

White Rose Carbon Capture and Storage (CCS) Project

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The White Rose CCS (Generating Station) Order

Land adjacent to and within the Drax Power Station, Drax,
near Selby, North Yorkshire

Applicant's Statement of Common Ground with the Environment Agency - **DRAFT**

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 - Regulation 5(2)(q)



Applicant: Capture Power Limited
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1	20.05.15	First draft for discussion.	KJM
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Glossary	
BAT	Best Available Technique
CCS	Carbon Capture and Storage
CHP	Combined Heat and Power
CO ₂	Carbon Dioxide
CL	Critical load or level
CPL	Capture Power Limited
DCO	Development Consent Order
DWSZ	Drinking Water Safeguarded Zone
EA	Environment Agency
EP	Environmental Permit
ES	Environmental Statement
HRA	Habitats Regulations Assessment
NERC	Natural Environment and Rural Communities Act 2006
NFU	National Farmers Union
NPS	National Policy Statement
PEC	Predicted Environmental Concentration
SAC	Special Area of Conservation
SO ₂	Sulphur Dioxide
SoCG	Statement of Common Ground
SoS	Secretary of State
YWT	Yorkshire Wildlife Trust.

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1.0 INTRODUCTION

OVERVIEW

- 1.1 This is the Statement of Common Ground ('SoCG') between Capture Power Limited (the 'Applicant') and the Environment Agency ('EA') relating to the application (the 'Application') that has been made to the Secretary of State ('SoS') for a Development Consent Order ('DCO') under Section 37 of the Planning Act 2008 (the '2008 Act').
- 1.2 The Application seeks development consent for the construction, operation and maintenance of the White Rose Carbon Capture and Storage (CCS) project (the 'Project'). The Application was submitted in November 2014 and accepted for Examination on 17 December 2014.
- 1.3 The Project would be located on land within and adjacent to the operational boundary of the existing Drax Power Station site (the 'Power Station site'), near Selby, North Yorkshire.

THE BACKGROUND TO THE PROJECT

- 1.4 The Project comprises a new thermal generating station (an ultra-supercritical oxy-fuel coal-fired power plant of up to 448 MWe gross with the ability to co-fire biomass) that will be fitted with carbon capture and storage ('CCS') technology and associated development.
- 1.5 The CCS technology would capture up 90% of the carbon dioxide emissions from the new power plant. The carbon dioxide would be transported via the National Grid Carbon Limited's Yorkshire and Humber CO₂ Pipeline (a separate project) for permanent storage beneath the North Sea.
- 1.6 The Project forms part of the UK Government's CCS Commercialisation Programme and would assist in demonstrating new coal-fired power plant fitted with CCS at a commercial scale. The Project would make an important contribution toward the delivery of national energy policy, which is aimed at ensuring the security of energy supplies while moving toward a low carbon electricity generation mix.

THE APPLICANT

- 1.7 The Applicant, CPL, is an English private limited company that was incorporated in December 2011 as a fully owned subsidiary of Drax CCS Limited (a company fully owned by Drax Group plc) to promote the Project.
- 1.8 In December 2013 ALSTOM UK Holdings Limited (an Alstom Group company) and The BOC Group Limited (a Linde Group company) each acquired a one-third interest in CPL. The Applicant (CPL) is therefore currently a joint venture company equally owned by Drax CCS Limited, ALSTOM UK Holdings Limited and The BOC Group Limited.

THE ENVIRONMENT AGENCY

- 1.9 The EA is a non-departmental public body, the stated purpose of which is *"to protect or enhance the environment, taken as a whole"* so as to promote *"the objective of achieving sustainable development"*.
- 1.10 The EA is a statutory consultee in respect of all applications seeking a DCO that are likely to affect land in England.

THE PURPOSE AND STRUCTURE OF THE SOCG

- 1.11 The purpose of this SoCG is to set out the agreement that has been reached between the Applicant and the EA in respect of the following matters:
 - Environmental Permit.
 - Air Quality.
 - Flood Risk.
 - Surface Waters.

- Water Abstraction and Treatment.
- Groundwater and Land Contamination.
- Impact on Drinking Water Safeguarded Zones.
- Ecology.
- Waste and Environmental Management.
- Combined Heat and Power.
- Carbon Capture and Storage/Carbon Capture Readiness.

1.12 The SoCG also sets out any matters that are not yet agreed.

2.0 MATTERS AGREED

ENVIRONMENTAL PERMIT

- 2.1 There are a number of other consents and licences, in addition to the DCO, that are required in respect of the construction and operation of the Project, including a variation to the Environmental Permit ('EP') for the existing Power Station site. Although the 2008 Act provides the ability to include the EP within the DCO, it is agreed that the Applicant's chosen approach to progress the EP variation application separately is acceptable.
- 2.2 The consents and licences that the Applicant has identified as being required (in addition to the DCO, are listed within the 'Other Consents and Licences' document (Document Ref. 5.3). This is a live document and details the discussions that have taken place to date with the relevant consenting bodies. It also sets out any actions that are required and confirms the status of the applications required.
- 2.3 It is agreed, in accordance with Section 5 of the Overarching National Policy Statement for Energy (EN-1), paragraph 4.10.6, that the Applicant has made early contact with the EA in respect of the EP variation. The contact was made to discuss the requirements of the EP variation application and to ensure that it took account of all relevant considerations.
- 2.4 The EP variation application was submitted to the EA on 8 April 2015. Receipt of the application was acknowledged by the EA on 10 April 2015. The Applicant awaits confirmation of 'Duly Made' status.

AIR QUALITY

- 2.5 There is the potential for air quality effects as a result of direct emissions to air from operation of the Project. Additionally, potential effects on air quality could result from increased traffic during construction, operation and decommissioning. Effects on air quality could lead to secondary impacts on both sensitive human and ecological receptors. There is also the potential for air quality effects as a result of project start-up and shut down and emissions during some foreseeable non-routine operations.
- 2.6 The Applicant has undertaken dispersion modelling to assess the effects from the operational Project (oxy-mode and air-mode) on sensitive human receptors. It was agreed that modelling be undertaken for two scenarios; the first being the coal-fired power plant functioning 100% in air-mode and the second functioning 100% in oxy-mode.
- 2.7 It is agreed, in terms of methodology, that the effects on human receptors must be assessed using the maximum ground level concentration predicted at any point on the grid predicted by atmospheric dispersion modelling as a 'worst case' approach. In addition, it is agreed that the results of the modelling must be based upon the worst case results for any of the five years of meteorological input data used.
- 2.8 Dispersion modelling was also undertaken to assess the effects from the operational Project (in both air-mode and oxy-mode) on sensitive ecological receptors. The EA will review the assumptions included in the modelling as part of its assessment of the EP variation application.
- 2.9 In terms of mitigation measures, it is agreed that the coal-fired power plant must operate using Best Available Techniques ('BAT').
- 2.10 The EA will consider the following as part of its assessment of the EP variation application:
 - the plant-specific mitigation measures incorporated into the data used to model emissions from the plant and predict effects on air quality;
 - the effects upon human health of the plant operating in air-mode and oxy-mode from a number of substances, including arsenic, chromium VI and sulphur dioxide ('SO₂'); and
 - the effects upon ecological receptors of the plant operating in air-mode and oxy-mode, including European sites and the critical loads from the plant's emission to the atmosphere (acid deposition and SO₂ concentration).

- 2.11 It is agreed that the EA will review the data relating to European sites during the EP process in its role as 'competent authority' under the Habitats Regulations for the EP variation. Air dispersion modelling files have been sent to the EA as part of the permitting process.

FLOOD RISK

- 2.12 It is agreed that the Project would operate on a platform constructed to bring it to a level that is above the flood risk level for the operational area and that it would be served with suitable emergency access and egress. The height of this platform was calculated by a breach analysis (of the River Ouse) and a detailed flood risk assessment ('FRA'); both of which have been agreed with the EA.
- 2.13 It is acknowledged that the development platform would reduce the storage capacity of the flood plain and the Project would change (increase) the rate and volumes of surface water run-off from the pre-Project levels. It is agreed that together these factors could increase the risk of flooding elsewhere. However, notwithstanding the potential adverse effects, it is agreed that through the site raising, flood risk would be appropriately managed and that flood risk effects to receptors as a result of the Project and associated loss of floodplain storage are not considered significant and that the Project would not significantly increase the risk or severity of flooding on neighbouring land. No other risks from other flood sources have been identified in the study area. It is also agreed that even if flood defences were to fail, the Project would be adequately protected.

SURFACE WATERS

- 2.14 Operational stage pollution risk to surface waters will be assessed as part of the EP variation application as will process effluent discharges.
- 2.15 It is agreed that the following requirements contained at Schedule 2 of the draft DCO (Document Ref. 2.1) are sufficient to secure the proposed mitigation, subject to the agreement of the revised wording (drafted in response to the EA's Relevant Representation) set out in Revision 3 of the draft DCO submitted for Deadline 2:
- No.12 'Surface and foul water drainage',
 - No.13 'Flood risk mitigation',
 - No.14 'Contaminated land and groundwater',
 - No.18 'Construction environmental management plan'.

WATER ABSTRACTION, TREATMENT AND EFFLUENT DISCHARGE

- 2.16 It is agreed that new water treatment facilities will be provided as part of the Project, which would be linked to existing facilities within the existing Drax Power Station site. Water treatment and discharge will be assessed as part of the EP variation application.

The Applicant considers that the Project will operate within the abstraction and discharge limits and parameters set by the existing EP for the Power Station site. The EA will assess this as part of its consideration of the EP variation application.

GROUNDWATER AND LAND CONTAMINATION

- 2.17 The EA agrees with the conceptualisation of the geology and hydrogeology of the site contained within ES Volume 2, Chapter D Geology Technical Report (Document Reference 6.3.5). It is also agreed that the ES adequately identifies all potential sources of contamination existing on the Project site, as well as the environmental receptors and potential pathways subject to the mitigation outlined within the ES. It is agreed that the Project would not result in significant effects on groundwater or in terms of land contamination.

IMPACT ON DRINKING WATER SAFEGUARDED ZONES

- 2.18 In response to the National Farmers Union's Relevant Representation, the Applicant has undertaken an investigation of the potential for significant effects on Drinking Water Safeguarded Zones ('DWSZ') as a result of emissions from the operation of the Project.
- 2.19 The Applicant's modelling results for the Project indicate that nitrogen deposition would increase most to the east of the Project site. When considering the design life of the Project (circa 30 years), even in the worst-case scenario model (where the carbon capture system or Air Separation Unit are not available and the plant is functioning in 'air-mode'), the nitrogen deposition in this area would only result in 10.8 kg of nitrogen per hectare. As a comparison, this quantum of deposition equates to only two conventional sacks of grassland NPK fertiliser (each sack contains approximately 5 kg of nitrogen) spread over a hectare, over the course of 30 years.
- 2.20 In terms of the DWSZ the Applicant considers the following:
- Surface Water Safeguarded Zone - The Surface Water Safeguard Zone to the north and north-east of the Project site is designated by the EA to reduce pesticide use (metaldehyde). Nitrogen deposition resulting from the Project would not therefore affect the status of this zone nor be of any relevance to it.
 - Ground Water Safeguarded Zones - In geological terms, the Ground Water Safeguard Zone (GWSZ) to the south of the Project site lies beneath a substantial thickness of clay (around 8-10 metres). As such, there is no pathway for nitrogen deposition on the surface to connect with the relevant groundwater body (notwithstanding the fact that nitrogen deposition would in any event be insignificant). The GWSZ further to the south-west has a more limited thickness of clay (around 1-3 metres) or non-existent clay layer, overlying the sandstone unit. However, this area would experience the lowest level of nitrogen deposition.
- 2.21 The Applicant considers that the additional investigations undertaken demonstrate that there is negligible risk of the Project resulting in significant effects on the DWSZ in question.
- 2.22 The EA will undertake its own assessment of effects on DWSZ as part of the EP process.

ECOLOGY

- 2.23 It is agreed that the Project will provide for on-site habitat mitigation, including some mitigation of the reduction in wetland habitat through the provision of a flood attenuation pond (subject to its appropriate design and management), but that this would not fully off-set the loss of habitat at the Project site. The principle of providing further habitat mitigation off-site is agreed.
- 2.24 It is agreed that requirement 16 'Biodiversity mitigation and management plan' will provide an appropriate mechanism to secure the on-site habitat mitigation and the on-going management of that habitat.
- 2.25 The Applicant, the EA and the Yorkshire Wildlife Trust (YWT) are working together to identify an agreed option for off-site mitigation. It is anticipated that the agreed off-site mitigation will be secured by a section 106 agreement.

WASTE AND ENVIRONMENTAL MANAGEMENT

- 2.26 Details relating to waste and environmental management are set out within ES Volume 1, Chapter 5 Project Description, Section 5.9 Waste Management and Section 5.10 General Environmental Management (Document Ref. 6.2), ES Volume 3, Section J Construction Environmental Management Plan (Document Ref. 6.4.1) and Section R Framework Site Waste Management Plan (Document Ref. 6.4.11). It is agreed that the project information, assessment of effects and mitigation outlined is sufficient subject to the points relating to the drafting of the DCO.
- 2.27 The Applicant accepts the EA's request (within its Relevant Representation) that "*in consultation with the Environment Agency*" is added to the end of the first part of proposed requirement 25. This has been reflected in the version of the draft DCO (Revision 3) submitted for Deadline 2.
- 2.28 The Applicant also accepts the EA's request (again within its Relevant Representation) that the Soil Management Plan and Sediment Control Plan mentioned in Section 6.2.2 of ES Volume 1 Chapter 6,

Summary of Construction Stage Effects (Document Ref.) are secured through an amendment to requirement 18 'Construction environmental management plan. Again, this has been reflected in the draft DCO (Revision 3).

COMBINED HEAT AND POWER

- 2.29 It is agreed that the Applicant has assessed the feasibility of combined heat and power ('CHP') through its CHP Assessment (Document Ref: 5.6). In addition, it is agreed that the draft DCO (Revision 3) includes a requirement (requirement 25 'Combined heat and power').
- 2.30 Periodic reviews of potential CHP opportunities will be required under the EA's CHP guidance (CHP Ready Guidance for Combustion and Energy from Waste Power Plants V1.0, February 2013) throughout the lifetime of the Project under the provisions of the EP Regulations. A CHP Assessment has been submitted as part of the EP variation application and will be assessed by the EA during its consideration of the application.

CARBON CAPTURE AND STORAGE/CARBON CAPTURE READINESS

- 2.31 It is agreed that the Carbon Capture and Storage ('CCS') and Carbon Capture and Readiness (CCR) Statement (Document Ref. 5.7), in conjunction with the Design and Access Statement (Document Ref. 5.5), Chapter IV 'Technical Description of CCS Plant' of the EP variation application (April 2015) and the Pipeline plans in Section 2.1 of the Yorkshire and Humber (CCS Cross Country Pipeline) DCO Application (PINS Ref. EN070001) (June 2014) demonstrate that there are no foreseeable barriers to CCS/CCR in relation to space allocation and technology feasibility.
- 2.32 It is agreed that there would be no need for any retrofitting of carbon capture technology as the Project would have the ability to capture carbon from the commencement of operations.

3.0 MATTERS YET TO BE AGREED

3.1 The following matters are yet to be agreed:

- Air quality effects.
- The need for amendments to existing abstraction and discharge consents/licences.
- Impact on Drinking Water Safeguarded Zones.
- Off-site habitat mitigation.

Signed

Print name and position

On behalf of the Environment Agency

Date

Signed

Print name and position

On behalf of the Capture Power Ltd

Date