

National Infrastructure Directorate
Planning Inspectorate
Temple Quay House
Temple Quay
Bristol
BS1 6PN

Our ref: RA/2015/131206/03-L01
Your ref: EN10048
Our ID: 10030429
Date: 10 June 2015

DEADLINE 2 SUBMISSION

Dear Sir/Madam,

THE WHITE ROSE CCS (GENERATING STATION) DEVELOPMENT CONSENT ORDER. LAND WITHIN AND ADJACENT TO THE DRAX POWER STATION SITE, DRAX, NEAR SELBY, NORTH YORKSHIRE.

We would like to make the following Deadline 2 representations:

- Comments in relation to Carbon Capture & Storage and Carbon Capture Readiness (CCS/CCR);
- Comments on the draft Statement of Common Ground between ourselves and Capture Power Limited;
- An update on the Environmental Permit application;
- An update on ecological mitigation and enhancement.

Carbon Capture & Storage / Carbon Capture Readiness

We attach for your information, a short report from our National Permitting Service in relation to the project's CCS/CCR. In summary, we have reviewed the following reports:

1. "Carbon Capture and Storage (CCS) and Carbon Capture Readiness (CCR) Statement" Document Ref: 5.7, PINS Ref: EN10048, dated November 2014;
2. "Design & Access Statement" Document Ref: 5.5, PINS Ref: EN10048 dated November 2014;
3. Chapter IV – Technical Description of CCS Plant of the environmental permit application dated April 2015;

4. Pipeline plans in section 2.1 of the Yorkshire and Humber (CCS Cross Country Pipeline) Development Consent Order application ref. EN070001 dated June 2014.

We are satisfied that this information demonstrates that there are no foreseeable barriers to CCS/CCR in relation to space allocation and technology feasibility.

Please note that although we have used the Environmental Permit application documents to aid this decision, this decision has no bearing on our separate determination of the application for the Environmental Permit.

Comments on the draft Statement of Common Ground

As per our Written Representation, we received a first draft of a Statement of Common Ground (SoCG) from Capture Power Limited (CPL) on Wednesday 20 May 2015. We provided our comments on this first draft to CPL via email today, 10 June 2015. It is my understanding that CPL intend to submit an updated SoCG at Deadline 3.

Environmental Permit Application Update

An application to vary the existing Environmental Permit was received from CPL on 16 April 2015. There is currently insufficient information for the application to be duly made. Our National Permitting Service wrote to CPL on 29 May 2015 detailing the additional information we require. Following this letter, a meeting took place between the EA's permitting officers and CPL on 5 June 2015 at which the need for additional information was discussed in detail. Agreement was reached on the information which must be provided before the permit application can be 'duly made'. We are awaiting this additional information.

We would like to take this opportunity to reiterate that any Environmental Permit granted for the proposed facility would include noise conditions for the operation of the plant. The Environment Agency will be the regulator of operational noise (including low frequency noise) and will therefore be assessing this during permit determination. It should be noted that noise controls imposed on any permit granted, either at the point of issue, or at any time during the life of the permit, may differ from controls included in the DCO. Selby District Council will be consulted as part of our permit determination process.

Update on Ecological Mitigation & Enhancement

A teleconference took place between CPL (and their representatives), the EA and Yorkshire Wildlife Trust on 26 May 2015. A further teleconference is planned for tomorrow, 11 June 2015. We were yesterday provided, via an email from Les Hatton of ERM, an ecological mitigation assessment and some offsetting calculations. We have not yet had the opportunity to review this information but will do so in due course.

Should you require any additional information or clarification, please don't hesitate to contact me on the details below.

Yours faithfully

Mr Sam Kipling
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Consultation Response to the Planning Inspector on the Carbon Capture Readiness for the White Rose Carbon Capture Project

1.0 INTRODUCTION

The planning inspector has consulted the Environment Agency on the carbon capture readiness of the White Rose Carbon Capture Project, as part of the overall determination of the White Rose CCS (Generating) development consent order (DCO). We are a consultee to this process but without any specific powers or duties. The Government has determined that the Carbon Capture Readiness (CCR) should be assessed during this consenting process and that no new power station at or over 300MWe will be consented unless it can be demonstrated to be carbon capture ready.

The CCR requirements at application include demonstration that there is sufficient space, it is technically and economically feasible to retrofit the chosen technology and that transport and storage of CO₂ is feasible. Full details of these requirements are in '*Carbon Capture Readiness (CCR) A guidance note for Section 36 of the Electricity Act 1989 consent applications. DECC, URN 09D/810 November 2009*'. The Environment Agency is only able to comment on the suitability of the space set aside on or near the site for carbon capture equipment and the technical feasibility of the retrofitting carbon capture equipment. As explained in paragraph 94 of the DECC CCR guidance the Environment Agency is not the public body to comment on the technical aspects of the transport and storage of CO₂ off site, nor can it comment on the soundness of the economic feasibility of the CCS proposal.

Table 1 in the Department for Energy and Climate Change (DECC) CCR guidance note provides the approximate minimum land footprint for some types of carbon capture plant (CCP) based on a generating station with 500MWe capacity. The DECC CCR guidance states that the Environment Agency, in offering their advice will use this information together with other relevant information sources as a starting point in judging whether the amount of space allocated by Applicants is appropriate. However, in this case Table 1 does not include a scenario for coal fired boilers with oxy-combustion; the nearest equivalent is "CCGT with oxy-combustion".

Table 2.11-1 of the report "*Department of Energy and Climate Change (DECC), Coal-Fired Advanced Supercritical Retrofit with CO₂ Capture, Contract No.: C/08/00393/00/00 URN 09D/739, prepared by Doosan Babcock Energy Limited as part of the DTI Emerging Energy Technologies Programme/Technology Strategy Board, June 2009b (– first published in 2007)*" presents the estimated footprint for

the retrofit options studied, which includes boilers with oxy-combustion and carbon capture.

The role of the Environment Agency is to provide advice to the examining authority as to whether the Applicant has demonstrated they propose to retain sufficient space to accommodate the CCP and equipment and that it is technically feasible to retrofit the CC technology selected. Given CC technologies have not been demonstrated on a commercial scale the CCR requirements are that 'there are no foreseeable barriers' to retrofit.

2.0 CCR Application Details

Name of proposed development: White Rose Carbon Capture Project.

Applicant: Capture Power Limited.

Size: around 448MWe

Likely capture technology declared: Oxyfuel, Pre combustion

Reports reviewed:

1. "Carbon Capture and Storage (CCS) and Carbon Capture Readiness (CCR) Statement" Document Ref: 5.7, PINS Ref: EN10048, dated November 2014
2. "Design & Access Statement" Document Ref: 5.5, PINS Ref: EN10048 dated November 2014
3. Chapter IV – Technical Description of CCS Plant of the environmental permit application dated April 2015
4. Pipeline plans in section 2.1 of the Yorkshire and Humber (CCS Cross Country Pipeline) Development Consent Order application ref. EN070001 dated June 2014

2.1 General Comments

The White Rose Carbon Capture Storage Project is an application for a power plant with carbon capture, and so we took this into consideration during our assessment of whether the plant will be CCR. However, we still followed the DECC CCR guidance in order to come to our conclusions discussed below.

The Applicant's Carbon Capture Readiness statement in itself did not provide us with sufficient information and so we have to review other documents to enable us to come to our conclusion (reports 2-4 listed above).

2.2 Space for Retrofit of CCR

The Applicant has provided a layout of the CCP in Figure 7 of the design and access statement, and table 7.1 of this statement provides estimated dimensions of plant items. Furthermore, in paragraph 7.19 of the design statement, they state that the operational area is 29Ha.

Table 1, of the DECC CCR guidance does not include a scenario for coal fired boilers with oxy-combustion; the nearest equivalent is "CCGT with oxy-combustion"

which gives an approximate minimum footprint for a 500MWe station as just 3.4Ha. More valid figures are given in Table 2.11-1 of the DECC *Coal-Fired Advanced Supercritical Retrofit with CO₂ Capture* report, where the total footprint for an Oxyfuel boiler, with CO₂ compression and capture retrofit, generating 630-660MWe, is estimated to be 16.5Ha. Consequently, it is clear that the operational area allocated is far more than these two minimum footprints.

2.3 Proposed CCP Technology

The project comprises an ultra-super critical 'state-of-the-art' coal-fired power plant that is equipped with full carbon capture and storage technology. The plant would also have the potential to co-fire biomass. The project is intended to prove CCS technology at a commercial scale.

There is no annex in the DECC CCR guide for pre combustion using oxyfuel on a coal fired boiler. So we have used "Annex A Environment Agency verification of CCS Readiness New Pulverised Coal Fired Power Station Using Post-Combustion Solvent Scrubbing" to guide our assessment, ignoring all amine scrubbing sections and considering the additional implications of the air separation unit. We have reviewed the reports 1-4 listed above, and consider that sufficient information has been supplied across the documents to conclude that there are no foreseeable barriers to the technical feasibility of the project.

3.0 CONCLUSION

We have reviewed the four documents, listed in section 2.0 of this report, and between them there appears to be sufficient information to conclude that there are no foreseeable barriers, with regards to space allocation and technology feasibility, to the proposed oxyfuel power plant with carbon capture.

Please, note that although we have used the Environmental Permit application documents to aid this decision, this decision has no bearing on our separate determination of the application for the Environmental Permit.

Simon Paterson BSc CEng MChemE
Principal Permitting Officer
National Permitting Service
The Environment Agency
May 2015