

Questions to Ofgem

1 Background Briefing

1.1 Review Group 251

At the meeting of Review Group 251 on 21st September 2009 there was discussion from Belinda Littleton of Ofgem in relation to the question of possible discrimination associated with CV targets for gas entering the grid. It was agreed that the questions should be set out in a note to Ofgem to allow further consideration by Ofgem

1.2 GS(M)R

There is no CV requirement specified in the GS(M)R. Protection to consumers arises from the specification of a Wobbe Number which is an indicator of the burning characteristics of natural gas. Gas entering the grid must have a Wobbe Number in the range 47.20 to 51.41MJ/m³. If they do not meet this requirement then some form of treatment, e.g. propane enrichment, nitrogen ballasting or blending, is required in order to meet the Wobbe number requirements of the GS(M)R.

1.3 CV Shrinkage

Review Group 251 has indicated that under the current rules significant CV shrinkage can occur if gas is introduced to a network at 1MJ/m³ or more below the existing flow weighted average CV in the network. This is because in such circumstances the entire charging zone has to be billed at the lowest source CV plus 1 MJ/m³ rather than the flow weighted average CV (Gas Calculation Of Thermal Energy Regulations)

Although Wobbe number and calorific value are related, it is not possible to equate the Wobbe number range of the GS(M)R with a specific range in calorific value. However, gases from some sources – even after enrichment to meet the Wobbe number requirements of the GS(M)R – will have calorific values considerably lower than that prevailing in the network and are likely to trigger significant shrinkage.

2 Existing entry points

2.1 NTS

The appendix to this note gives the NEA specifications for existing entry points (Milford Haven ones not included as they came after this date but it is believed they have the normal wide CV specification)

The only onshore gas field is believed to be Hatfield Moor

2.2 DN

There are a number of entry points for flows direct into the DN Network:

SGN: Wytch Farm onshore oil field
Isle of Grain LNG facility (boil-off)

Glenamvis LNG Facility (boil-off and regeneration gas)

WWU: Avonmouth LNG facility (boil-off and regeneration gas)

NGD: Partington LNG facility (boil-off and regeneration gas)

Holford gas storage facility in Cheshire

2.3 New Gas Sources

There are a number of potential sources of gas that may enter the NTS and DN networks in the next few years:

Onshore gas fields

These will generally be able to meet the GS(M)R specification with minimal processing and probably without enrichment with propane. Historically CVs of around 39 MJ/m³ have been associated with such fields. Blending may or may not be possible, this will depend on location of the field and gas grid.

Coal Bed Methane

These sources of gas are likely to need some gas processing to meet the GS(M)R (removal of inert gases) and may also require some enrichment with propane in order to meet the Wobbe number requirements of the GS(M)R.

Biomethane

These sources of gas are likely to need some gas processing to meet the GS(M)R (removal of inert gases) and may also require some enrichment with propane in order to meet the Wobbe number requirements of the GS(M)R.

For both biomethane and coal bed methane it may be that a certain amount of inert gas is removed and some propane is added to get to a gas quality that meets the GS(M)R standard. If all inerts (CO₂, oxygen, nitrogen) were removed then the gas would meet the GS(M)R standard as 100% methane. More likely, it may be more economic and efficient to remove CO₂ (but not oxygen and nitrogen) and then add some propane to achieve a Wobbe Number within the GS(M)R range.

3 Questions to Ofgem

- i) a) Is it discriminatory if a Gas Transporter (NTS or DN) requires the producer of the gas to meet the GS(M)R Wobbe number range (47.2 – 51.41 MJ/m³) at the producer's cost by treating the gas (e.g. propane enrichment) if necessary?
b) If discriminatory, is the discrimination due or undue?
- ii) a) Is it discriminatory if a Gas Transporter (NTS or DN) enforces a specific CV such that gas producers are required to ensure, at their cost, that the injected gas is within 1 MJ/m³ of the flow-weighted CV of existing gas in the network, by further enrichment of the gas (e.g. with propane) if necessary, so as to avoid triggering lower billable energy under the Gas Calculation Of Thermal Energy regulations and giving rise to CV shrinkage? (See 1.3 above.) It is assumed in this case that the gas from the producer would meet the GS(M)R Wobbe Number range.
b) If discriminatory, is the discrimination due or undue?

Appendix – extract from Ofgem letter dated 20 September 2004 re Establishing a Gas quality Review Group