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Dear Sir

National Grid Transmission Response to the Preliminary Consultation Report on Cost Benefit Assessment of Gas Quality Harmonisation in the EU

National Grid Gas plc (“NGG”) in its capacity as the holder of a gas transporter licence in the respect of the UK’s National Transmission System (“NTS”) welcomes the opportunity to respond to this preliminary consultation.

In this covering letter we set out what NGG believes to be the main issues associated with gas quality harmonisation and, as an annex to this letter, we set out our responses to the specific questions contained within the consultation document.

We believe that an assessment of costs and benefits is a vital information requirement regarding any decision to harmonise gas quality specifications and our views on this, the central remit of the report, are detailed in this submission. However, as a licensed gas transporter, the issue of paramount importance for NGG with regard to any proposal to change prevailing gas quality limits is safety. This is relevant in two contexts – first, the gas we transport must be capable of being safely consumed at the burner tip and second, our pipeline network (and those networks downstream of the NTS) must be capable of safely transporting the gas.

NGG agrees with the observation in the report that a key safety risk in the context of an appliance replacement or adaption programme is the possibility that a number of appliances might be overlooked. With over 165 million domestic appliances and over 15 million commercial / industrial units currently operating in the EU, even with the most stringent management systems for a changeover process, this risk must be considerable. The processing option avoids this difficulty, but is not without its own complexities. Extensive debate took place in the UK between 2005 and 2007 regarding a potential processing solution at the UK’s Bacton entry point to ensure that gas conforming to the EASEE-gas specification but outside the UK specification could be transported into the UK through the IUK pipeline. Fundamental questions about what should be built, who should build and

operate such a processing facility and what the commercial and regulatory arrangements should be proved to be contentious.

Any proposal to introduce wider gas specifications must also take account of the ability of pipeline networks to safely transport wider specification gas. For example, gas with a higher wobbe index would contain a greater proportion of higher hydrocarbons which some pipelines may not be designed to transport whilst retaining an appropriate level of integrity over the longer term. Accommodating increased levels of higher hydrocarbons has the potential to increase the likelihood and impact of a pipeline failure event and would require NGG, and potentially other TSOs, to revisit their risk assessments in this area, possibly leading to pipeline replacement or modification requirements and the associated additional costs and lead-times to achieve compliance.

Acceptance of a wider range of gas composition also has the potential to require replacement or adjustment of the gas quality measurement equipment that is installed on our network. Our current fleet of measurement equipment is subject to regulatory sanction regarding the range of gas composition that it is capable of measuring. If measurement of a wider compositional range were required, the current measurement equipment would need to be tested and failure to perform to the required standards of accuracy would, again, lead to additional costs associated with replacement or adjustment of these assets.

As a general point, if the UK appliance population were to be modified to enable gas that complies with the EASEE-gas specification combustion parameters to be burnt safely, it would still not be acceptable to simply transfer the EASEE-gas parameters into Schedule 3 of the Gas Safety (Management) Regulations 1996 ("GS(M)R"). The combustion parameters of the EASEE-gas specification would unnecessarily exclude some domestic sources of gas. In addition, whilst some of the non-combustion parameters of the EASEE-gas specification (such as water dewpoint) are acceptable in a network entry specification, they become harder to control further down the pressure tiers.

The report states that "there are two primary mechanisms to implement a harmonised specification: retuning, replacement or retrofitting of appliances, and direct gas processing". (Executive Summary, page ii). We agree that these are the two potential approaches available to ensure the free flow of gas at cross border points but would note that only the former would in fact deliver a harmonised specification. The latter would effectively serve as a specification that TSOs could not refuse to admit into their networks but would allow each member state to continue to operate to its own, potentially narrower, specification.

Aside from the significant economic disproportion highlighted by the report in order for the EU to adopt the EASEE-gas specification, we note the additional practical issues that would also need to be addressed in respect of the appliance replacement option. These might be summarised as:

- the limited number of combustion systems that, currently, can operate safely and efficiently over the whole of the EASEE-gas specification;
- the reduced operating efficiency, increased down-time and increased carbon emissions of many appliances when subjected to a wide range of gas qualities;
- the largely unknown performance characteristics of the existing population of installed gas appliances in the EU;

- in consequence of the above, the likely requirement for new appliance designs to handle a wider gas quality specification and the potential adverse consequences for the competitiveness of manufacturers; and
- the availability of a sufficiently skilled workforce to manage the transition.

The report makes clear that the large degree of physical interconnection between member states that we see today belies the fact that these gas grids have been historically developed to accommodate local sources of gas. This explains the variations in national specifications and a situation that is therefore not particularly conducive to a 'one size fits all' specification across the EU. We also note that the appliances of member states currently operate over a fairly narrow range, even where the national specification is relatively wide,¹ which calls into question whether harmonisation would have much practical effect.

Whilst we recognise that sources of gas indigenous to member states will increasingly need to be supplemented by imports from a global market, we consider that normal commercial incentives on upstream parties could still be expected to deliver processing solutions in order to ensure the free flow of gas at interconnection points where required. However, we do recognise there to be a risk about whether such investments would be anticipated far enough ahead in order to be constructed in time.

In considering the question of gas quality harmonisation there is clearly a trade-off between the efficiency of appliances (which require as tight a specification as possible) and flexibility and security of supply for member states (which is best facilitated by a specification that is as wide as possible). We note that the report does not attempt to quantify security of supply benefits but rather limits the benefit to one of reduced cost of gas that harmonisation might deliver and therefore the benefits of harmonisation may be understated.

Although it does not explicitly do so, the report is right to exclude gas blending as a potential approach to the issue. In previous UK gas quality debates, it has been suggested that a TSO could accommodate out of specification gas into its network on a risk assessed basis by blending with another compliant source. In NGG's view, given that a TSO has no control over the availability of the compliant stream and that its unavailability would also render the non-compliant stream unavailable, this method, if employed at all, could only act to supplement a processing solution rather than serve as a solution in its own right.

NGG remains to be convinced that a lack of harmonisation of gas quality specifications among member states does in fact constitute a barrier to the free trade of gas within the EU. We note, for instance, that in some countries such as Spain (where the national specification is wider than the EASEE-gas range), and the UK (where the national specification is narrow but the EASEE-gas combustion parameters would exclude some domestic sources of gas) the adoption of the EASEE-gas specification could act to the detriment of security of supply or otherwise unnecessarily increase gas processing costs.

In summary, NGG agrees with the views of stakeholders as documented in the report that in many cases there is insufficient information available on the potential impacts of harmonisation. The information deficiency that causes us the most concern is the lack of understanding about the

¹ See figure 3.3 on page 6 of the report.

performance characteristics of the currently installed population of gas appliances in the EU. It is our understanding that the work set in train under the CEN mandate M/400 will not remedy this. Given that this translates into uncertainty about whether EU gas consumers could continue to burn gas safely, we agree that any justification in favour of harmonisation should carry a significant burden of proof in this respect. Given the scale of the challenge to achieve such proof and in light of the report's conclusion that a significant net cost is expected to result, NGG is of the view that harmonisation of gas quality to the EASEE-gas specification across the EU should not be pursued and that normal commercial incentives, potentially accompanied by regulatory intervention, should be capable of resolving cross border issues on a case by case basis.

To the extent that there remains a will to pursue harmonisation following the publication of this report, we would suggest that the application of a narrower specification at cross border points should be investigated, with Member States able to retain their national specifications. This would need to be subject to further analysis of costs and benefits but it may be a solution that is capable of delivering some benefits of flexibility and security of supply whilst avoiding many of the issues and costs associated with harmonisation at a wide specification.

Should you wish to discuss any aspect of this response, please contact Phil Hobbins on +44(0)1926 653432 (e-mail philip.hobbins@uk.ngrid.com).

Yours faithfully,

A handwritten signature in dark ink, appearing to be 'Mark Ripley', written in a cursive style.

Mark Ripley (by e-mail)
Regulatory Frameworks Manager

Annex

Consultation Questions

1) Do you agree with the high level conclusions of this report?

NGG agrees with the high level conclusions of this report that a net benefit would not materialise from harmonisation of Europe's gas quality specifications. Whilst we note that the analysis has been based on poor quality data and hence a number of assumptions have had to be made, so great is the discrepancy between costs and benefits, particularly in respect of the appliance replacement option, that we consider it is unlikely that better data would yield a different overall conclusion.

Our view is reinforced by the fact that the high level conclusions of this report are consistent with that of the 'Three Phase Exercise' on UK gas quality that was conducted by the UK Government between 2003 and 2007. This work estimated that the costs of processing / blending imported gas to the UK specification (the 'no change' option) would be £0.4 - £0.5bn compared to the costs of the UK adopting a wider specification, involving a nationwide program of appliance checking and replacement at between £2.2bn and £14.7bn. It arrived at a central case view that there would be a net benefit to the UK of £8bn by virtue of retaining its current national specification as defined in the GS(M)R rather than broadening this specification to one such as the EASEE-gas range.

2) As a manufacturer, do you maintain an inventory of installed appliances?

NGG does not manufacture gas appliances.

3) Are there any specific gas quality related issues not recognised within this report?

NGG has identified two gas quality related issues which the report does not touch on:

- i) The report dwells extensively, and rightly so, on the potential impact of gas quality changes at the burner tip, however, it does not take into account any potential impact on the transmission and distribution pipeline networks of adopting a wider specification.
- ii) There is no mention of gas blending as a solution option, however, in our view, any blending arrangement could at best be regarded as supplemental to gas processing rather than a solution in its own right.

4) Do you manufacture appliances that can operate over the full EASEE-gas specification without loss of efficiency or increased emissions?

NGG does not manufacture gas appliances.

5) Do you have evidence of damage or failures caused by appliance operation on gas that is not compliant with the local gas quality specification?

We do not have any such evidence, although we look forward to the results of the GasQual study in respect of the behaviour of appliances burning different gas qualities.

6) Would you support the adoption of the proposed EUROMOT gas quality specification (Appendix B)?

NGG would not support the introduction of the EUROMOT gas quality specification quoted in Appendix B. We note that there are a few parameters whose specification is tighter than GS(M)R – Total Sulphur, Oxygen and Hydrocarbon Dewpoint – however, the EUROMOT maximum temperature for Water Dewpoint is slightly higher than the GS(M)R limit and there is no mention of Hydrogen, Incomplete Combustion factor or Sooting Index in this specification. We assume that the Wobbe Index proposed under the EUROMOT specification is the EASEE-gas wobbe range and we do not support the introduction of this range for the UK.

7) Are there any specific circumstances that should be assessed in detail?

We do not believe that there are any specific circumstances that should be assessed in more detail.

8) Do you consider that the data used to undertake this analysis is sufficient to support the conclusions presented in this report?

We believe that although the data is acknowledged to be limited, it is nevertheless sufficient to support the conclusions presented in the report for the reason given in our answer to question 1.

We note that one of the inputs for this study has been information from GasQual regarding the domestic and commercial appliance market sector. We assume that this has been derived from GasQual's work looking at the behaviour of different appliances under a range of gas qualities in order to discharge phase 1 of the M/400 CEN mandate. However, we note that GasQual's work is still in progress and believe that the data quality in this report could have been improved if the final results from this work could have been used, which, we understand, was the original intention. Nevertheless, the report is able to state quite clearly that, "there are very few combustion systems that can operate safely and efficiently across the whole of the EASEE gas specification", therefore we doubt that such additional data from GasQual would have materially altered the conclusions of the report.

9) Should significant effort be made to improve the data used in the analysis presented in this report?

In line with our response to question 1, we believe that the headline conclusion of the report would be no different even if perfect data were available, therefore we see little value in pursuing this. We note and concur with the view expressed in the report that the data requirements for a significantly more

detailed study down to an individual asset level would be so immense as to render it potentially impossible to achieve.

10) Do you have access to further data that could (if it were made available) improve the quality of the data used in the analysis presented in this report?

We have limited access to records of gas composition delivered to the NTS from continental Europe. This may not be fully reflective of the gas compositions at these cross border locations now or in the future.

11) Can you provide typical detailed gas composition at cross border points?

Subject to agreement from third parties it may be possible to provide the limited information we receive.

12) If so, can this data be made available (respecting confidentiality as required)?

See 11 above.

13) How should data be collected for such a study?

We do not believe that such a further study is warranted.