works plans (sheets 14 and 15)	Details of Work Nos. 7A and 7B are shown on sheets 14 and 15 of the Works Plans but the remainder of Work No. 7 does not appear on the Works Plans. It is not clear how the Works Plans themselves provide for Work No. 7 to be located within the area denoted Work No. 7A or 7B. It is NGCL's view that Work No. 7 should be specifically shown. It is not clear how article 3(2) would currently operate in the case of Work No. 7, which is not specifically shown on the Works Plans.	The Applicant did not identify a need to denote a 'Work area 7' on the work plans as the plans and the drafting of the article provide for the remainder of Work 7 to be located either within the area denoted 7A, 7B, or both. The Applicant would welcome discussion with NGCL to ensure that no specific elements of the remainder of Work 7 are omitted, as this is not the intention. The drafting used for Article 3(2) ("Each numbered work must be situated within the corresponding numbered area shown on the works plans") and the presentation of the Works Plans as described above has precedent, see for example the Eggborough Gas Fired Generating Station Order 2018.
Work No. 7	More generally, NGCL would welcome clarity that Work No. 7 is in fact the sum total of Works Nos. 7A and 7B, plus any ancillary works (referred to in paragraph (c) of Work No. 7), and does not include any further, distinct Works. The answer to this is of importance to the transfer of benefit provisions in article 6, since article 6(c) provides only	Please refer to responses immediately above and below.

Matter Not Yet Agreed	NGCL's Position	Applicant Position
	that NGCL will have the benefit of the provisions of the DCO insofar as they relate to Work No. 7B.	
Article 6	NGCL is to have the benefit of the provisions of the DCO insofar as they relate to Work No. 7B (article 6(c)). There are further, ancillary works provided for at paragraph (c) of Work No. 7, which are stated to be "in connection with Work Nos. 7A and 7B". It is not currently clear that article 6(c) would operate in respect of those ancillary works. NGCL would welcome revised drafting at article 6(c), to clarify this point.	We have set out drafting intended to provide within the dDCO NGCL with the benefit of powers reasonably necessary for it to develop Work 7B. We believe that the words 'in connection with' ensure that the ancillary works in paragraph (c) can be developed by NGCL pursuant to article 6 insofar as they lie within the area for Work 7B shown in the Works Plans, and consider that article 6 is drafted in a conventional way. However the Applicant will discuss preferred drafting for article 6 with NGCL and update the ExA at a suitable deadline.
Scope and content of protective provisions	NGCL are to supply the Applicant with a copy of its requested protective provisions.	The Applicant will give these due consideration when received.
Requirement 33	(1) The reference to "environmental permit" in paragraph (1)(c) is not clear as it is undefined. There needs to be clarity about which environmental permit needs to be in place in order to comply with this requirement. There would also be merit in the references to "development consent" in paragraph (1)(a) and "carbon dioxide storage licence" in	(1) The Applicant will consider these points and if necessary update the Draft DCO at a future deadline.

Matter Not Yet Agreed	NGCL's Position	Applicant Position
	paragraph (1)(b) being defined terms. (2) NGCL would request that it is a formal and named consultee in relation to any applications to the SoS under Paragraph (2). (3) Paragraph (2) refers to a transfer of the benefit of the Order pursuant to article 66. That reference should be to article 6.	(2) Our rationale for this requirement wording is to secure compliance with the carbon capture readiness (CCR) guidance[1] that remains extant although does not reflect the ambition of the Applicant in regards carbon capture. The guidance is a key part of how the Secretary of State implements EU directives (as they originally were) on CCR through the Electricity Act 1989 and Planning Act 2008 regimes and discharges their legal duties to secure CCR for large power stations. The CCR guidance, and the directive, do not require an operator of the CCP to have any role in demonstrating CCR. The wording also has precedent in other DCOs e.g. the Eggborough Gas Fired Generating Station Order 2018 (R31). We are not aware of a precedent for a third party to be named in relation to this provision. It would be useful to understand the rationale for this request. (3) The '66' reference will be corrected.
Schedule 11 (Design parameters)	Requirement 5(11) provides for Works which include Works Nos. 7A and 7B, to be	The Applicant will correct the reference to 'Schedule 12'. The Applicant's view on the latter

[1] A guidance note for Section 36 Electricity Act 1989 consent applications, DECC November 2009. As cited in NPS EN-1 4.7.10, DECC 2011.

Matter Not Yet Agreed	NGCL's Position	Applicant Position
	carried out in accordance with the design parameters in Schedule 12. That reference should be to Schedule 11 but in any event, there does not appear to be any relevant design parameters stated for Works Nos. 7A or 7B in that Schedule.	point is that the structures in Works 7/7A/7B (including those to be developed by NGCL) are not of a significant scale and therefore do not require specific controls in this table, given their location within the physical areas shown in the Works Plans, and in proximity to (in the setting of) Work No. 1. The design and scale of these structures are suitably controlled under Requirement 5(7).

Regarding next steps the Applicant and NGCL will continue to engage constructively and frequently and keep the Examining Authority updated at relevant deadlines on the above matters.