

Modification proposal:	Uniform Network Code (UNC) 607: Amendment to Gas Quality NTS Entry Specification at the St Fergus NSMP System Entry Point		
Decision:	The Authority ¹ directs this modification be made ²		
Target audience:	UNC Panel, Parties to the UNC and other interested parties		
Date of publication:	27 February 2018	Implementation date:	To be confirmed by the code administrator

Background

This modification proposes to implement an increase in the carbon dioxide limit (CO₂) within the Network Entry Agreement (NEA) at the North Sea Midstream Partners (NSMP) sub terminal at St. Fergus between National Grid Gas (NGG) plc and NSMP Ltd.

The modification aims to facilitate continued production from the Rhum gas field; gas flows from Rhum can have a relatively high CO₂ content and are blended with Norwegian gas via the Vesterled Pipeline in order to meet the existing CO₂ limit. This will also ensure continued production from the Bruce field which requires Rhum gas flows in order to be cost effective.³

The following institutional and regulatory arrangements provide context for Ofgem's decision on UNC607:

- **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 transportation, distribution and utilisation of gas. All gas entering the NTS either at sub-terminals or in some cases specified downstream blending points must comply with these regulations.⁴ The GS(M)R sets no specific limit for CO₂ content.
- **Network entry agreements (NEAs).** In addition to the GS(M)R, NGG 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 NEAs. The gas quality specifications contained in these agreements are referenced in the UNC and are part of the Network Entry Provisions (NEPs). NEAs are subsidiary bilateral documents, elements of which fall within the UNC framework. Section I of the Transportation Principal Document of the UNC specifies a generic upper limit for carbon dioxide, namely that "*the limit shall be not more than 2.5% (molar)*". Under section I, any changes to the NEPs, including those to exceed this generic upper limit, need the written consent of all users at the relevant System Entry Point (SEP) at such a date when the amendment is to take effect. Alternatively, as in this instance, it is possible to progress changes to NEPs via a UNC modification proposal.⁵ Several major

¹ References to the "Authority", "Ofgem", "we" and "our" are used interchangeably in this document. The Authority refers to GEMA, the Gas and Electricity Markets Authority. The Office of Gas and Electricity Markets (Ofgem) supports GEMA in its day to day work. This decision is made by or on behalf of GEMA.

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

³ Rhum helps cover the cost of operating the Bruce Platform through which gas flows from the Rhum and Bruce fields are transited.

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

⁵ The change is made to the NEP of the NEA. The UNC is not modified.

sub-terminals already apply limits for carbon dioxide above that set by Section I. For example, Burton Point and St Fergus' Exxon-Mobil and NSMP sub-terminals, as well as the two Teesside system entry points which allow CO₂ up to 4%.

- **NGG's obligations.** NGG has a number of obligations within the GS(M)R, the Gas Act 1986⁶ and its Gas Transporter licence⁷ that are relevant when considering changes to gas quality arrangements at entry terminals. NGG 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.
- **Ofgem's statutory duty with regards to gas quality.** The principal objective of the Authority under the Gas Act 1986 is to protect the interests of existing and future consumers, wherever appropriate by promoting effective competition.⁸ Further, under the Gas Act 1986, "the Authority may with the consent of the Secretary of State, prescribe (a) 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".⁹ In recent years, a number of modifications to the UNC have been approved by us, which have made changes to gas quality specification at entry points, within legacy contractual arrangements, to make them consistent with the requirements within GS(M)R.¹⁰
- **European Committee for Standardisation (CEN) Standard 16726.** The CEN published its gas quality standard EN16726 in December 2015. Agreement could not be reached on a harmonised range for Wobbe-Index¹¹ but was for all other components including CO₂. Adoption of the standard by member states was voluntary, although the European Commission had already stated its aspiration to see the standard implemented across the EU. An amendment was proposed to the EU Interoperability Network Code to make its implementation legally binding. However due to a number of concerns raised by EU market participants, the Commission announced, at the Madrid Forum in October 2016, that it did not propose to proceed with making the standard legally binding. However, it said it would consider gas quality harmonisation again when further CEN work (to establish a harmonised Wobbe Index range) reaches a conclusion, which is unlikely to be before 2020.

The modification proposal

This is an enabling modification that seeks to facilitate an increase in the carbon dioxide limit within the NEA at the North Sea Midstream Partners (NSMP) sub terminal at St. Fergus between NGG plc and NSMP Ltd. It is proposed to increase the limit from 4mol% to 5.5mol% subject to a cap on aggregate CO₂ and Nitrogen (N₂) at 7mol% until the end of Gas Year 2023/24.

A decision to continue the revised specification beyond this date will be after an objective test to confirm it is still required. A provision will also be incorporated into the NSMP St. Fergus NEA to allow NGG, for the period of time the modification applies, to reduce the CO₂ limit at the NSMP St Fergus Entry Point to a level between 4.0mol% and 5.5mol%. This will apply in the event that another UNC Modification(s) to increase the CO₂ limit is

⁶ Section 9 of the Gas Act 1986.

⁷ Standard Special Condition A6 of the GT Licence.

⁸ Section 4AA (1) of the Gas Act 1986.

⁹ Section 16 (1) (a) of the Gas Act 1986.

¹⁰ Details of previous modifications can be found on the Joint Office website: www.gasgovernance.com.

¹¹ The Wobbe-Index is an indicator of the interchangeability of fuel gases such as natural gas.

approved at another System Entry Point and which NGG would otherwise be unable to accommodate without incurring material cost.

UNC Panel¹² recommendation

At the UNC Panel meeting on 16 November 2017, a majority of the UNC Panel considered that UNC607 would better facilitate the UNC objectives and the Panel therefore recommended its approval.

The Panel agreed with most respondents that this modification should help to maximise gas production from the Rhum and Bruce gas fields and ensure that a significant volume of gas would not be economically prohibited from entering the NTS. It noted that the consensus amongst most respondents is that whilst there might be a slight increase in CO₂ levels, it remains unlikely that gas of 5.5mol% CO₂ would flow into the NTS as a result of implementation of the modification. The Panel also noted that analysis suggests that any potential downstream and operation related impacts should be 'limited' by 'fortuitous' commingling and thereby ensuring that total inerts remain below the 7mol% level.

Our decision

We have considered the issues raised by the modification proposal and the Final Modification Report (FMR) dated 10 November 2017. We have considered and taken into account the responses to the industry consultation(s) on the modification proposal which are attached to the FMR¹³. We have concluded that:

- implementation of the modification proposal will better facilitate the achievement of the relevant objectives of the UNC;¹⁴ and
- directing that the modification be made is consistent with our principal objective and statutory duties.¹⁵

Reasons for our decision

We have assessed the proposal against the UNC relevant objectives below. We consider that the proposal better facilitates achievement of objectives a) and could have a positive impact on objective d) (albeit a limited one). We consider that the proposal is neutral or has no impact on the other relevant objectives of the UNC.

a) Efficient and economic operation of the pipe-line system

The FMR and the Panel considered UNC607 would have a positive impact on this objective as the combined flows of the Bruce and Rhum fields contribute around 5% of GB domestic gas supply which help towards achieving a more efficient and economic operation of the pipeline system. They noted these flows ensure increased utilisation of the existing infrastructure and extend the useful life of existing NTS assets.

¹² The UNC Panel is established and constituted from time to time pursuant to and in accordance with the UNC Modification Rules.

¹³ UNC modification proposals, modification reports and representations can be viewed on the Joint Office of Gas Transporters website at www.gasgovernance.co.uk

¹⁴ As set out in Standard Special Condition A11(1) of the Gas Transporters Licence, available at: <https://epr.ofgem.gov.uk/Content/Documents/Standard%20Special%20Condition%20-%20PART%20A%20Consolidated%20-%20Current%20Version.pdf>

¹⁵ The Authority's statutory duties are wider than matters which the Panel must take into consideration and are in the Gas Act 1986 as amended.

The FMR and Panel also considered extending the production life of the Bruce and Rhum fields allows a wider range of gas onto the NTS and helps mitigate instances of interruption in production flows due to seasonal maintenance.

We have considered the issues raised in the FMR, and the views of respondents and the Panel. We agree that implementing UNC607 would better facilitate economic and efficient operation of the NTS by helping to maintain a diversified gas supply base and continued use of existing NTS capacity.

We note that increasing the CO₂ contractual limit has a potential impact on greenhouse gas emissions. The proposer carried out a carbon cost assessment of the proposal, which indicates that the alternative of installing CO₂ removal equipment would not be cost effective in abating emissions from the NTS system and would result in higher overall net emissions.

d) Securing of effective competition between relevant shippers

The FMR stated that the modification proposal will secure more effective competition between shippers by extending the production life of the Bruce and Rhum fields allowing a wider range of gas into the network and reducing reliance on imported gas. It also considered the modification could help sustain the National Balancing Point as a liquid hub.

The Panel agreed with these views. They also noted that UNC607 would have a positive impact because this modification should improve competition between shippers through maximising available production by avoiding early cessation of the Bruce and Rhum fields, maintaining diversity and reducing reliance on imported gas.

We have considered the issues raised in the FMR, and the views of the respondents and members of the UNC Panel. We agree that the modification proposal could have a positive impact (albeit a limited one) on relevant objective (d) through helping to facilitate a wider range of potential gas sources.

Wider Ofgem considerations and other issues

UNC consultation responses

We note that initial representations and subsequent UNC consultation responses were received from eight respondents, of which seven supported implementing the modification and one who was not in support. Respondents were concerned with a number of issues including the impact on existing commercial arrangements, the impacts on security of supply, and interaction with future CO₂ limit changes at other NTS entry points. Some consultation responses, and the FMR, also provide opinions and information on the potential impacts and costs of higher CO₂ levels in gas supplied to downstream to other NTS points.

One respondent did not support the modification because it argued that this could have an impact on the provision of commercial gas blending services offshore. While we acknowledge the concern of the respondent, we are not sufficiently persuaded that this argument, when set against the analysis contained in the FMR, provides justification for not implementing the modification.

It was also argued that this modification should be considered after the conclusion of NGG's consultation on gas quality. Whilst we welcome this consultation, we do not believe that there is sufficient reason to delay a decision in this instance.

Wider considerations

Workgroup participants believed that there are other considerations, such as the wider UK interest and UK Government Policy. In our decision on UNC498/502 we agreed that there was merit in all gas industry stakeholders considering a more fundamental review of gas quality issues that are outside the remit of Ofgem. We therefore welcome the work that the Institution of Gas Engineers and Managers (IGEM) is undertaking to produce a standard¹⁶ covering UK gas quality to facilitate a change from GS(M)R through its Gas Quality Working Group, and the Energy Networks Association ENA GS(M)R review¹⁷ process. However, we also agree with the FMR that these considerations are beyond the scope of this UNC modification.

Precedent

One question considered by the workgroup was whether any decision taken might set a precedent for other, future, requests at entry points. A similar point had been raised in relation to UNC498/502.

We remain of the view that that it is open to UNC parties to raise gas quality modification proposals, and any such modification proposal will be assessed on a case by case basis on its merits and with respect to the UNC relevant objectives. Therefore, neither the earlier decision on UNC498/502, nor this decision should be seen as setting any precedent for the future.

We note that NGG considered whether implementation of UNC607 would have an impact on its obligations to avoid any undue preference or undue discrimination, for example, if acceptance of the modification meant that other modifications requesting increased levels of CO₂ could not be permitted (because there is a limit as to the amount CO₂ that can be accommodated by the system). NGG considered this, and concluded that it was not an issue at present and if the modification was implemented, it could and will continue to comply with its obligations to avoid any undue preference or undue discrimination. In this regard, we note that information from the Oil and Gas Authority provided to the UNC Workgroup indicated that there are no other high CO₂ fields in prospect for the time being, although it was recognised in the FMR that there remains a possibility that such requests could still arise from upstream parties.

NGG did however express reservation about whether, for the reasons set out above, it could meet requests for similar arrangements from many other parties in the future. To mitigate concerns in this regard, the proposer and NGG agreed conditions within the modification; time limiting the increased level of CO₂, and making it subject to an objective test of continued requirement.

While we do not have visibility of the terms and conditions contained in NEAs (because they are bilateral agreements), in the circumstances of this proposal and on the basis of the information contained in the FMR, there is justification for the modification which, as set out above, helps facilitates achievement of relevant objective (a) and could have a positive impact of relevant objective (d). There is also justification for the conditions included within the proposal (time limiting the increased level of CO₂, and making it

¹⁶ <http://www.igem.org.uk/technical-standards/working-groups/gas-quality.aspx>

¹⁷ <http://www.energynetworks.org/gas/she/gsmrreview2017.html>

subject to an objective test of continued requirement), which were agreed by NGG and the proposer to mitigate possible concerns about the CO₂ level increase, and were supported by most Workgroup participants.

Finally, we note and welcome NGG's recent consultation on its possible approach towards any such future gas quality requests, which derived largely from the issues raised in the UNC607 workgroup concerning how NGG should assess requests to amend gas quality limits in NEAs.

Anticipated impact on gas quality

This modification allows for gas of up to 5.5mol% CO₂ content to enter the NTS at St. Fergus; gas with CO₂ towards the upper limit is considered a remote possibility in the FMR. The overall amount of CO₂ entering the NTS over the life of the Rhum field will remain unchanged, whether the gas is blended with gas of lower CO₂ concentration or allowed to flow unblended. However, if a 'slug'¹⁸ of higher CO₂ gas were to enter the NTS, downstream customers would face any CO₂ cost at that time rather than for the same quantity of CO₂ but over a longer period. Analysis indicates that such a 'slug' could endure for up to 15 hours, under a worst case scenario.

We note the analysis contained in the FMR and agree it demonstrates there is only a limited chance for gas with a high CO₂ volume to enter the NTS. In most cases, gas from Rhum will be comingled sufficiently with other gas sources before it enters the NTS. This should result in gas entering the NTS within the revised contracted CO₂ limit.

Decision notice

In accordance with Standard Special Condition A11 of the Gas Transporters licence, the Authority hereby directs that modification proposal UNC607: Amendment to Gas Quality NTS Entry Specification at the St Fergus NSMP System Entry Point be made.

Natasha Zoe Smith
Head of Gas Systems

Signed on behalf of the Authority and authorised for that purpose

¹⁸ This is a volume of gas which has a step change in CO₂ content which could be associated with a rate of change of the Wobbe Index.