

## Representation - Draft Modification Report 0498 and 0502

### 0498 - Amendment to Gas Quality NTS Entry Specification at BP Teesside System Entry Point

### 0502 - Amendment to Gas Quality NTS Entry Specification at the px Teesside System Entry Point

Responses invited by: **24 July 2015**

<b>Representative:</b>	Michael Dodd
<b>Organisation:</b>	ESB
<b>Date of Representation:</b>	24/07/2015
<b>Support or oppose implementation?</b>	0498 - Oppose 0502 – Oppose
<b>Relevant Objective:</b>	a) None d) None

**Reason for support/opposition: Please summarise (in one paragraph) the key reason(s)**

We acknowledge the relevant objectives of the modifications, such as increasing GB supply security and reducing reliance on imported gas. We would note, however, that the proposed solution is not the most efficient and economically advantageous solution to the problem discussed. Furthermore, it increases materially the risk for CCGT consumers of gas and creates a potential conflict with maintaining electricity security of supply at efficient cost. In answer to question two we provide reasoning why the changes have adverse impacts on CCGTs.

We believe it is fundamental to safeguard the interests of the wider industry and customer base and facilitate acceptable arrangements for the parties affected. As such, we oppose this modification.

**Implementation:** *What lead-time do you wish to see prior to implementation and why?*

Should the modification be implemented, a significant effort will be required from CCGTs to adapt to the changes and implement necessary control systems to cope with variability in fuel composition. Therefore, it is our view that the lead-time prior to implementation should be sufficient for the wider market.

It is important that the decisions around anticipatory changes are made clear as soon as possible for CCGTs affected by the changes to be able to fully assess the implications of changing technical and commercial requirements.

**Impacts and Costs:** *What analysis, development and ongoing costs would you face?*

As an operator of CCGT stations that are likely to be affected by the changes, we will be required to undertake significant analysis of current systems and specifications in order to ensure the plants can be adjusted to cope with the changes. Firstly, we would need to undertake a sensitivity analysis of the power station to variations in gas composition and identify the relevant impacts of fuel variability on flame dynamics. Current OEM specifications and manufacturer requirements will need to be analysed. Subject to this analysis, the requirements for re-tuning of combustion systems will need to be identified and appropriate control systems would need to be put in place to achieve optimal design for heat input. To achieve this, a thorough technical analysis of combustion performance will be required. Lastly, commercial and operational impacts would need to be assessed in order to get a better view of costs and impacts on the efficiency, flexibility and operability of the plant, such as the expected lifetime of the plant, additional variable costs, changes in carbon emissions and associated costs resulting from a less efficient fuel combustion.

**Legal Text:** *Are you satisfied that the legal text will deliver the intent of the Solution?*

N/A

**Modification Panel Members have requested that the following questions are addressed:**

*Q1: Respondents are requested to quantify any additional costs they would incur as a result of a CO<sub>2</sub> excursion to 4.0 mol% at the Teesside terminal (flow maps are included to help respondents; see figures A2.1 to A2.4 in Appendix 2).*

We broadly agree with the current assessment of cost estimates provided in the report. However, we anticipate that these costs will be higher for any given CCGT. In addition, the costs are likely to differ significantly between old and new technologies.

*Q2: Respondents are requested to quantify any wider benefits/dis-benefits for the UK economy that might be derived from these proposals.*

As stated in the report, each CCGT must be tuned to operate in a particular narrow band of gas composition to maximise efficiency. The proposed changes create a potential for larger fuel composition variation thus impacting the operation and efficiency of many CCGTs within the areas affected. The sensitivities of CCGTs to gas quality vary depending on the OEM specification. Therefore, in addition to a number of technical difficulties such as the possibility of trip events, the plants will also face commercial and market disadvantages vis-à-vis plants that are not affected by the change.

These disadvantages could take a form of lower thermal efficiency, and therefore higher fuel and operating costs as well as lost revenue due to decreased flexibility.

Price competitiveness is critical for CCGT operators in the current market given the changing nature of revenue models.

*Q3: Respondents are requested to quantify the security of electricity supply risk to CCGTs. It would be useful to know how many CCGTs could be affected, when they might be impacted and what flexibility there is elsewhere in the system to accommodate.*

N/A

**Are there any errors or omissions in this Modification Report that you think should be taken into account?** *Include details of any impacts/costs to your organisation that are directly related to this.*

Insert Text Here

**Please provide below any additional analysis or information to support your representation**

Insert Text Here