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The Joint Office, Relevant Gas Transporters
and other interested parties

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Dear Colleague

Uniform Network Code modification proposal 069 "Amendment of Network Entry Provisions at the European Interconnector sub-terminal at Bacton"

Ofgem¹ has carefully considered the issues raised in the modification report in respect of Uniform Network Code (UNC) modification proposal 069 "Amendment of Network Entry Provisions at the European Interconnector sub-terminal at Bacton"².

Having had regard to the principal objective and statutory duties of the Authority³, Ofgem has decided to direct the relevant gas transporters to implement code modification proposal 069 because Ofgem considers that the proposal will better facilitate the achievement of the relevant objectives of the UNC under Standard Special Condition A11 of the relevant gas transporters' (GT) licences. Ofgem also considers that this decision would be consistent with its wider statutory duties.

In this letter, Ofgem explains the background to the modification proposal and gives reasons for making its decision.

Background to the proposal

Gas Safety (Management) Regulations 1996 (GS(M)R)

The GS(M)R, which are part of the health and safety legislation, set the legal parameters for gas entering into and leaving the GB gas network. These parameters are set to ensure the safe distribution and utilisation of gas. All gas entering the National

¹ Ofgem is the Office of the Gas and Electricity Markets Authority. The terms 'Ofgem' and the 'Authority' are used interchangeably in this letter.

² There are a number of previous proposals related to gas quality issues: 049 "Optional limits for Inert Gases at System Entry Points"; 019 "Amendment of Network Entry Provisions at ConocoPhillips sub-terminal at Theddlethorpe to align with Transco's 10 Year Statement"; 0732 "Amendment of Network Entry Provisions at BP sub terminal West Sole"; 0722 "Amendment of Network Entry Provisions at Hornsea Entry Point"; 0720 "Amendment of Network Entry Provisions at Rough Entry Point"; 0711 "Amendment of the Network Entry Provisions at BP sub terminal at Dimlington"; 0707 "Amendment of Network Entry Provisions at Total E&P UK sub-terminal at St Fergus" 0681 "Amendment of the Network Entry Provisions at ConocoPhillips sub terminal at Theddlethorpe"

³ Set out in Section 4AA of the Gas Act 1986, as amended.

Transmission System (NTS) at either sub-terminals or in some cases specified downstream blending points must comply with these regulations.

Network entry agreements/legacy contracts

National Grid National Transmission System (NG NTS) has its own individual gas quality specifications, which it agrees with the relevant sub-terminal operator. At some sub-terminals, these specifications are contained in Network Entry Agreements (NEA) governed by UNC,⁴ or in pre-network code agreements⁵ (so called "legacy" contracts).

Interconnector UK (IUK)

One of the sub-terminals covered by these arrangements is the point at which the IUK gas pipeline connects with the NTS. The IUK pipeline provides a bi-directional link between GB and Continental European energy markets and runs from Bacton in the UK to Zeebrugge in Belgium. IUK Limited is owned by major international energy companies⁶ and is responsible for the safe, clean and efficient operation of the Interconnector pipeline, terminals and associated commercial systems.

Gas quality parameters

Natural gas contains hydrocarbons (methane, ethane, propane, and butane), small quantities of hydrogen, inert gases such as nitrogen and carbon dioxide, and contaminants such as hydrogen sulphide, oxygen and mercury. In the UK, gas appliances are designed and tested to operate on methane. The appliances are tested with this reference gas and some tests are also performed with limit gases. The limit gases⁷ are those which fall at the upper and lower ends of the GS(M)R Group H Wobbe range. The Wobbe index is related to calorific value (CV) and density. The GS(M)R range for the Wobbe number is 47.2 MJ/m³ – 51.41 MJ/m³.

Sulphur

The gas quality parameter related to sulphur content is of particular relevance to this modification proposal. The current IUK specifications contain a limit for total sulphur around 40% of the GS(M)R limit of 50 mg/m³. There is no general requirement to set sulphur quality standards for natural gas from the NTS. During the combustion process, sulphur in the fuel is normally oxidised to form sulphur dioxide⁸. When sulphur (hydrogen sulphide) reacts with copper it causes a chemical reaction often referred to as 'black-dust'⁹.

⁴ Under section I of the UNC, any changes to the Network Entry Provisions (NEPs), measurement provisions and the point or points of delivery, need the written consent of all users who are registered at such a date when the amendment is to take effect. Alternatively, changes to NEPs can be progressed via a modification proposal.

⁵ These agreements were signed primarily by British Gas and the relevant producers at the entry points prior to the introduction of Transco's network code in 1996.

⁶ The present main shareholders are British Gas, ConocoPhillips, Distrigus, ENI, Gazprom and E.ON Ruhrgas

⁷ Limit gases relate to gas falling at the upper and lower end of the group H classification as determined by EN 437 Gas Category H. These limit gases have a Wobbe number of 54.7 MJ/m³ at the higher end and 45.7 MJ/m³ at the lower end. These gases are usually tested to confirm that they will operate safely, if temporary excursions up to these limits occur. It should be noted that it is accepted that "operate safely" can be achieved by controlling shutdown of the appliance in a manner that presents no hazard to the user or surrounding property.

⁸ Under the stoichiometric conditions for natural gas, air:fuel ratio of 10 units air to 1 unit gas, the sulphur in the gas is diluted meaning the sulphur based emissions in the flue gas is reduced.

⁹ The sulphur/copper reaction can form a film of copper sulphide. This film can build up in consumer's appliances and the effect caused when it begins to flake away is often referred to as 'Black Dust'.

Related issue

As part of the 3-Phase Gas Quality Exercise¹⁰, conducted jointly by the Department of Trade & Industry (DTI), The Health and Safety Executive, Ofgem and Department for Environment, Food and Rural Affairs, the DTI published a consultation document relating to the future arrangements for GB's gas quality arrangements¹¹. The DTI is inviting comments by 24 March 2006.

The modification proposal

Modification proposal 069 was raised by NG NTS on 7 December 2005. It proposes to change the gas quality specifications at the European Interconnector System Entry Point at Bacton by increasing the upper Wobbe Number from 51.1 MJ/m³ to 51.41 MJ/m³ (standard), which equates to a change from 54.0 MJ/m³ to 54.25 MJ/m³ (normal). It also proposes to change the total sulphur content from 20.4 mg/m³ (approximately) to 28.4 mg/m³ (approximately) (Standard). This equates to a change from 15 parts per million (PPM) to 30.0 mg/m³ (normal) within the Gas Entry Conditions for the European Interconnector System Entry Point. It is important to note that the upper Wobbe Number and total sulphur content proposed within modification proposal 069 are compliant with GS(M)R specifications.

Respondents' views

This section is intended to summarise the principal themes of the respondents' views and is not intended to provide a comprehensive overview of the responses received.¹²

There were 12 responses to modification proposal 069, all of which were in favour of the modification proposal.

Several respondents, including the proposer, considered that the modification proposal would allow access to larger volumes of gas from Europe, which would help to secure future supplies of gas and to enhance the efficient operation of the system. Some respondents considered that this modification proposal would prevent the GB gas quality parameters acting as a barrier to future gas imports from Continental Europe, as it would result in specifications which would be better aligned with European equivalents. These respondents considered the removal of these barriers to be particularly important, especially as GB becomes more reliant on imported sources of gas. One respondent was also of the view that early adoption of this modification proposal would be beneficial for the GB supply position. Several respondents also agreed with the proposer that this proposal would increase competition between the relevant shippers and suppliers by attracting additional gas supplies to GB.

One respondent supported the proposed changes as they would align the relevant gas quality parameters at the interconnector entry point with the GS(M)R specifications and make the interconnector entry point specifications consistent with specifications at other GB sub-terminals already operating at this limit. Furthermore, the respondent was of the view that the suggested increase in sulphur limit was not extraordinary as there were other sub-terminals that were operating at higher limits.

¹⁰ Background information concerning the 3-Phase Gas Quality Exercise can be found in the Impact Assessment for modification proposal 049 ("Optional limits for Inert Gases at System Entry Points").

¹¹ 'Future arrangements for Great Britain's gas quality arrangements, A public consultation', DTI, December 2005. This was published along with a Partial Regulatory Impact Assessment', DTI, December 2005.

¹² Respondents' views can be found on the Gas Transporters Information Service <https://gtis.gasgovernance.com>

One issue highlighted by several respondents related to the potential environmental and safety effects of the proposed changes to the gas quality specifications. However, in general, respondents were reassured that, given that the proposed upper Wobbe limit and sulphur allowance would remain within the GS(M)R parameters, the proposed changes would have minimal adverse effects on operational safety and the environment and did not see this as a barrier to the proposal. Several respondents considered that the higher sulphur limits could increase sulphur emissions, but were reassured that the Environment Agency had been consulted on the issue and considered that the environmental effects would be small. One respondent also considered that implementing the proposed increases in the upper Wobbe number and sulphur content at the interconnector entry point would not have a significant effect on the typical upper Wobbe number and sulphur content of the gas delivered to customers and as such there should be a low impact on administrative and operational costs and contractual risk.

Several respondents commended the pragmatic and thorough approach adopted by NG NTS during this consultation period. It was considered that this type of modification report allows potential impacts and problems to be aired and a better understanding of the proposal to be gained. One respondent was of the view that future modification proposals needed to include further assessments of the environmental impact (long and short term) of a change in emissions.

Ofgem's view

Having considered the views of respondents and the Panel in relation to the modification proposal, Ofgem considers that modification proposal 069 would better facilitate achievement of the relevant code objectives compared to the existing baseline. Ofgem also considers that modification proposal 069 would be consistent with its wider statutory duties.

The reasons for Ofgem's decision in relation to modification proposal 069 are outlined below. Ofgem considers that it is appropriate to assess this proposal against relevant objectives (a), (b) and (d).

Standard Special Condition A 11 (a) – the efficient and economic operation of the pipeline system to which this licence relates

Ofgem agrees with the views of the majority of respondents who considered that the effect of this modification proposal would be to enable the interconnector sub-terminal at Bacton to accept gas from a wider range of sources than the current parameters allow. This would enable a wider range of potential gas sources, which cannot currently be accessed, to be utilised going forward. While it has not been identified that the current gas quality parameters are actually restricting interconnector flows at present, the proposed changes could enable additional gas to flow to GB in the future. Therefore, Ofgem considers that this modification proposal will at the margin increase available gas supplies. Other things being equal, an increase in available gas supplies in the market would be expected to lead to a reduction in gas prices, which would enhance NG NTS's ability to operate the system in an economic and efficient manner.

Ofgem also agrees with those respondents who considered that this modification proposal would deliver benefits in terms of security of supply, as the availability of additional sources of gas would be expected to reduce the risk of entering a Gas Deficit Emergency. Ofgem recognises that in the event of a Gas Deficit Emergency the NEC can relax gas quality specifications, however, this proposal should result in a reduction in the likelihood of entering an emergency.

Therefore, Ofgem considers that this modification proposal better facilitates the achievement of relevant objective (a) - the efficient and economic operation by the licensee of its pipeline system.

Standard Special Condition A11 (b) - so far as is consistent with (a), the co-ordinated, efficient and economical operation of (i) the combined pipeline system and/or (ii) the pipe line system of one or more other relevant gas transporters

This modification proposal would allow additional sources of supply to flow onto the GB gas network, which would assist the other relevant transporters to better manage their respective systems, leading to a more efficient and economical operation of the combined pipeline system.

Therefore, Ofgem considers that this modification proposal better facilitates the achievement of relevant objective (b) - the co-ordinated, efficient and economical operation of (i) the combined pipeline system and/or (ii) the pipe line system of one or more other relevant gas transporters.

Standard Special Condition A 11 (d) – securing of effective competition between the relevant shippers and suppliers

The modification proposal would allow new gas sources to be flowed to GB, via the European Interconnector, by importers who wish to take advantage of the revision of the gas specifications at the Bacton terminal. Therefore, Ofgem agrees with those respondents who considered that, all things being equal, the modification proposal should facilitate the arrival of new and diverse gas sources that would increase competition between shippers and suppliers.

Therefore, Ofgem considers that this modification proposal better facilitates the achievement of relevant objective (d) - securing effective competition between the relevant shippers and suppliers.

Ofgem's decision

For the reasons outlined above, Ofgem has decided to direct implementation of modification proposal 069.

If you have any further queries in relation to the issues raised in this letter, please feel free to contact Simon Bradbury on 020 7901 7249 or Raihana Braimah on 020 7901 7421.

Yours sincerely



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