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Your Ref: EN010082
Our Ref: 12369



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Dear Ms Williams,

EN010082 – THE TEES COMBINED CYCLE POWER PLANT PROJECT – APPLICANT’S RESPONSE TO THE REQUEST FOR COMMENTS FROM THE SECRETARY OF STATE

THE PLANNING ACT 2008 (AS AMENDED) AND THE INFRASTRUCTURE PLANNING (EXAMINATION PROCEDURE) RULES 2010 (AS AMENDED)

I write on behalf of Sembcorp Utilities (UK) Limited (the ‘Applicant’) in response to the queries raised by the Secretary of State (‘SoS’) in his letter dated 4 February 2019 relating to the Tees Combined Cycle Power Plant Project (the ‘Project’).

The letter raises queries in respect of the follows matters:

1. inconsistent reference in application documents to ‘gross’ and ‘net’ electrical capacity, including in the draft Development Consent Order (the ‘draft DCO’) considered during the examination;
2. Habitats Regulations Assessment (‘HRA’) – the Applicant’s In-Combination Assessment; and
3. HRA – effect of air pollutants on extensions to European sites.

The remainder of this letter sets out the Applicant’s response in respect of the above matters (1-3).

Matter 1 – inconsistent reference in application documents to ‘gross’ and ‘net’ electrical capacity, including in the draft DCO considered during the examination

The letter refers to inconsistencies in the references to the electrical capacity of the Project in the application documentation submitted. The letter therefore requests clarity on this matter in order to understand the basis of the Applicant’s Carbon Capture Readiness (‘CCR’) work and other assessments contained in the Environmental Statement (‘ES’) which refer to the electrical capacity of the Project.

In relation to CCR, the letter states the following:

“...the Carbon Capture Readiness Guidance¹: which is applicable to the application, is relevant to applications for generating stations of the type proposed with “an electrical generating capacity at or

¹https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/43609/Carbon_capture_readiness_-_guidance.pdf

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over 300 MW (gross capacity...)² [underlining added]. The Secretary of State therefore considers that the CCR assessment of an application for a generating station made under the Planning Act 2008 would be on the basis of its gross electrical capacity rather than its net capacity so that it is assessed on a worst-case scenario.

In particular, it is noted that Requirement 29 in the draft Development Consent Order submitted at a late stage during the Examination by the Applicant in close consultation with the Environment Agency, would allow construction of a generating station with “a net electrical output of up to 1,700MWe”. It would also impose an operational restriction, stating that the generating station “must not be operated at a net electrical output of more than 1520MWe until such time as the Applicant can 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 [underlining added].”

In light of the above, the letter requests that the Environment Agency confirms the basis for its assessment of CCR requirements to enable the SoS to consider whether Requirement 29 is appropriately drafted and suitable for inclusion in the DCO. Furthermore, that the Applicant may also wish to comment.

The Applicant’s response is as follows:

The draft DCO [REP8-009] is correct in referring to ‘nominal net electrical output capacity of up to 1,700 MWe’. Where documents produced by the Applicant refer to ‘gross’, this is a drafting error and ‘net’ should have been used when referring to the electrical capacity.

In relation to the ES, the only areas where this matter has relevance is the assessment of air quality effects and undertaking the HRA. The basis of the assessment in the ES (which has informed the HRA) can be summarised as follows:

- The output of the Proposed Power Plant is measured in megawatts electric (‘MWe’); the net MWe is the output available for export to the National Grid after parasitic load (e.g. power used for the cooling system) has been subtracted from the gross MWe. The gross MWe is related to the thermal power input (‘MWt’) by the efficiency of the turbines; the numerical value of the MWt is always larger than the corresponding value for the gross MWe. The MWt is determined by the nature and amount of fuel used to fire the turbines.
- It follows that although paragraphs 7.5 and 7.9 of the ES air quality assessment [APP-049] make mention of an output of up to 1,700 MWe, the atmospheric dispersion modelling was based on emissions data for the fuel combustion products that exit the stacks, as provided by a prospective turbine supplier for full-load operation. These input data represent the ‘gross thermal power input’ of the Proposed Power Plant; the numerical values of the net and gross electrical outputs are therefore immaterial to the dispersion modelling results in terms of the air quality effects on people and habitats predicted in the ES.

In relation to the CCR Assessment [APP 039] and information (relating to CCR) provided by the Applicant during the Examination [e.g. REP7-007; REP7-011; REP7-012; REP7-015], it should be noted that the CCR guidance (see footnote 1) for the most part refers to ‘MWe’ without specifically defining whether this is ‘gross’ or ‘net’ output. The only reference to ‘gross’ in the guidance is in regard to the

²<https://www.gov.uk/guidance/consents-and-planning-applications-for-national-energy-infrastructure-projects#carbon-capture-readiness-ccr>

aforementioned 300 MW limit, which the Project is significantly above. It is notable that the guidance also includes reference to ‘net’ when cross-referencing a report³ produced by the International Energy Agency (‘IEA’). There are therefore references to both new and gross, notwithstanding that the guidance refers to neither for the most part.

The Applicant’s CCR calculations, which have been approved by Imperial College London (in relation to document REP7-011), are based on net electrical output. Importantly, this does not impact on the appropriateness of Requirement 29 or the general conclusions set out by the Applicant in respect of CCR. This is because, similar to the atmospheric dispersion modelling in the ES, the CCR assessment work is based on CO₂ emissions data for the fuel combustion products that exit the stacks (provided by a prospective turbine supplier) for full-load operation.

The Applicant’s assessment of the CCR compliance quotes net electrical output figures (pre-abatement) in line with industry and academic practice; however, as the assessment has been undertaken on the ‘gross thermal input’ of the Proposed Power Plant; the net and gross electrical outputs are immaterial to the CCR assessment results. The Applicant has discussed this matter with the Environment Agency, who agree that reference to net in the DCO is acceptable and the drafting in Requirement 29 is suitable.

Matter 2 – HRA – the Applicant’s In-Combination Assessment

The letter refers to the following projects:

- the North Sea Pipelines Ltd (ConocoPhillips) CCGT/CHP facility at Seal Sands, north of the Tees (referred to as the ‘North Sea Pipelines Project’ for the purposes of this letter); and
- the MGT biomass facility south of the Tees (referred to as the ‘MGT Project’ for the purposes of this letter).

The letter queries why the above have seemingly been omitted from the Applicant’s response to the Examining Authority’s second written questions.

The Applicant’s response is as follows:

- The MGT Project is one and the same project as the Tees Renewable Energy Plant referred to by the Applicant. This project has been considered by the Applicant.
- In respect of the North Sea Pipelines Project, it is understood that this project was approved by the SoS under s36 of the Electricity Act 1989 on 22 April 2009. However, the consent was not implemented within the conditioned three-year period and has therefore lapsed. The project has not therefore been considered further.

Matter 3 – HRA – Effect of air pollutants on extensions to European sites

The letter queries why there appear to be increases in the values set out in the HRA Addendum [REP7-004] provided at Deadline 7 of the Examination when compared to those provided in the earlier HRA No Significant Effects Report [REP1-001]. The latter was submitted by the Applicant at Deadline 1.

The Applicant’s response it as follows:

In the ES, the air quality assessment [APP-049] and dispersion modelling presented in the HRA No Significant Effects Report [REP1-001] consider the Teesmouth and Cleveland Coast Special Protection

³CO₂ capture as a factor in power plant investment decisions. 2006/8. IEA, Greenhouse Gas Report

Area ('SPA') and the Teesmouth and Cleveland Coast potential SPA ('pSPA'). The pSPA was an extension to the existing SPA, and the ES assessment was based upon the proposed boundary of the pSPA available at that time.

Of note, the following test of significance (taken from Environment Agency guidance) was used for Annual Mean NO_x:

- Process Contribution ('PC'), PC<1% of the Critical Level ('CL') – insignificant contribution;
- PC>1%, Predicted Environmental Concentration ('PEC') (PC plus baseline), PEC<70% CL – insignificant contribution; and
- PC>1%, PEC>70%CL – potential for likely significant effect so further assessment required.

In the HRA No Significant Effects Report [REP1-001], the highest PC for any point in the pSPA was 0.283µg/m³, and therefore <1% of the CL and insignificant. The baseline used for the Teesmouth and Cleveland Coast pSPA was taken to be the same as the baseline used for the wider Teesmouth and Cleveland Coast SPA. This baseline was 31.8µg/m³ and represented the highest baseline anywhere on the SPA or pSPA, noting that this is a large area. No further spatial refinement of the baseline was necessary as the PC was <1% at the pSPA, therefore baseline and PEC values were irrelevant in determining the potential for a significant effect.

On 5 September 2018 (i.e. post-submission of the DCO application and the environmental hearing during the Examination), the Examining Authority advised the Applicant of formal changes made to the pSPA boundary and an HRA Addendum [REP7-004] was produced for Deadline 7 supported by updated air quality modelling. The baseline review and modelling undertaken for the HRA Addendum considered the revised boundary. The modelling identified that within the revised pSPA boundary the maximum PC was now 0.374µg/m³, which is still >1% of the CL. The area of the pSPA where the PC is >1% was identified as small (as noted in paragraph 1.16 of the HRA Addendum).

To understand whether this impact was potentially significant for the small area where the PC>1%, the baseline specific to this area was identified. This baseline was 19.3µg/m³. Therefore, the PEC <70% of the CL, and therefore the Project is classed as making an insignificant contribution requiring no further assessment.

I trust that this letter provides the information required from the Applicant in order to address the queries set out in the letter dated 4 February 2019. We trust that PINS will inform the Applicant if any further information or clarification is required.

I would be grateful if you could confirm receipt of this letter.

Yours sincerely



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