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Modification proposal:	**Uniform Network Code (UNC) 498: Amendment to Gas Quality NTS Entry Specification at BP Teesside System Entry Point (UNC 0498); and UNC502: Amendment to Gas Quality NTS Entry Specification at the px Teesside System Entry Point (UNC502)**		
Decision:	The Authority[1] directs these modifications be made[2]		
Target audience:	UNC Panel, Parties to the UNC and other interested parties		
Date of publication:	25 September 2015	Implementation date:	to be confirmed by the Joint Office

Background

The UNC places contractual requirements on users delivering gas to the National Transmission System (NTS). There is a concern that the current contractual carbon dioxide (CO_2) limit, of 2.9 mol%[3] at the BP Teesside System Entry Point and at the px Teesside System Entry Point is incompatible with the anticipated gas quality specification of some potential new offshore gas developments. In particular the proposed Jackdaw project, which may account for up to about 10% of UK domestic production, may be adversely affected by the current contractual limits.

The following institutional and regulatory arrangements provide context for Ofgem's decisions on UNC498 and UNC502:

- ***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 National Transmission System (NTS) at either 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 CO_2 content.

- ***Network entry agreements***. 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). 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 are under the purview of the UNC. 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 that 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]

[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] This 2.9% limit is not in the UNC but in the Network Entry Provisions in the Network Entry Agreements (these are explained later in the decision) that apply at the BP and px Teesside System Entry Points.
[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.

Several major sub-terminals already apply limits for carbon dioxide above that set by Section I . For example, Burton Point and St Fergus' Exxon-Mobil and Total sub-terminals allow CO_2 up to 4%, while the two Teesside SEPs pertinent to this proposal currently have a CO_2 limit of 2.9%.

- ***NGG NTS's obligations.*** NGG NTS has a number of obligations within the GS(M)R, the Gas Act 1986[6] and its Gas Transporter (GT) licence[7] 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.

- ***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.[11]** In 2007, the European Commission (EC) issued a mandate to CEN to develop a harmonised standard for gas quality. The CEN working group has developed a standard that may limit CO_2 content to 2.5% at network entry points. We expect the standard to be published as a European Standard (EN) by December 2015. The EC has signalled its aspiration to see this standard implemented by all Member States via amendment to legislation. We do not know if this will apply at interconnection points only or across the entirety of networks. If the standard becomes binding in GB in its current form, this may have an impact on future decisions relating to gas quality.

The modification proposals

UNC498 was proposed by BP Gas and UNC502 by px limited. The proposers seek to increase the contractual CO_2 limit from 2.9 mol% to 4 mol%, through modification of the NEPs contained within their respective NEAs in order to facilitate potential new offshore gas developments.

UNC498 proposes to modify the NEA between NGG and Amoco (UK) Exploration Company LLC in respect of the Central Area Transmission System (CATS) Terminal (BP Teesside) at the BP Teesside System Entry Point. UNC502 proposes to modify the NEA between NGG and px (TGPP) Limited at the px Teesside System Entry Point.

The proposers state that the alternative of providing CO_2 removal equipment to ensure that gas entering the NTS at the Teesside SEPs remains within current specifications 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] http://standards.cen.eu/dyn/www/f?p=204:110:0::::FSP_PROJECT,FSP_ORG_ID:38695,6215&cs=1E95E0B2AB2FE827AC0028AFF21E62B81 .

not cost effective, could further impact the economic viability of projects such as the Jackdaw development and would increase the level of overall CO_2 emissions.

As UNC498 and UNC502 differ only in the NEAs they propose to modify, the UNC Panel requested a single Final Modification Report (FMR) that considered both modifications.

UNC Panel[12] recommendation

At the UNC Panel meeting on 20 August 2015, a majority of the UNC Panel voted that UNC498 and UNC502 would better facilitate the achievement of the relevant UNC objectives and the Panel therefore recommended that they should be implemented.

Members of the UNC Panel believed that implementation of UNC498 and UNC502 would further relevant objective a), through helping to maintain a diversified gas supply base and continued use of existing NTS capacity for Teesside entry points. They considered that additional gas supplies to the market may also facilitate marginally more efficient residual energy balancing and the UNC Panel agreed, on balance, that implementation would have positive impacts and be expected to further this relevant objective.

Most UNC Panel members did not agree that implementation would further relevant objective d). Instead they highlighted costs to end users and noted that the new offshore developments are not guaranteed to go ahead.

Our decision

We have considered the issues raised by both of the modification proposals and the FMR dated 20 August 2015. We have considered and taken into account the responses to the industry consultation on both of the modification proposals which are attached to the FMR[13]. We have concluded that:

- implementation of UNC498 and UNC502 will better facilitate the achievement of the relevant objectives of the UNC;[14] and
- directing that UNC498 and UNC502 are 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 facilitates achievement of objective a) and d) and that it is neutral or has no impact on the other relevant objectives of the UNC.

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

NGG has completed an exercise, supported by network analysis, to assess the possible NTS operational risks arising from higher CO_2 levels. NGG indicated that there are no

[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 detailed mainly in the Gas Act 1986 as amended.

known issues with respect to safety and operations and no material issues with existing contractual obligations and cross border flows. The proposal says that a more efficient and economic operation of the pipeline system can be expected, due to an extended utilisation of the existing NTS assets compared to a scenario of potential curtailment of feasible supplies entering at Teesside. Some workgroup participants believed this represented a non-material impact on relevant objective a). We also note that some respondents to the industry consultation assert that no evidence is presented to support the view that increasing or decreasing utilisation at Teesside would result in a net change to the efficient and economic operation of the pipe-line system. However, we agree with the view expressed by members of the UNC Panel that implementation would further the economic and efficient operation of the NTS as a whole. It would do this through helping to maintain a diversified gas supply base and continued use of existing NTS capacity for Teesside entry points. We also consider that the additional gas supplies to the market may facilitate marginally more efficient residual energy balancing.

We note that that increasing the CO_2 contractual limited has an impact on GHG emmissions. We note that the proposers have carried out a carbon cost assessment of the proposal, which indicates that the alternative of installing CO_2 removal equipment would not be cost effective in abating emissions from the NTS system and would result in higher overall net emissions.

Relevant objective d) Securing of effective competition between relevant shippers

Some participants of the Workgroup believed that the modification proposal will secure more effective competition between shippers. They considered it would do this by facilitating additional availability of gas supplies, particularly at times of curtailment of flows during summer shutdowns and that the the proposal would contribute to the overall security of supply position. We note that some respondents think this effect would either be not material or non existent. We note that the majority of the UNC Panel disagreed that it would have positive impacts. However, we agree with those Workgroup participants, respondents and members of the UNC panel who thought that that the modification proposal could have a positive impact (albeit a limited one) in that it may facilitate a wider range of potential gas sources into GB and that these new sources may displace more expensive sources of gas at the margin.

Other issues

Wider considerations

Workgroup participants believed that there are other considerations, such as the wider UK interest and UK Government Policy. Contrary to one response, we do not agree that there are 'conflicting objectives between Ofgem and DECC/government' in this instance. We agree that there is merit in all gas industry stakeholders considering a more fundamental review of gas quality issues that are outside the remit of Ofgem. This could include a cost benefit analysis across the wider GB industry (upstream and downstream) of the impact of changes in gas quality that may result from future gas production projects and the effect of changes to a wide variety of gas quality parameters that may arise from new GB sources of gas supply (shale gas, biomethane etc.). However, we also agree with the FMR that these considerations are beyond the scope of this UNC modification.

Precedent

We note that some respondents are concerned that implementation would enable other sub-terminals more easily to increase the level of CO_2 at their SEPs and hence lead to raised absolute CO_2 levels across the NTS. Conversely, Panel members were concerned that if the potential additional production flows that have triggered these modifications do not materialise, then other parties may be prevented from having the opportunity to utilise the approach set out in these modifications in future. They considered this may place unnecessary barriers to future supplies entering the NTS. However, our view is that it is open to UNC parties to raise any further 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, this decision should not be seen as setting any precedent for the future.

Future legislative / regulatory changes

The longer term GB gas quality requirements and specifications may be revisited (for example by any new binding CEN standard as discussed above) and it is possible that future requirements may impact on this decision if they apply to the whole system. One respondent to the UNC consultation is of the view that we should wait until there is more clarity in how the EC plans to implement the proposed CEN gas quality standard before making a decision. We acknowledge that further potential changes to the UNC are possible as a result of new European legislation. However, we do not consider that in this case future legislative / regulatory changes – including at European level – affect our ability to make a decision on this modification at this time.

Impacts on consumers

We note that initial representations and subsequent UNC consultation responses were received from several large end-users (and a trade association that represents such users). They were concerned that they could be adversely affected either by increases in the absolute levels of CO_2 in the NTS or with regards to the stability and rates of change of gas quality. The FMR and some consultation responses provide information in varying levels of detail on the potential impacts and costs of higher CO_2 levels in gas supplied to combined cycle gas turbines, gas feedstock users and gas storage operators. However, despite the considerable pre-engagement made by the UNC Workgroup (and NGG in particular) over the extensive period in which the modifications proposals have been considered (since May 2014), and the offer by us to aggregate and /or anonymise information, concerns regarding costs have not been sufficiently substantiated or evidenced in the workgroup report.

An initial representation from Gas Storage Operators Group (GSOG) indicated that in its view the implications of the modifications cannot be fully assessed without Front End Engineering Design (FEED) studies and suggested that this should be funded by the party benefitting from the proposed change. Other respondents to the UNC consultation echo the GSOG view and cite the "polluter pays principle". We recognise that there is the potential for there to be direct costs incurred by some large consumers and distribution networks as a result of implementing the modification proposals. However, we are not convinced these possible costs have been substantiated by the evidence presented nor are we convinced that further studies by us would provide further validation of such costs. As a general principle, it could be appropriate for costs to be charged back to those parties causing the costs to be incurred. In this instance though, even if such a mechanism to charge back costs existed, we consider that it would not be appropriate as

none of the large consumers potentially affected would be supplied outside their existing legal and contractual terms. In addition we note that the FMR and the UNC consultation make specific reference to the effect on the Capacity Market[16] but also indicate that there is insufficient evidence to draw a firm conclusion that there is a direct linkage between gas quality variation and an adverse impact on CCGT operation. We therefore do not believe that any additional consideration of impact on the Capacity Market is required for these UNC modifications.

Implementation

The effect of the modifications is that the increased CO_2 limit will apply from 1 October 2020. The proposers suggests that implementation of the modifications (by which they mean amendment to the NEAs to allow for a higher CO_2 limit) takes place at the earliest practical opportunity but no later than 31 March 2017 to enable timely final investment decision-making. We encourage NGG and affected parties to agree appropriate arrangements for timely implementation of contractual changes.

We note that the FMR indicates that some participants of the workgroup believed that if the modification is approved, the increase from 1 October 2020 should not apply if a new development did not come on stream. We also note that several respondents to the industry consultation, including NGG, are of the view that the change to the NEAs should be linked to a clear demonstration of the intention to utilise the new arrangements. We expect NGG to keep this under close review and if appropriate raise subsequent modification proposals, for example if it becomes apparent that that there is no justifiable or demonstrated need for the new CO_2 limit to apply from 1 October 2020 effective date.

Decision notice

In accordance with Standard Special Condition A11 of the Gas Transporters licence, the Authority hereby directs that modification proposals UNC498: Amendment to Gas Quality NTS Entry Specification at BP Teesside System Entry Point and UNC502: Amendment to Gas Quality NTS Entry Specification at the px Teesside System Entry Point be made.

Paul Branston
Associate Partner, Gas Networks
Signed on behalf of the Authority and authorised for that purpose

[16] The government has established the Capacity Market (CM) as part of its Electricity Market Reform (EMR) policy. The EMR is intended to incentivise investment in more sustainable, low-carbon electricity capacity at the least cost for energy consumers; the CM incentivises firm capacity to be made available to the electricity system in times of low availability of intermittent renewable generation. The CM is governed by the Electricity Capacity Regulations 2014 (the Regulations) http://www.legislation.gov.uk/ukdsi/2014/9780111116852/contents and the CM Rules https://www.ofgem.gov.uk/ofgem-publications/95392/20150618ofgemcapacitymarketrulesconsolidated-pdf.