

Modification proposal:	Uniform Network Code (UNC) 236: Amendment to PX (TGPP) Limited, Network Entry Agreement		
Decision:	The Authority ¹ directs that this proposal be made ²		
Target audience:	The Joint Office, Parties to the UNC and other interested parties		
Date of publication:	27 January 2009	Implementation Date:	6 February 2009

Background to the Proposal

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

The GS(M)R, which are part of 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 Transmission System (NTS) at either sub-terminals or in some cases specified downstream blending points must comply with these regulations³.

Network entry agreements / legacy contracts

In addition to the GS(M)R, National Grid Gas (NGG) NTS has its own individual gas quality specifications at each entry point, which it agrees with the relevant sub-terminal operator. For some sub-terminals, these specifications are contained in Network Entry Agreements (NEAs). NEAs are subsidiary documents governed by the UNC. However, for other sub-terminals, these specifications are contained in pre-Network Code agreements (so called "legacy" contracts). These legacy contracts were signed primarily by British Gas and the relevant producers at the entry points prior to the introduction of National Grid's Network Code in 1996.

The gas quality specifications contained in these agreements are referenced in the UNC. Under section I of the UNC, any changes to the Network Entry Provisions (NEPs), which include gas entry conditions, 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.

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 GB, 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 gases⁴. The limit gases are those which fall at the upper and lower ends of the GS(M)R Group H Wobbe range. The Wobbe index (WI) is related to calorific value (CV) and density ($WI = CV / \sqrt{\text{relative density}}$). The GS(M)R range for the Wobbe number is 47.20 MJ/m³ – 51.41 MJ/m³.

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

² This document is notice of the reasons for this decision as required by section 38A of the Gas Act 1986.

³ Gas Safety (Management) Regulations 1996 Regulations 2(4) and 8

⁴ Limit gases relate to gas falling at the upper and lower end of the group H classification as determined by EN437 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.

NGG NTS's obligations

NGG NTS has a number of obligations within the GS(M)R, the Gas Act 1986 and its GT licence that are relevant when considering changes to gas quality arrangements at entry terminals. NGG NTS must comply with the GS(M)R when allowing gases to enter its transportation system at either sub-terminals or in some cases specified downstream blending points.

Under section 9 of the Gas Act 1986, NGG NTS must comply, so far as it is economical to do so, with any reasonable request for it to connect to the system and convey gas by means of that system to any premises. In doing so, NGG NTS must avoid any undue preference or undue discrimination in the terms on which it undertakes the conveyance of gas.

Standard Special Condition A6 of the GT licence also states that:

"the licensee shall conduct its transportation business in the manner best calculated to secure that neither –

- the licensee or any affiliate or related undertaking of the licensee, nor
- any gas shipper or gas supplier,

obtains any unfair commercial advantage including, in particular, any such advantage from a preferential or discriminatory arrangement."

Ofgem's statutory duty with regards to gas quality

The principal objective of the Authority is to protect the interests of consumers, wherever appropriate by promoting effective competition⁵. Further, under the Gas Act 1986, "the Authority may with the consent of the Secretary of State, prescribe standards of pressure and purity to be complied with by gas transporters in conveying gas to premises or to pipe-line systems operated by other gas transporters"⁶. In recent years a number of modifications have been approved, which have made changes to gas quality specification, within legacy contractual arrangements at entry points to the requirements within GS(M)R⁷.

The modification proposal

UNC modification proposal 236 "Amendment to PX (TGPP) Limited Network Entry Agreement" was raised by Energy 24, with the support of PX on 5 November 2008. It seeks to align the lower Wobbe limit to that of the GS(M)R by moving it from 48.2 MJ/m³ to 47.2 MJ/m³, reducing the CV low range from 38MJ/m³ to 36.9 MJ/m³ and also reducing the delivery pressure from 75barg to 70barg.

⁵ Section 4AA (1) of the Gas Act 1986

⁶ Section 16 (1) (a) of the Gas Act 1986.

⁷ Details of the these previous modifications, all of which were accepted, are as follows:

- UNC222: "Amendment of Interconnector UK's Minimum Wobbe Limit (November 2008)
- UNC110 "Amendment of PX's Network Entry Agreement" (November 2006)
- UNC069 "Amendment of Network Entry Provisions at European Interconnector sub-terminal at Bacton" (December 2005)
- UNC049 "Optional limits for inert gases at System Entry Points" (September 2005)
- UNC019 "Amendment of Network Entry Provisions to ConocoPhillips sub-terminal at Theddlethorpe to align with Transco 10 year statement" (May 2005)
- Network Code 732 "Amendment of Network Entry Provisions at BP sub-terminal at West Sole Easington" (March 2005)
- Network Code 722 "Amendment of Network Entry Provisions at Hornsea Entry Point" (November 2004)
- Network Code 720 "Amendment of Network Entry Provisions at Rough Entry Point" (October 2004)
- Network Code 711 "Amendment of Network Entry Provisions at Total E&P sub-terminal at Dimlington" (October 2004)
- Network Code 707 "Amendment to the Network Entry Provisions at Total E&P sub-terminal at St Fergus" (August 2004)
- Network Code 0681 "Change to the gas quality parameters at the ConocoPhillips sub-terminal at Theddlethorpe" (July 2004)

UNC Panel⁸ recommendation

At the Modification Panel meeting held on 18 December 2008, of the 8 Voting Members present capable of casting 10 votes, 10 votes were cast in favour of implementing this Modification Proposal.

The Authority's decision

The Authority has considered the issues raised by the modification proposal and the Final Modification Report (FMR) dated 18 December 2008. The Authority has considered and taken into account the responses to the Joint Office's consultation on the modification proposal which are attached to the FMR⁹. The Authority has concluded that:

1. implementation of the modification proposal will better facilitate the achievement of the relevant objectives of the UNC¹⁰; and
2. directing that the modification to be made is consistent with the Authority's principal objective and statutory duties¹¹.

Reasons for the Authority's decision

Ofgem agrees with the conclusion of the Panel that implementation of this proposal will better facilitate the Relevant Objective (d) of the UNC. Ofgem considers the impact of the proposal against the aims of the Relevant Objectives below. Please note that unless directly stated, Ofgem considers the proposal to be neutral against the aims of the Relevant Objectives.

Relevant Objective (d): securing of effective competition between the relevant shippers and suppliers and DN operators.

NGG NTS has confirmed that this modification has no bearing on its Safety Case as the gas flowing will be within GS(M)R limits. It considers that the proposal would increase security of supply and enhance competition by bringing PX into line with the majority of other ASEPs.

There were nine responses to modification proposal 236, eight respondents expressed their support for the proposed modification, with the remaining one offering supportive comments. The respondents in favour of the proposal were of the view that it would enhance security of supply, facilitate the economic and efficient development of new gas supplies and facilitate greater competition between suppliers and relevant shippers.

Three respondents expressed the view that this modification may impact upon CV shrinkage and therefore have financial implications associated with the flow weighted average calorific value (FWACV) methodology, in particular the capping arrangements. However, they did not consider that this should prevent the proposal from being approved. Another respondent suggested that its analysis demonstrated that extending the allowable ranges may affect shrinkage levels, however this risk is considered to be low as a result of the existing gas quality limits and historical behaviour of nearby ASEPs.

⁸ The UNC Panel is established and constituted from time to time pursuant to and in accordance with the UNC Modification Rules

⁹ UNC modification proposals, modification reports and representations can be viewed on the Joint Office of Gas Transporters website at www.gasgovernance.com

¹⁰ As set out in Standard Special Condition A11(1) of the Gas Transporters Licence, see: http://epr.ofgem.gov.uk/document_fetch.php?documentid=6547

¹¹ The Authority's statutory duties are wider than matters which the Panel must take into consideration and are detailed mainly in the Gas Act 1986.

Ofgem has noted the concerns raised with respect to increasing CV shrinkage, and hence increasing costs. We consider that this modification proposal, if it were to give rise to additional costs, would not represent a direct cost to Users but a transfer cost, caused by the flow weighted average methodology¹² under regulation 4 of the Gas Calculation of Thermal Energy Regulations 1996 (as amended 1997). If this modification and others of its kind did give rise to additional costs, Ofgem would expect this to be considered by NGG in accordance with its obligations under the Gas Act.

Ofgem has considered the network analysis and notes that if Teesside (PX and BP) flows low CV gas this may trigger the FWACV cap in the Northern distribution network, introducing CV shrinkage. The supporting information confirms that the probability is low and will not present any issues within the medium term. Furthermore, based upon modelling information from NGG, if PX flows at a CV of 36.9 MJ/m³ and the BP Amoco sub-terminal maintains its historical flow and CV levels, then CV shrinkage will not be an issue.

Three respondents also highlighted that strategic consideration may be required in respect of GB gas quality from the cumulative effect of a number of entry specifications being aligned to GS(M)R, and considered that a more fundamental review be initiated across industry.

Ofgem considers that it is important that the longer term issues are addressed to understand and mitigate future gas CV scenarios, not only in the Teesside area, but more holistically. As part of NGG's consultation on the system operation (SO) incentives scheme from April 2009, it has indicated that it will look to take this issue forward via the appropriate workstream. However, in order to enable this to be effective it is necessary for gas distribution owners to also be involved in this process. Ofgem would welcome this initiative and would urge distribution and transmission companies to work with shippers via a workstream to identify a way forward. As a part of the review Ofgem would like to understand the impact upon CV shrinkage if the remaining terminals¹³ were to move from the levels set out within their legacy contracts to those required by GS(M)R.

One respondent considered that the gas quality at PX should be closely monitored given the safety related implications. Two respondents requested that the impact of lowering the operating pressure to 70 barg be further considered with respect to capacity and safety concerns.

Based upon information received from NGG, the transmission pipeline in the Teesside area has not breached the 70barg maximum operating pressure (MOP) over the past gas year. It is also worth highlighting that under normal operating conditions the pressure in the pipeline would not exceed the MOP of 70barg, however IGE/TD/1¹⁴ does permit breaches of the MOP as long as:

- The maximum Incidental Pressure is not exceed (which is 77barg for 70barg systems)
- Does not endure for more than 5 hours each
- Does not endure for more than 20 hours per year

¹² FWACV requires that the average calorific value be used for a charging area, but it subject to a cap to a maximum of 1 MJ/m³ above the lowest calorific value of gas being transported in the area. The GT must use the lower of either, the flow weighted average calorific value or a figure obtained by adding one mega joule per cubic metre to the lowest CV flowing into the charging area.

¹³ <http://www.ofgem.gov.uk/Markets/WhIMkts/CompanEff/GasQual/Documents1/8395-21904.pdf>

¹⁴ Institute of gas engineers and managers (IGEM) recommendations document "Steel Pipelines for High Pressure Gas Transmission".

Such breaches would only occur under exceptional operational circumstances and National Grid must inform the HSE and Ofgem of any breaches if and when they occur.

Ofgem has considered whether there is any undue discrimination as a result of changing the gas quality standards by this modification proposal. As stated above, NGG NTS has provided network analysis to demonstrate that there would be no negative impact on CV shrinkage in the medium term as a result of reducing the Wobbe Index and CV.

Based on the information received from NGG NTS, Ofgem considers that there are unlikely to be any direct costs incurred by NGG NTS or Users as a result of implementing this modification proposal, as such Ofgem does not consider that the proposal raises any issues of discrimination.

Ofgem is of the view that the modification proposal would secure greater flexibility in the Teesside area and may facilitate a wider range of potential gas sources than the current parameters permit into GB. Ofgem considers that by enabling these sources of gas to come on stream this would therefore increase competition between shippers which could, other things being equal, lead to downward pressure on gas prices. Therefore, Ofgem considers that this modification proposal better facilitates achievement of relevant code objective (d).

Other considerations

The longer term GB gas quality requirements and specifications may be revisited; therefore this decision should not be seen as setting any precedent for the future.

Whilst it is open to parties to raise gas quality modifications, any such modification proposals must be assessed on a case by case basis. This is necessary to determine whether any modification that seeks to change gas quality limits impose costs. As a general principle, Ofgem would note that if any modification proposals were likely to impose significant costs on NGG NTS's system and therefore ultimately customers, Ofgem considers that it could be appropriate for these costs to be charged back to those parties causing the costs to be incurred.

Decision notice

In accordance with Standard Special Condition A11 of the Gas Transporters Licence, the Authority, hereby directs that modification proposal UNC 236: Amendment to PX (TGPP) Limited, Network Entry Agreement be made.



Ian Marlee
Director, Trading Arrangements

Signed on behalf of the Authority and authorised for that purpose.