

## **Tees CCPP Project**

### **The Tees Combined Cycle Power Plant Project**

### **Land at the Wilton International Site, Teesside**

### **Applicant's Response to the Examining Authority's Information Requests**

### **Examination Deadline 7**

### **The Planning Act 2008 (as amended)**



**Applicant:** Sembcorp Utilities (UK) Limited  
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## GLOSSARY

<b>Abbreviation</b>	<b>Description</b>
AGI	Above Ground Installation
AIL	abnormal indivisible loads
AIL	abnormal indivisible loads
AOD	above ordnance datum
AQMA	Air Quality Management Areas
ASI	Accompanied Site Inspection
BAT	Best Available Techniques
BCA	Bilateral Connection Agreement
BCA	Bilateral Connection Agreement
CAA	the Civil Aviation Authority
CCR	Carbon Capture Readiness
CCS	Considerate Constructors Scheme
CCS	Considerate Constructors Scheme
CEA	cumulative effects assessment
CEMP	Construction Environmental Management Plan
CEMS	Continuous Emission Monitoring System
CEMS	Continuous Emission Monitoring System
CHP	Combined Heat and Power
CL	Critical Load/Level
CoCP	Code of Construction Practice
ConsAg	Construction Agreement
CTMP	Construction Traffic Management Plan
CTMP	Construction Transport Management Plan
DCO	Development Consent Order
dDCO	draft Development Consent Order
DMRB	Design Manual for Roads and Bridges
EA	Environment Agency
EA	Environment Agency
EM	Explanatory Memorandum
EMF	electromagnetic fields
EN-1	National Policy Statement for Energy
EPC	Engineering, Procurement and Construction
ES	Environmental Statement
ES	Environmental Statement
FRA	Flood Risk Assessment
GLVIA3	Guidelines for Landscape and Visual Impact Assessment, Third Edition
HER	Historic Environment Record
HIA	Health Impact Assessment
HRA	Habitats Regulations Assessment

<b>Abbreviation</b>	<b>Description</b>
HRSG	heat recovery steam generator
HSE	Health and Safety Executive
IAQM	Air Quality Management
ICNIRP	International Commission on Non-Ionising Radiation Protection
IEMA	Institute of Environmental Management and Assessment
LAQM	Local Air Quality Management
LSE	likely significant effects
LVIA	landscape and visual impact assessment
MMP	Materials Management Plan
NCA	National Character Areas
NE	Natural England
NE	Natural England
NGET	National Grid Electricity Transmission Plc
NGG	National Grid Gas
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen
NPS	National Policy Statement
NPS	National Policy Statement
NTS	National Transmission System
NTS	National Transmission System
PA 2008	Planning Act 2008
PEC/CL	Predicted Environmental Concentration/Critical Load
PEIR	Preliminary Environmental Impact Report
RCBC	Redcar and Cleveland Borough Council
SNR	Strategic Road Network
SPA	Special Protection Area
SPD	Supplementary Planning Document
SWMP	Site Waste Management Plan
SWMP	Site Waste Management Plan
TA	Transport Assessment
TRA	Transmission Related Agreement
TRA	Transmission Related Agreement
TVWT	Tees Valley Wildlife Trust
WFD	Water Framework Directive

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## **1 INTRODUCTION**

### **Overview**

- 1.1 This document has been prepared on behalf of Sembcorp Utilities (UK) Limited ('SCU' or the 'Applicant') in respect of its application (the 'Application') for a Development Consent Order (a 'DCO'). The Application was accepted for examination by the Secretary of State (the 'SoS') for Business, Energy and Industrial Strategy on 18 December 2017. The 'Examination' began on 10 April 2018.
- 1.2 SCU is seeking a DCO for the construction, operation and maintenance of a new gas-fired electricity generating station with a nominal net electrical output capacity of up to 1,700 megawatts ('MW') at ISO conditions (the 'Project' or 'Proposed Development'), on the site of the former Teesside Power Station, which forms part of the Wilton International Site, Teesside.
- 1.3 A DCO is required for the Proposed Development as it falls within the definition and thresholds for a 'Nationally Significant Infrastructure Project' (a 'NSIP') under Sections 14 and 15(2) of the Planning Act 2008 ('PA 2008').
- 1.4 The DCO, if made by the SoS, would be known as the 'Tees Combined Cycle Power Plant Order' (the 'Order').

### **SCU**

- 1.5 SCU provides vital utilities and services to major international process industry customers on the Wilton International site on Teesside. Part of Sembcorp Industries, a Singapore-based group providing energy, water and marine services globally, Sembcorp Utilities UK also owns some of the industrial development land on the near 810 hectares (2,000 acre) site which is marketed to energy intensive industries worldwide.
- 1.6 SCU owns the land required for the Proposed Development.

### **The Project Site**

- 1.7 The Project Site (the 'Site') is on the south west side of the Wilton International Site, adjacent to the A1053. The Site lies entirely within the administrative area of Redcar and Cleveland Borough Council ('RCBC') which is a unitary authority.
- 1.8 Historically the Site accommodated a 1,875 MW Combined Cycle Gas Turbine power station (the former Teesside Power Station) with the ability to generate steam for utilisation within the wider Wilton International site. The Teesside Power Station ceased generation in 2013 and was demolished between 2013 and 2015.
- 1.9 SCU has identified the Site, based on its historical land use and the availability of natural gas supply and electricity grid connections and utilities as a suitable location for the Project. In summary, the benefits of the Site include:
- brownfield land that has previously been used for power generation;
  - on-site gas connection, supplied from existing National Grid Gas Plc infrastructure;
  - on-site electrical connection, utilising existing National Grid Electricity Transmission infrastructure;
  - existing internal access roads connecting to a robust public road network;
  - availability of a cooling water supply using an existing contracted supply (from the Wilton Site mains) and existing permitted discharge consent for effluent to the site drainage system
  - screening provided by an existing southern noise control wall, approximately 6 m in height;

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- potential for future Combined Heat and Power ('CHP') and Carbon Capture and Storage ('CCS'); and
- existing services, including drainage.

1.10 A more detailed description of the Site is provided at Chapter 3 'Description of the Site' of the Environmental Statement ('ES') Volume 1 (Application Document Ref. 6.2.3).

### **The Proposed Development**

1.11 The main components of the 'Proposed Development are summarised below:

- **Work No. 1** – a natural gas fired electricity generating station located on land within the Wilton International site, Teesside, which includes the site of a former CCGT power station, with a nominal net electrical output capacity of up to 1,700 MWe at ISO Conditions; and
- **Work No. 2** – associated development comprising within the meaning of section 115(2) of the 2008 Act in connection with the nationally significant infrastructure project referred to in Work No. 1.

1.12 Please refer to Schedule 1 of the Draft DCO (Application Document Ref. 2.1) for more detail.

1.13 It is anticipated that subject to the DCO having been made by the SoS (and a final investment decision by SCU), construction work on the Project would commence in around the second half of 2019. The construction of the Project could proceed under one of two scenarios, based on SCU's financial modelling, as follows.

- **'Scenario One'**: two CCGT 'trains' of up to 850 MW are built in a single phase of construction to give a total capacity of up to 1,700 MW.
- **'Scenario Two'**: one CCGT train of up to 850 MW is built and commissioned. Within an estimated five years of its commercial operation the construction of a further CCGT train of up to 850 MWe commences.

1.14 The above scenarios have been fully assessed within the ES.

1.15 A more detailed description of the Project is provided at Schedule 1 'Authorised Development' of the draft DCO (Application Document Ref. 2.1) and Chapter 5 'Project Description' of the ES Volume 1 (Application Document Ref. 6.2.5).

### **The purpose and structure of this document**

1.16 This document forms part of a package of documents submitted by the Applicant for Deadline 7 of the Examination. It sets out the Applicant's response to the Examining Authority's ('ExA') request for additional information set out in the letter dated 05 September 2018– see Section 2 of this report.

## **2 THE APPLICANT'S RESPONSES**

- 2.1 The Applicant's response to the ExA's request for additional information is set out in **Table 2.1** on the following pages.



Table 2.1 – Applicant's Responses to the Examining Authority's Information Requests

NO.	TOPIC	EXA'S REQUEST	APPLICANT'S RESPONSE
1	Designation of Teesmouth and Cleveland Coast as a proposed Special Protection Area (pSPA), proposed Ramsar site and enlarged Site of Special Scientific Interest (SSSI)	<p>The Applicant and Natural England are requested to:</p> <ul style="list-style-type: none"> <li>Comment on the implications for the Habitats Regulations Assessment (HRA) of the formal designation of the Teesmouth and Cleveland Coast as a pSPA and proposed Ramsar site (as well as notification of the enlarged Teesmouth and Cleveland Coast SSSI) during the Examination.</li> </ul> <p>The Applicant is requested to:</p> <ul style="list-style-type: none"> <li>Provide any other information to demonstrate the anticipated impact from the Proposed Development on the proposed Ramsar site and the newly identified qualifying feature of the pSPA (ruff), which are not considered in the No Significant Effects Report [REP1-001]</li> </ul>	<p>The submitted HRA [APP-076] took account of the proposed Teesmouth and Cleveland Coast pSPA, based on information available at that time. However, on the 31 July 2018, Natural England commenced a formal consultation process about the proposals. Additional interest features included ruff and five other wintering bird assemblage species, Along with sand dunes and saltmarsh as habitats supporting the bird species. The existing Ramsar site will also be extended, although the extension will be wholly within the pSPA boundary.</p> <p>An addendum to the HRA has been produced by the Applicant that assesses the effects of the changes referred to above. The addendum (Application Document Ref: 8.60) forms part of the Applicant's Deadline 7 submission. The findings it contains show that the changes to the European designations do not change the overall findings of the original HRA, i.e. that there will be no likely significant effects on any of the European sites affected by the Project, either alone or in-combination.</p>
2	DCO Requirement 4(1)(d), 4(2)(b) and 4(3) - detailed design of the authorised development	<p><u>The scope of the authorised development</u></p> <p>The Secretary of State (SoS) cannot make the DCO without having examined the environmental information and conducting the other activities required by EIA Regulations. The environmental information includes the Environmental Statement (ES) submitted with this application and any other information, or representations made by anybody required or invited to make representations and any representations duly made by any other person about the environmental effects of the development.</p> <p>The assessment of air quality effects within the Applicant's ES and HRA has assessed a stack height of 75 metres (and nothing less) and a stack diameter of 8 metres. The Applicant's assessment is constrained in terms of its approach to the parameters applicable to the stack height and diameter. This approach impedes the SoS's ability to authorise the development to an extent which differs from that assessed. Any assessment which may be carried out by the Environment Agency in relation to the environmental permit cannot substitute the assessment which must be made by the SoS in keeping with his statutory duty under the EIA Regulations (or HRA Regulations).</p> <p>To enable the SoS to lawfully grant development consent in the way prescribed by the draft DCO (ie. a stack of "up to 75" metres and an unspecified diameter) the ExA considers that the applicant would need to assess the impacts of a stack of "up to 75 metres" and put this information into the examination.</p> <p><u>Addressing uncertainty through a requirement</u></p> <p>The Applicant's attention is drawn to:</p> <ul style="list-style-type: none"> <li><i>R. (on the application of Hubert) v Carmarthenshire CC Queen's Bench Division (Administrative Court), 05 August 2015</i> <a href="https://infrastructure.planninginspectorate.gov.uk">https://infrastructure.planninginspectorate.gov.uk</a></li> <li><i>R. (on the application of Midcounties Co-operative Ltd) v Wyre Forest DC Queen's Bench Division (Administrative Court) 27 March 2009</i></li> <li>Section 17 (in particular paragraph 17.3) of the Planning Inspectorate's Advice Note 15 <a href="https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2014/10/advice_note_15_version_1.pdf">https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2014/10/advice_note_15_version_1.pdf</a></li> </ul> <p>The ExA considers that DCO requirement 4 (1) (d) and (2) (b) (detailed design) as currently drafted [REP6-008] may result in the local planning authority (LPA) authorising a change to the development to an extent that is beyond what has been</p>	<p><u>Stack diameter</u></p> <p>The Applicant has considered the position outlined by the ExA and has made appropriate amendments to the draft DCO.</p> <p>There is a need to maintain flexibility in regards the stack diameter on the basis that the final power plant design has not yet been confirmed, as stated in previous submission made by the Applicant. In order to inform the extent of this flexibility an additional stack diameter sensitivity study has been undertaken and forms part of the Applicant's Deadline 7 submission (Application Document Ref: 8.61).</p> <p>The sensitivity study considers dispersion modelling for two 850 MW thermal gas turbines at a stack height of 75 m, and stack diameters of 7.0 m, 7.5 m 8.0 m and 8.5 m, in order to ascertain any variation in environmental impacts with varying stack diameter. The study shows that a stack diameter range of 7.0 m to 8.0 m would not make a material difference to the predicted impacts within the submitted ES, including Volume 1, Chapter 7 'Air Quality' [APP-049].</p> <p>A stack diameter of 8.5 m would lead to an impact at one ecological receptor marginally above the 1% threshold at which process contributions are deemed insignificant. It should be noted that exit velocity of emissions is a function of stack diameter and turbine characteristics (including capacity) which need to be optimised in detailed design. The results of the stack diameter sensitivity study should not therefore be interpreted as implying that smaller stack diameters alone should be adopted in order to reduce air quality impacts.</p> <p>The results support carrying forward a range of stack diameters for an 850 MW turbine whereby the level of air quality impact for the range is below the threshold of insignificant contributions for all protected ecological sites. Requirement 4 of the draft DCO has therefore been amended to account for an internal stack diameter range of 7.0m to 8.0m. An updated draft DCO (track changed version – Application Document Ref: 8.63) has been submitted as part of the Applicant's Deadline 7 submission.</p> <p><u>Stack height</u></p> <p>The Applicant has considered the position outlined by the ExA and has made appropriate amendments to the draft DCO, as follows:</p> <ul style="list-style-type: none"> <li>The stack height in Requirement 4(2) (b) of the draft DCO has been fixed at 75m, subject to Requirement 4(3).</li> <li>Requirement 4(3) has been amended such that the stack height can only be reduced from 75m to the extent that the Applicant is able to demonstrate to the satisfaction of the relevant planning authority in consultation with the Environment Agency that this would not lead to any new or materially</li> </ul>



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		<p>assessed in the ES (in relation to the height and diameter of the stack/s). The proposed new requirement also fails to acknowledge the necessary relationship between what is assessed and examined and what can be authorised.</p> <p>The Applicant is therefore asked to:</p> <ul style="list-style-type: none"> <li>Consider further drafting changes to the DCO in order to fix the stack height and diameter so that it aligns with what has been assessed (for example by amendments to the description of the authorised development in Schedule 1) and to comment on the above points, with reference to the relevant case law as necessary.</li> <li>In relation to requirement 4 (1) (d) and (2) (b), the LPA is asked to comment on whether or not (in its view) it would have jurisdiction to entertain a subsequent application to approve a stack height of less than 75 metres.</li> </ul>	<p>different environmental effects to those already identified in the Environmental Statement.</p> <ul style="list-style-type: none"> <li>The wording in requirement 4(4) has been deleted.</li> </ul> <p>An updated draft DCO (track changed version – Application Document Ref: 8.63) has been submitted as part of the Applicant's Deadline 7 submission.</p> <p>The Applicant considers that the proposed wording appropriately constrains the ability to alter the stack height and would not allow the relevant planning authority to authorise a change which is beyond the remit of what has been assessed in the submitted EIA. This type of wording for a requirement, i.e. to allow a small degree of flexibility, has been accepted in many approved DCOs to date.</p> <p>The Applicant is aware of the inappropriate use of open ended tailpiece conditions (which applies equally to requirement in DCOs) as referred to in the cases listed. We do not consider that the proposed wording falls foul of the 'Midcounties principle'. It is not an open ended requirement to change the stack height and appropriately restricts the basis upon which any change in stack height can be permitted by the relevant planning authority in consultation with the Environment Agency.</p> <p>The Applicant would like to retain some flexibility in stack height pending the final decision on a technology provider, in particular in case there is an opportunity to reduce the stack height further below 75m to address representations made by the local community with regards to the potential visual effects of the Proposed Development.</p>
3	DCO Requirement 13(2)(a)(ii) – noise monitoring specification within the Construction Environmental Management Plan ("CEMP")	<p>With reference to the Applicant's Deadline 5 response to the ExA's second written questions, specifically Question 2.6.1 [REP5-005], the Applicant is requested to:</p> <ul style="list-style-type: none"> <li>amend the drafting of dDCO Requirement 13 (2)(a)(ii) and the draft CEMP [REP6-009] to include specific reference to the two types of construction noise monitoring detailed in the answer to the question.</li> </ul>	<p>The Applicant has updated the documents to refer to the stated guidance.</p> <p>The Applicant has submitted an updated draft CEMP (Application Document Ref: 6.3.20) and updated draft DCO as part of the Deadline 7 submission (Application Document Ref: 8.63).</p>
4	Carbon Capture Readiness Report ('CCR Report')	<p>The Applicant indicated [Q2.0.2, REP5-005] that it would provide a further CCR report/statement at Deadline 6, but to date has not submitted this information. The ExA notes the comments from the Environment Agency (EA) in [AS-028]. Can the Applicant confirm precisely when it intends to submit the required information to the Examination, noting that the EA has advised it will take approximately three weeks for them to review and provide their comments?</p>	<p>The Applicant has provided further information to address the comments made in the letter from the Environment Agency dated 13 September 2018 (Ref: NA/2018/114039/08-L01). The further information covers the following matters:</p> <ul style="list-style-type: none"> <li>Power Output Capacity;</li> <li>Annex C from the Department of Energy and Climate Change guidance entitled "Carbon Capture Readiness (CCR) A guidance note for section 36 Electricity Act 1986 consent applications", as follows: <ul style="list-style-type: none"> <li>C2 – Power Plant Location;</li> <li>C4 – Gas Turbine Operation and Increased Exhaust Pressure;</li> <li>C6 – Steam Cycle;</li> <li>C8 – Compressed Air System;</li> <li>C9 – Raw Water Pre-treatment Plant;</li> <li>C10 – Demineralisation Plant;</li> <li>C11 – Waste Water Treatment Plant; and</li> <li>C12 – Electrical.</li> </ul> </li> </ul> <p>The further information provided to the Environment Agency is set out in a memo prepared by AECOM. The memo (Application Document Ref: 8.64) forms part of the Applicant's Deadline 7 submission. The Environment Agency has since issued a letter dated 21 September 2018 (Ref: NA/2018/114039/09-L01) confirming, in summary, that:</p> <ul style="list-style-type: none"> <li>The Applicant has provided sufficient information to address the Annex C checklist.</li> <li>There are no foreseeable barriers to the technical feasibility of carbon capture plant retrofit for a</li> </ul>

NO.	TOPIC	EXA'S REQUEST	APPLICANT'S RESPONSE
			<p>1,520MW CCGT.</p> <ul style="list-style-type: none"> <li>The Applicant will need to provide further evidence to demonstrate the feasibility of a power plant with a maximum capacity of 1,700MW.</li> </ul> <p>The Environment Agency has therefore proposed a requirement that places a limit on electrical output until such a time that further information is provided to demonstrate that 1,700MW is feasible. The proposed text is set out in the letter dated 21 September 2018 (Ref: NA/2018/114039/09-L01).</p> <p>The Applicant agrees with the principle of using such a requirement, as set out in the letter to the ExA dated 06 September 2018 (Application Document Ref: 8.49). However, the Applicant has proposed a minor amendment to the wording proposed by the Environment Agency, on the basis that it is not possible to attach an informative to a DCO and to ensure consistency with terminology used in the draft DCO.</p> <p>The Applicant's proposed requirement text is as follows:</p> <p><i>“(1) The authorised development must not be operated to generate a net electrical output of more than 1520MWe unless and until sub-paragraph (2) has been satisfied.</i></p> <p><i>(2) The authorised development must not be operated at a net electrical output of more than 1520MWe and up to 1700MWe until the undertaker submits a scheme to demonstrate there is sufficient space within the order limits to comply with the land footprint requirement for the retrofitting of appropriate capture equipment for a generating station with a net electrical output of up to 1700MWe. The scheme shall be submitted to and approved in writing by the relevant planning authority in consultation with the Environment Agency. The scheme shall include as a minimum:</i></p> <p><i>(a) information required by the form “Environment Agency verification of CCS Readiness New Natural Gas Combined Cycle Power Station Using Post-Combustion Solvent Scrubbing,” as outlined in Annex C of the DECC Guidance for a generating station with a net electrical output of more than 1520MWe and up to 1,700MWe; and</i></p> <p><i>(b) details demonstrating how the capture equipment will fit into the space allocated for the plant including the submission of engineering design details.”</i></p> <p>The above has been added as Requirement 29 of the draft DCO. An updated draft DCO (track changed version – Application Document Ref: 8.63) has been submitted as part of the Applicant's Deadline 7 submission.</p> <p>The Applicant is currently seeking agreement with the Environment Agency on the final wording of the proposed requirement and of an agreed position on CCR. It is proposed to submit an agreed and signed Statement of Common Ground with the Environment Agency on or before Deadline 8 – with no matters outstanding.</p>