

## **National Grid Gas Quality Consultation Response Template**

To provide written feedback, please complete this form and by email it to [box.gas.market.devel@nationalgrid.com](mailto:box.gas.market.devel@nationalgrid.com) and [philip.hobbins@nationalgrid.com](mailto:philip.hobbins@nationalgrid.com) no later than Friday 17<sup>th</sup> November 2017. Alternatively, if you wish to provide feedback verbally, please use the contact details above to make arrangements for a meeting / conference call / video conference.

Name: Damian Cairns

Company: Anton Industrial Services Limited

Do you wish National Grid to keep the details of your response confidential? No.

### **Questions for Consultation**

#### **Existing NTS Entry Connections**

1. Do you expect the number of requests by existing NTS entry parties to amend gas quality limits in their Network Entry Agreements (NEAs) that are within GS(M)R but outside GTYS limits to increase in the coming years? Please provide your rationale.

*I have no knowledge in this area.*

2. Do you believe that National Grid's current method of assessment for individual NEA parameter changes is appropriate? If not, how could our approach be improved?

*I have no knowledge in this area.*

3. Which of the NEA change options detailed in section 7.0 for individual limit parameters do you prefer and why? Are there other options that should be considered?

*I have no knowledge in this area.*

#### **New NTS Entry Connections**

4. Do you believe that the process of agreeing gas quality limit parameters for new NTS entry connections requires reform? If so, what changes do you suggest?

*I have no knowledge in this area.*

5. Do you consider that the demand for new NTS entry connections to deviate from GTYS gas quality limits will grow in the future? If so, please provide your rationale.

*I have no knowledge in this area.*

## Generic Questions

6. Where National Grid's ability to agree to higher gas quality limits is limited, e.g. a higher limit could be agreed at one NTS entry point but not more widely due to an impact at NTS exit point(s), how should National Grid manage and allocate the available flexibility?

*I have no knowledge in this area.*

7. Do you support further consideration of National Grid providing gas quality services to process and/or blend at NTS entry points in the RII0-2 period or do you believe that the responsibility to deliver compliant gas should continue to rest with upstream parties? Are there specific projects / locations where this type of service could be valuable?

*I have no knowledge in this area.*

8. If your business is adversely affected by variations in gas quality, how could National Grid help you to manage those issues? (Note: at this stage we are not proposing to publish real-time gas quality data measured at entry points to the NTS).

*An area of concern to our industry (we supply tools and analytical equipment to the domestic heating engineer market) would be a variance in the CO<sub>2</sub> content within mains gas. We supply flue gas analysers used by British Gas and other similar companies and also independent heating engineers. Our instruments measure the O<sub>2</sub> and CO content of the flue gas and from that we calculate the CO<sub>2</sub> and ratio between CO and CO<sub>2</sub>. These parameters are used by the domestic heating engineer to determine if the appliance is operating within the boiler manufacturer's permissible limits which are set to ensure that the appliance is operating efficiently, but more importantly, safely. If the parameters of the products of combustion fall outside of the manufacturer's permissible limits then the appliance must be adjusted (air gas ratio value) or repaired/serviced and retested until it's compliant. Therefore it's vital that these measurements and calculations are accurate and reliable. Our flue gas analysers are serviced and calibrated annually to ensure they're giving consistent readings. In fact our instrument even "locks out" to prevent an engineer using the equipment once it's calibration has expired.*

*There are analysers used in the UK which measure CO and CO<sub>2</sub> and calculate the O<sub>2</sub> and ratio. Our concern is that if there is CO<sub>2</sub> in the mains gas itself, this inert gas will pass straight through and into the flue. An analyser that measures CO<sub>2</sub> will not be able to differentiate between CO<sub>2</sub> from the original mains supply and CO<sub>2</sub> as a product of the combustion process. Therefore from the point of view of setting up an appliance your CO<sub>2</sub> reading will be inaccurate which in turn will also mean a miscalculation in the O<sub>2</sub> reading and the ratio between CO and CO<sub>2</sub>. Therefore telling an engineer that the combustion of an appliance is outside of the manufacturer's recommended parameters which in turn would result in engineers adjusting to a potentially less efficient and/or potentially dangerous condition (in terms of CO production).*

*Talking to the HHIC (the Heating & Hotwater Industry Council) they've explained to me that with the changes in future gas supply then there's likely to be further pressure on current gas quality limits to allow for increases in CO<sub>2</sub> due to (for example) Russian gas*

*sources containing greater proportions of CO<sub>2</sub>. Also, as biomethane contributes increasingly to the mains supply this is also a potential source of greater CO<sub>2</sub> to the grid.*

*What I don't understand (but I believe is very important that from a domestic appliance safety point of view should be understood) is what the impact of using a CO<sub>2</sub> measuring/O<sub>2</sub> calculating flue gas analyser technology could be on the accuracy and therefore safety of setting up an appliance when the CO<sub>2</sub> content of the mains supply is at the upper limit of today's permissible CO<sub>2</sub> concentration (2.9mol% but also the exceptions for Teeside and St Fergus (4.0mol%) and the proposed exception for St Fergus (5.5mol%). It might also be worth understanding what is actually being supplied at the point of delivery to British homes in terms of CO<sub>2</sub> concentration of mains gas, although I appreciate this is a far bigger (and costly) task.*

*My instincts tell me that the variability of CO<sub>2</sub> content in UK mains gas supply from region to region, and potentially even from day to day, is likely to cause an inaccuracy in the CO<sub>2</sub> measuring flue gas analysers but obviously instinct alone is meaningless, but I feel the potential consequences are worthy of further investigation to understand this better and prove or disprove my theory. Increasing CO<sub>2</sub> content in the future will only increase this issue.*

*I would be very happy to offer further information or discuss this subject further if this is something you wish to look further into.*

9. Is there a case to treat smaller connections that Project CLoCC seeks to facilitate differently to larger coastal terminals in respect of gas quality arrangements?

*Not applicable to my concern above.*

10. The GTYS limit for oxygen is 200 times more stringent than that required by GS(M)R (10ppm compared to 2000ppm). Do you anticipate any adverse consequences if the GTYS limit were to be increased?

*As far as I know this would not have an adverse impact on the accuracy of flue gas analysis, but might be worth investigating further if the impact of CO<sub>2</sub> is being considered.*