

Modification Report
Optional Limits for Inert Gases at System Entry Points
Modification Reference Number 0049
Version 5.0

This Modification Report is made pursuant to Rule 7.3 of the Modification Rules and follows the format required under Rule 9.6.

1. The Modification Proposal

Following the refinement made by the Proposer in response to the UNC Modification Panel discussion on 15th September the nature and purpose of the Proposal was stated as:

“Transco NTS has received several requests from prospective and existing Delivery Facility Operators seeking to bring gas into the NTS with levels of Nitrogen, Carbon Dioxide and Total Inerts (“inert gases”) that are above the levels set out in A 5.3 of the 2004 Transco Ten Year Statement. The levels requested are consistent with the inert gas limits that EASEE-gas (European Association for Streamlining of Energy Exchange) has recommended in its draft document Common Business Practice (CBP) for “Harmonisation of Natural Gas Quality”. If approved by the EASEE-gas executive, the CBP would provide a voluntary gas specification for transmission system cross border points and EU transmission network entry points.

The UNC provides that the gas quality specifications in an existing Network Entry Provisions can be varied either by agreement of all Users at that entry point or by following the UNC Modification Rules. As a result, a number of Modification Proposals have been raised and implemented which have enabled changes to be made to existing Network Entry Provisions. It is proposed that the UNC is amended to facilitate all Delivery Facility Operators having the option to adopt common limits for the inert gas parameters specified in the table below. Implementation of this Proposal would enable these limits to be introduced at any existing entry point without the need to raise a Modification Proposal in support of each request.

Table 1. Proposed optional inert gas limits

Gas Quality Characteristics	Proposed optional limit
Total Inert Gases	No direct limit
Nitrogen	No direct limit
Carbon Dioxide	Not more than 2.5% (molar)

Obligations with respect to the Gas Safety (Management) Regulations 1996 (GS(M)R) will remain. Therefore, although no direct limits are proposed for nitrogen and total inerts, within this Modification Proposal, the GS(M)R Wobbe Number places indirect limits on these components.

These optional limits could also only be granted at System Entry Points where Transco NTS would not be in breach of any contractual obligations in respect of making compliant gas available at NTS Exit Points.

For clarity, the implementation of these proposed limits for a specific System Entry

Point, if requested by a Delivery Facility Operator, would be through amendment of the relevant Network Entry Provisions.

Specific legal text for this purpose is also required because as currently drafted Section I 2.2.3 contemplates that the Network Entry Provisions may be amended for the purposes of the Code by way of a Code Modification following agreement by the Transporter and the Delivery Facility Operator to amend the Network Entry Provisions in respect of a specific Connected Delivery Facility. However Transco NTS wishes that existing Network Entry Provisions may be amended to permit the new inert gas limits at potentially more than one Connected Delivery Facility. In order to avoid having to raise a new Code Modification each time such amendment is agreed with the relevant Delivery Facility Operator, it is proposed that paragraph 2.2 of Section I is modified so that such amended Network Entry Provisions become effective for the purposes of Code each time such amendment is agreed. Such proposal will apply only in respect of an amendment to inert gas limits.

The Proposal, were it to be implemented, would allow Delivery Facility Operators to request the inert gas limits at System Entry Points at the levels specified in Table 1, thereby facilitating their respective contractual inert gas limits towards a common level. The Proposal would not impose changes for System Entry Points – for example those with entry provisions that permit Carbon Dioxide limits in excess of 2.5% may choose to retain their existing arrangements.”

2. Extent to which implementation of the proposed modification would better facilitate the relevant objectives

The Proposer considered that " this Proposal would, if implemented, better facilitate the following Relevant Objectives as set out in its Gas Transporters Licence in respect of:

- **Standard Special Condition A11 paragraph 1(a)**

“the efficient and economic operation of the NTS pipeline system” by expanding the range of gas sources that could be made available at System Entry Points without gas processing being undertaken upstream of the System Entry Point. This would be expected to increase competition in the provision of gas balancing and other system services that Transco NTS must procure to operate its pipeline system.

- **Standard Special Condition A11 paragraph 1(b)**

“the co-ordinated, efficient and economic operation of the combined pipe-line system” by allowing an increased number of gas sources to flow onto the Total System without gas processing being undertaken upstream of the System Entry Point. This would assist other relevant transporters to better manage their respective systems

- **Standard Special Condition A11 paragraph 1(d)**

“the securing of effective competition between the relevant shippers and relevant suppliers” by: allowing additional UK gas production fields to be brought on stream; enabling additional ullage capacity and enhancing the availability of proven gas supplies at many Connected Delivery Facilities; allowing some Connected Delivery Facility

operators increased scope to process greater quantities of offshore reserves and to extend the life of fields and terminals; and incentivising producers to develop new, proven gas fields with higher inert gas components."

The SME notes that most respondents (including British Gas Trading (BGT) BBL Company (BBL), Gassco, Association of Electricity Producers (AEP), Gasunie Trade and Supply B.V. (GTS), National Grid UK Distribution (NGD), Gas de France ESS (UK) Limited (GdF), Statoil UK Limited (STUK)) each explicitly supported at least one of the Proposer's statements above that implementation of this proposal would better facilitate the relevant objectives.

Northern Gas Networks Limited (NGN) also expressed the view that implementation of this proposal *"similarly satisfies Standard Special Condition A11 (f) in that it avoids multiple Modification proposals to allow each separate request at various entry points."*

BBL stated *"that introducing the modification would enable gas from a greater range of sources to be imported into Britain thus helping to alleviate the forecast supply deficit. BBL also agrees that in widening the sources of gas, competition in Britain would be more effective"*.

GTS stated *"that introducing the modification could enable gas from a greater range of sources to be imported into Britain thus helping to alleviate the forecast supply deficit. GTS also agrees that in widening the sources of gas, competition in Britain could be more effective"*.

STUK stated that *"if implemented this proposal would send positive signals to investors, creating incentives for producers to develop new proven gas fields with higher inert components (including additional UKCS fields), and increase the number of gas sources able to flow to the Total system."*

Gassco suggested that implementation of the Modification Proposal would remove the conflict in CO₂ limits between the Norwegian Continental Shelf (NCS) and the UK so that *"Norwegian supplies would at all times be given access to the UK"*. Additionally, Gassco confirmed that *"if the differential is allowed to remain then gas with CO₂ content in excess of 2.0% but within the NCS specified 2.5% will be denied access to the UK market but will find unhindered access to markets at all other exit points on mainland Europe"*. Gassco also stated that *"the NCS has a regulated specification of 2.5% CO₂. All future field developments, whether enhancements to existing fields or new fields, will take into consideration the downstream market and the potential to be restricted as a result of gas quality challenges. To disregard the EASEEGAS recommendation could have the consequence of failing to meet Standard Special Condition A11, paragraph 1 (d)."*

The SME observes that whilst no respondent argued explicitly that the implementation of this Proposal would not better facilitate any of the relevant objectives, several respondents did raise concerns about the implementation of this proposal. For example, if implementation gave rise to higher proportions of inert gases than would otherwise be the case, this might act to the detriment of some consumers and that due consideration of this should be taken in deciding whether to direct implementation of this Modification Proposal.

3. The implications of implementing the Modification Proposal on security of supply, operation of the Total System and industry fragmentation

The Proposer considered that “implementation of this Proposal would enhance security of supply by allowing Delivery Facility Operators the ability to adopt the inert gas limits proposed in table 1, which would increase the number of gas sources that are able to flow into the Total System.”

The Draft Modification Report sought views from respondents on the extent of additional gas, and its timing, that might be available to the system should this Modification Proposal be implemented.

AEP expressed scepticism that *“importation projects will not go ahead in the absence of this modification”*

However many respondents (including BBL, Gassco, Total Gas and Power Limited (TGP), GTS) supported the Proposer’s view. For example, BBL agreed *“that implementing the Proposal would enhance security of supply in Britain by allowing gas to be imported from a wider range of sources than would otherwise be the case.”* Furthermore Gassco stated that *“if the CO₂ content of gas were to be limited to 2% then there will be occasions where the Langeled pipeline, for example, would be fully compliant in terms of the Gassled specification of 2.5% but not compliant with the UK specification if held at 2%. With a step change between the two connected systems there will be the risk that the gas becomes trapped between the two and interruptions in supply could be the potential outcome. In terms of timing, this situation could arise as early as late Summer 2006.”* Gassco also indicated that *“from a NCS perspective the actual level of CO₂ observed is normally significantly lower than 2.0% and is expected to remain so. However, circumstances can arise, particularly during periods of maintenance and outage where full flexibility is not available and blending becomes restricted. Nevertheless, the CO₂ content will not exceed the [Norwegian] statutory level of 2.5%.”* The SME notes that the Gassco comments imply that unless this Modification Proposal is implemented then there is a risk that Norwegian sourced gas, that potentially might be destined for the GB market might need to be curtailed. It is possible that this might endanger security of supply to the extent that such potential Norwegian gas could not be substituted by gas from other sources.

Gassco also indicated that a similar issue may arise in respect of the Bacton – Zeebrugge Interconnector, although Gassco noted that the effect would depend upon the extent of displacement occurring as a result of Norwegian gas flows which would, in turn, be dependent on how transporters choose to route their gas flows.

BGT noted *“our understanding is that the quantities of gas that would be permitted following this change may be fairly modest but it is not appropriate to exclude such quantities unnecessarily”*.

No quantification as to the extent of additional gas, and its timing, that might be available to the system should this Modification Proposal be implemented has been received.

No respondents identified any adverse consequences related to security of supply, operation of the Total System and industry fragmentation that might arise as a consequence of implementation of this Proposal.

4. The implications for Transporters and each Transporter of implementing the Modification Proposal, including

a) implications for operation of the System:

The Proposer considered that “implementation of this Proposal would allow Delivery Facility Operators the ability to adopt the inert gas limits proposed in table 1, which would increase the number of gas sources that are able to flow into the Total System. This would increase competition in the provision of gas balancing and other system services that Transco NTS must procure to operate its pipeline system.”

The SME notes that no dissent from the above with many respondents explicitly expressing support for the Proposer’s view.

National Grid UK Distribution stated that *“the only aspect which could affect the operation of the system would be if the nitrogen constituent remained within the proposed parameters but exceeded 10% molar. Should this occur, the directed CV measuring equipment owned by Transco – Distribution sampling such gases would be operating outside of the analytical range currently approved by Ofgem. Should this be likely then Transco – Distribution and other similarly-affected Gas Transporters would have to seek approval for a higher nitrogen content.”*

b) development and capital cost and operating cost implications:

The Proposer “did not anticipate incurring any development or capital costs as a consequence of implementing this Modification Proposal.”

AEP noted that *“Transco may expect to incur higher costs from transporting higher levels of inerts around the system both in terms of operating costs eg compressor fuel and potentially capital costs, some assessment of these would inform industry views on this proposal”*.

The SME notes that an increase in inerts does not necessarily increase either operating costs or capital costs.

National Grid NTS sent a letter “Re: UNC Modification Proposal 0049 – “Optional limits for inert gases at System Entry Points” (dated 4 October 2005) to the Modification Panel Secretary which was circulated to the industry by the Joint Office (JO) on the same day. It included an Appendix entitled “Additional information in support of Uniform Network Code Modification Proposal 0049” (“the 0049 clarificatory note”).

The 0049 clarificatory note indicated, in respect of CO₂, that “there is no direct correlation between the presence of carbon dioxide and low CVs” and “at many wells higher levels of carbon dioxide are associated with increased higher hydrocarbon proportions”. Furthermore the note indicates that increased nitrogen levels may result from increased LNG sourced gas but that this gas would have CVs towards the upper ranges of the limits defined by the permitted envelope. Therefore it is not clear that higher inert proportions necessarily imply adverse effects in respect of development, operational and capital costs.

SGN noted that in respect of LNG terminals “nitrogen could be used to ballast beyond current levels effecting the declared CV of the network and the required amount of flat and flexibility capacity”. The CIA response referred to the DTI’s research that has indicated “the cost of injecting nitrogen and carbon dioxide into gas using existing technologies equates to no more than tenths of a pence per therm”.

National Grid NTS has stated that, given the costs, any nitrogen injection into LNG inputs is likely to be consistent with the minimum necessary to bring the gas within the GS(M)R Wobbe Number limits which would imply relatively high CVs. SGN believed “that these are long term effects that can be dealt with at future price control reviews.”

SGN “is also aware of issues regarding LNG liquefaction where inert gases have to be removed above certain levels prior to liquefaction. As the proposer of the modification also operates the LNG facilities in the UK, SGN assumes that this has been taken into consideration and will not require any investment that would be passed back to the industry.”

NGN indicated that “one potential effect of this proposal would be an increase in the molecular weight of transported gas. This may affect the energy required at compressor stations to deliver gas to the network”. NGN also suggested that network operators may wish to “consider any revised weight of gas in its Network Planning tools.”

c) extent to which it is appropriate to recover the costs, and proposal for the most appropriate way to recover the costs:

The Proposer “did not believe that this Proposal, if implemented, requires it to recover any additional costs.”

This view was noted in the responses.

d) analysis of the consequences (if any) this proposal would have on price regulation:

The Proposer “did not believe this Proposal, if implemented, would have any consequences on price regulation.”

5. The consequence of implementing the Modification Proposal on the level of contractual risk of each Transporter under the Code as modified by the Modification Proposal

The Proposer considered that “implementation of this Proposal would have no effect on the level of contractual risk of each Transporter.”

6. **The high level indication of the areas of the UK Link System likely to be affected, together with the development implications and other implications for the UK Link Systems and related computer systems of each Transporter and Users**

The Proposer “did not envisage any impact on the UK Link System if this Proposal were to be implemented.”

7. **The implications of implementing the Modification Proposal for Users, including administrative and operational costs and level of contractual risk**

The Proposer believed that “the typical CV of gas delivered will not appreciably change and therefore does not anticipate any significant increase in the costs of CV shrinkage as a consequence of implementing this Modification Proposal.”

8. **The implications of implementing the Modification Proposal for Terminal Operators, Consumers, Connected System Operators, Suppliers, producers and, any Non Code Party**

Within the Modification Proposal, the Proposer stated that “the implementation of this modification, if Delivery Facility Operators adopt wider inert gas limits, would under most circumstances lead to minimal increases in the levels of Nitrogen and Carbon Dioxide in the gas within the system, and therefore the gas delivered to consumers. However, under extreme scenarios, there could be a modest increase in inerts, for example, where a consumer was close to an entry point at which wider inert gas limits was adopted.”

In the 0049 clarificatory note, National Grid NTS acknowledged that “*the Modification Proposal needs to be considered in the context that implementation may change the pattern and composition of gas flow within the transmission and distribution systems*”. Notwithstanding that “*Transco NTS is only in a position to look at the effects on gas supplies into Great Britain to the extent that responses to the Transporting Britain’s Energy process and discussions with the industry provide us with detailed predictions as to future gas specifications and volumes*”. The 0049 clarificatory note offers some insights into recent gas compositions associated with gas entering the NTS and some information about forecasts of inert levels.

Specifically National Grid NTS indicated that “*the mean average level of carbon dioxide in the NTS is 1.6% and that the mean average levels received at an aggregate terminal level vary between a low of 1.0% and a high of 2.2%*”. National Grid NTS also stated that “*due to a decline in production of UKCS fields with relatively high carbon dioxide and the pending delivery of increased quantities of LNG to the UK, Transco NTS currently forecasts that average levels of carbon dioxide will decline from 1.6% to about 1% by 2010. Even if all anticipated sources of gas that could benefit from a relaxation of carbon dioxide to 2.5% participated, a decline in average levels of carbon dioxide is still forecast.*” In response to statements from Corus and CIA about the CO₂ component forecasts, the SME has established that these projections have been based upon information derived by National Grid NTS having due regard to information provided as part of the Transporting Britain’s Energy (TBE) process and

including information about field gas composition and expected life and delivery patterns.

However, despite the projected fall in average levels of carbon dioxide, the 0049 clarificatory note stated that *“Transco NTS recognises that the Modification Proposal may result in some individual customers at particular locations being potentially exposed to additional levels of carbon dioxide of up to 0.5% (0.5% being the worst case difference between the levels that could be seen today at the majority of sub-terminals, i.e. 2.0%, and the levels that could be seen at such sub-terminals if the Modification Proposal was to be implemented, i.e. 2.5% ”*.

The SME notes that the National Grid NTS argument is based upon the assumption that additional gas supplies will come to the UK irrespective of whether this Modification Proposal is implemented. Supplies entering at relevant entry points with existing contractual limits of 2%, would be expected to be curtailed in the event that the CO₂ content exceeded 2.0%. National Grid NTS therefore assess that the maximum impact of implementation of this proposal in this regard would potentially be up to 0.5% increase in CO₂ content but only in respect of such locations and at such times as curtailment would otherwise be necessary.

Gassco stated that it agreed with *“the Proposers view that the raising of both the CO₂ and inert gases limit would have no significant impact on other parties. From an NCS [Norwegian Continental Shelf] perspective the actual level of CO₂ observed is normally significantly lower than 2.0% and is expected to remain so. However, circumstances can arise, particularly during periods of maintenance and outage where full flexibility is not available and blending becomes restricted. Nevertheless, the CO₂ content will not exceed the [Norwegian] statutory level of 2.5%.”*

It is the SME's understanding that the Proposer's statements in the Modification Proposal were made in the context of changes relative to prospective gas compositions. In the 0049 clarificatory note the Proposer has indicated, for example, that it anticipates that average CO₂ content in gas over the next few years will fall (relative to current levels) regardless of whether this Modification Proposal is implemented.

Several of the responses make reference to potential consumer impacts. The SME infers that it would seem that implementation of the Proposal would have a general beneficial impact in respect of greater gas availability which should be expected to increase competition and security of supply. However several responses suggested some potential downsides in respect of the potential impacts of increased inert levels on particular consumers. The 0049 clarificatory note afforded some insights into National Grid NTS' view of prospective inert gas component levels. The issues associated with consumer impacts are also further considered in Section 11 of this report.

9. Consequences on the legislative and regulatory obligations and contractual relationships of each Transporter and each User and Non Code Party of implementing the Modification Proposal

The Proposer has not identified any consequences in this respect.

10. Analysis of any advantages or disadvantages of implementation of the Modification

Proposal

The Proposer identified the following advantages of implementation:

- allow an increased number of gas sources to be brought into the UK without the need to raise a Modification Proposal;
- allow Delivery Facility Operators to request the inert gas limits as in table 1 without having to raise specific UNC Modification Proposals;
- encourage the movement towards a common playing field in respect of contractual inert gas limits.

BBL agreed with the suggestions made by the Proposer concerning the advantages of implementation of the Proposal. As noted by both BBL and Gassco, the adoption of the EASEE-gas recommendations would also facilitate trading and the competitive markets both in Britain and continental Europe.

BBL believed there would be disadvantages to Britain generally in that there would be greater difficulty in meeting the forecast gas demand if this Proposal were not implemented thus having a detrimental effect on Britain's security of supply with consequential cost implications.

Whilst the Proposer was "unaware of any disadvantages" several respondents (including Chartered Institute of Purchasing and Supply (CIPS), Corus, Chemical Industries Association (CIA) and Total Gas & Power Limited (TGP)) raised some concerns or qualifications. For example, TGP indicated that *"great care has to be taken, to understand the full impact of any proposed changes, both commercially and environmentally."*

Potential downsides identified by respondents are discussed in Section 11 of this report.

11. Summary of representations received (to the extent that the import of those representations are not reflected elsewhere in the Modification Report)

This report reflects the initial views expressed by the Proposer (in the Proposal itself, the Proposer's presentation to the September Transmission Workstream, the Proposer's 0049 clarificatory note the Proposer's response to this consultation. It also reflects the content of 15 other consultation responses.

Corus responded on 28 September asking for additional information to support the responses to this consultation. Corus noted that Transco NTS supplied some further information on 4 October but indicated that it did not feel this permitted sufficient time to analyse and then deliver a comprehensive response prior to the consultation close out on 7 October. Corus stated that it considered further information to fully assess the implications of implementation of the Modification Proposal might be necessary.

The table below indicates respondents and the SME assessment of whether they support implementation of this Modification Proposal.

Responded	Position	Principal comments
British Gas Trading (BGT)	Support	Encourages economic and efficient operation

		of the pipeline system, promotes effective competition and supports security standards
BBL Company (BBL)	Support	Promotes security of supply; step towards common inert gas specifications
Chartered Institute of Purchasing and Supply (CIPS)	Opposed	CIPS indicated that they were prepared to be persuaded of the benefits if “technical issues are insignificant”
Corus	Opposed	Lack of information to justify changes given implications for end-consumers. Implementation seems to be sought with undue haste
Gassco	Support	Enabling proposal to ensure easier access of Norwegian gas to the UK market
National Grid NTS	Support	
Total Gas and Power Limited (TGP) *	Support	Support “qualified”; surprise that changes are being sought ahead of the conclusion of the DTI Gas Quality Exercise Phase II, care needs to be taken to understand commercial and environmental implications
Association of Electricity Producers (AEP)	Support	Support “qualified”; proposal has not been adequately justified nor the requirement for shortened timescales justified
National Grid UK Distribution (NGD)	Support	Potential, but unlikely, effect in respect of CV management equipment but does not outweigh benefits of increased competition arising from range of gases able to enter the system
Gasunie Trade & Supply B.V. (GTS)	Support	Competition in the UK could be more effective and enhanced security of supply
Northern Gas Networks (NGN)	Support	Earlier provision of supplementary information would have enabled more comprehensive response.
Chemical Industries Association (CIA)	Against	Strongly opposed; no identification of costs and benefits to support implementation decision
RWE Npower plc (RWE)	Support	Better facilitates competition in the supply of gas and enhances security of supply
Scotia Gas Networks (SGN)	Support	Support “qualified”; SGN would like LNG importation terminals exempted from these proposals
Statoil UK Limited (STUK)	Support	Promotes competition between shippers and suppliers
Gas de France ESS (UK) Limited (GdF)	Support	Support qualified; suggesting that an impact assessment and a later implementation date might be appropriate
BP	No view*	

DTI	No view*	
DEFRA	No view*	

* Total E&P UK PLC submitted the response on behalf of Total Gas and Power Limited

BP, DTI and DEFRA have responded to the Joint Office (JO) but, regrettably, indicated that they would not be responding within the time allowed by the consultation process. At the time this report was being compiled no responses from these three potential respondents had been received and so their views cannot be reflected within this Final Modification Report.

The SME therefore concludes that 13 out of the 16 respondents who expressed a view are supportive of implementation of this Modification Proposal.

Confidential responses

The JO has also advised the SME that it has received one confidential response indicating opposition to the implementation of the Modification Proposal. No information relating to this response has been communicated to the SME.

A further confidential response was sent to the JO and copied to the SME. This indicated opposition to the Proposal.

Additionally the SME has received supplementary information from one organisation on a confidential basis and which the SME has forwarded to Ofgem. The confidential response included an estimate of the potential scale of Emissions Trading Scheme (ETS) impact associated with a specified increase in CO₂ indigenous levels.

It might be appropriate for the Joint Office and/or UNC Modification Panel to consider whether to suggest an approach for the receipt and subsequent processing of confidential responses to ensure consistency of process.

Specific comments and issues raised by respondents not explicitly addressed elsewhere in this report are discussed below:

Concerns from a consumer perspective

A substantial proportion of comments in the responses not addressed elsewhere in this report reflect concerns about the merits of implementation of the Modification Proposal given the potential for adverse consumer impacts that may offset benefits that might arise from additional gas supply availability. Comments received from CIPS, Corus, AEP and CIA are particularly relevant.

For example CIPS said implementation of the Modification Proposal may

“have detrimental effects on Industrial Users, specifically those sites which are located close to the gas delivery terminals

We are unaware of the size of the “new” extra volumes and indeed have no knowledge of the effects that the additional Carbon Dioxide and other Inert Gases on the Calorific Value of the gas. NGT have assured us that they feel that there should not be a significant change in overall C.V. but we are still concerned about allowing gas, that previously was “unfit for the UK Network”, into the network. We believe that any changes will be most noticeable at or in the vicinity of the Gas Delivery Terminals.

Industry is struggling to meet the Governments emission Controls and additional Carbon Dioxide in gas, albeit an extremely small addition, will possibly result in changes to the gas mix calculation for all industry regarding Carbon Emissions under the Climate Change Levy."

Some specific consumer issues are dealt with separately under four sub-headings; gas entry specifications and fitness for utilisation, timescales for gas quality changes, lack of information to assess implications and carbon emissions:

- Gas entry specifications and fitness for utilisation

CIPS noted that implementation of the proposal might permit gas that *"previously was "unfit for the UK Network" into the network"*. The SME observes that implementation of this Modification Proposal would not allow gas "unfit for the UK Network" onto the system since all gas received would still have to meet the standards established through the Gas Safety (Management) Regulations (GS(M)R). It should be noted that current gas entry specifications at some locations already permit entry to gas without explicit nitrogen limitation and with CO₂ limits in excess of the 2.5% proposed.

A substantial proportion of gas entering the system does not have explicit nitrogen limits; the limit is set indirectly via the GS(M)R requirements. National Grid UK Distribution noted that the GS(M)R *"could permit in theory gases of significantly high nitrogen (around 20% molar), Transco – Distribution consider that this is unlikely to occur in the near future because of the unfavourable economics associated with upgrading of such non-conventional sources of gas. In any case, such gas in principle would still have to be compliant with the requirements of the GS(M)R."*

National Grid NTS has indicated that different gas entry specifications currently prevail, this is a feature that has arisen because of history both before the onshore gas industry was privatised and more recently during the liberalisation process.

The CIA stated that it *"believes that the most equitable solution is to allow system entry points to agree their individual entry requirements with Transco, giving them equivalent access to existing system entry points"*. The SME notes that this might imply a standard CO₂ limit of 4% which, in the context of responses to this consultation, might not be considered by some to be in the interest of consumers.

- Timescales for gas quality changes

Corus noted in the context of better alignment with EASEE-gas proposals *"it was our understanding that DTI had suggested that implementation of any proposals on gas quality would take years. Even if not strictly included in this, the different treatment, in terms of time for consideration and consultation, of what amounts to very similar issues is startling."*

TGP expressed surprise that a *"modification proposal has been raised to change some gas quality parameters (even if these parameters are not needed within GS(M)R although no report has yet been issued establishing technical conclusions and policy decisions by the Gas Quality Exercise Phase II"*. AEP stated *"in the absence of the DTI report Ofgem should consider whether it would be appropriate to undertake an impact assessment to consider the technical, environmental and*

commercial impacts of this proposal on customers”.

The SME notes that the Ministerial position expressed at the Madrid Forum in September 2005 was that “there is no question of the Government recommending to the HSC, who are responsible for the GS(M)R, an **early change** in the UK’s gas quality regulations. The effective choice, for consideration in due course when the results of a number of research exercises are apparent, is expected to be between recommending no change at all versus the option of making no immediate change but **implementing transitional measures** that would provide the **flexibility to introduce a change** in the gas quality specifications at a **later date**, perhaps towards the end of the next decade” (including the DTI’s emphases).

However, it is important to recognise that the changes proposed in this modification are elements that are outside of the GS(M)R limits and so represent an opportunity, subject to appropriate consideration of associated downsides, to permit a relaxation of the gas entry specifications at a number of locations to create opportunities for additional sources of gas to be delivered into the NTS thereby potentially increasing gas availability, competition in gas supply at the NBP and security of supply.

- Lack of information to assess implications

Corus noted that *“Transco NTS suggests that “under **most** circumstances [the modification] would lead to **minimal** increases in nitrogen and carbon dioxide in the gas within the system, and therefore the gas delivered to consumers”.*” (emboldening by Corus)

Corus and other respondents noted that the absence of quantified data made it difficult to assess the merits of this Modification Proposal. AEP noted that *“we are not aware of any entry point specific information on the specification of actual flows that would allow a more informed assessment of the likely impact.”* TGP *“would like to understand better the variations expected in the gas that would be entering the NTS, and the possible effect an increase in inert gases could have on transportation charges. Also the possible increase in CO₂ and its effect on CO₂ emissions needs further review. In line with this we believe it would be beneficial for Ofgem to conduct an impact assessment regarding the possible operational consequences of implementing this modification”.*

National Grid NTS provided further information in the 0049 clarificatory note to better inform respondents.

The SME notes that respondents indicated that it would have been beneficial to highlight current Network Entry Provisions prevailing at each sub-terminal in order to allow sites close to entry terminals to undertake better assessment of the potential implications of implementation of this Modification Proposal. Several respondents noted that it would be appropriate for Entry Specifications, and any revisions, to be published. The SME notes that the 0049 clarificatory note refers to “the table of contractual parameters set out in the Ofgem open letter “Establishing a gas quality Review Group” dated 20th September 2004” which may provide an indication of prevailing gas entry specifications.

The SME notes that respondents have suggested that gas entry specifications should be made available whenever new inputs are connected or gas entry specifications are amended.

- Carbon emissions

Concerns were expressed by respondents about Emissions Trading Scheme (ETS) impacts and specifically the impact on specific gas consumers should indigenous content of CO₂ increase as a result of implementation of the Modification Proposal.

For example, Corus noted that implementation of the Modification Proposal “*could lead to an increase of CO₂ emissions in the UK sufficiently large to warrant further investigation. Certainly if this is the case then UK government should be made aware of any change that is likely to impact its forecast emissions or indeed undermine its climate change policy.*”

RWE “*welcomed the reassurance provided by Transco NTS in their letter of the 4th October that the proposal will not lead to any appreciable increase in carbon emissions.*”

The SME notes that

- o CO₂ emissions associated with the consumption of natural gas arise from two sources; the CO₂ arising from the combustion of hydrocarbons in natural gas and the indigenous CO₂
- o Hydrocarbon combustion generates typically between 98 and 99% of the CO₂ emissions from the consumption of delivered natural gas
- o a CO₂ indigenous proportion of 1.6% typically contributes approximately 1.5% of the CO₂ emissions.

As a first order approximation within the range of gas compositions that are permissible within the GS(M)R then an increase in CO₂ indigenous proportion by x% (with all other constituent relative proportions being unchanged) will result in an approximate x% increase in CO₂ emissions. So for example if the indigenous CO₂ proportion of delivered gas of 1.6% were to rise to 2.0% then the CO₂ emissions associated with the consumption of that gas might be expected to rise by approximately 0.4%.

The SME believes this confirms the concerns raised by respondents about increased carbon emissions but the extent of the potential increase in carbon emissions might be much less than many realise.

Assessing the precise implications for individual offtakes would depend upon the geographical disposition, component distribution over time, and the extent and timing of new sources of gas that might gain access if this Modification Proposal were implemented. Very little information in this respect has been revealed as part of this consultation that would allow precise site-specific assessment of the effect of implementation of the Modification Proposal.

The SME therefore concludes that the overall impacts of implementation of this Modification Proposal on the ETS may be smaller than many commentators might expect.

LNG importation terminal exemption

SGN indicated that “*it would like LNG importation terminals exempted from the mod 49 proposals*”. The Proposer’s intent is to allow any Delivery Facility Operator to

request the optional inert gas limits that would be available in the event of implementation of this Modification Proposal. The SME understands that the Proposer believes this to be appropriate and will not advocate amendment of the Modification Proposal.

Preferred implementation date

The AEP stated that the *“proposal has not been adequately justified nor has the requirement for shortened timescales”*

GdF considered that *“there seems to be no compelling reason to implement this modification hurriedly and given concerns expressed recently about the potential impacts on end user plant and equipment, it is worth Ofgem considering whether it is feasible to conduct an impact assessment prior to any decision”*.

National Grid NTS has consistently maintained that the Proposal’s aim is to enable additional supplies to have potential access to the UK market with a view that this would encourage competition and lead to increased security of supply and/or to keener gas prices. If the Modification Proposal has merit then, particularly given the leadtime associated with contractual negotiations for new gas supplies there may be merits to the market and therefore end-consumers associated with having the earliest possible implementation date.

The SME notes that the UNC Modification Panel did not shorten the consultation period. The Proposer expressed a desire to have a Modification Proposal capable of implementation by 1st November 2005 and the SME has therefore sought, although not obliged, to produce both Draft and Final Modification Reports consistent with achievement of this objective. This Modification Proposal is therefore being progressed using the normal processes and if directed for implementation then Ofgem would determine the implementation date, which could be 1st November 2005 or such later date as Ofgem consider appropriate.

Enabling nature of the modification

The CIA indicates that it *“does not agree with Transco that raising one all-embracing and potentially very costly modification is a sensible alternative to a series of simpler individual modifications”*.

National Grid NTS has stated that it has structured the Proposal so that implementation might avoid the necessity for many individual modification proposals thereby enabling improved economy and efficiency whilst at the same time affording an opportunity, should Delivery Facility Operators see the merit, to move towards a harmonised gas entry specification in respect of inerts. However, changes to the individual contractual arrangements at each sub-terminal would remain necessary.

UNC processes and the role of SME and Proposer

It is important to recognise the separate roles and responsibilities of the SME and the Proposer. The SME acts in accordance with a Code of Conduct, and is appointed by the UNC Modification Panel. The SME is required to follow the Modification Rules, acting on his or her own right rather than as a representative of his or her employer.

The SME requested responses to this consultation by 30 September, a week earlier than the official representation close out date of 7th October.. The intent of this was to afford

opportunity for time to clarify uncertainties in responses to improve the quality of this Final Modification Report (FMR) and to afford time to appropriately present information, both qualitative and quantitative, to better enable a timely and appropriate decision on this Modification Proposal.

The 0049 clarificatory note was issued by the Joint Office (on behalf of the Proposer, National Grid NTS) as soon as it was available. This note was structured to assist respondents but it is not clear that it was essential for respondents to have this document before responses could have been submitted. Some respondents did reply well before the “official” deadline and this was helpful in enabling the production of this FMR, enabling an “early start” which was particularly important given that so many responses did not materialise until the last opportunity as defined by the 7th October close-out date.

The production of the FMR is the responsibility of the SME. The Proposer (National Grid NTS) has indicated a preference for the Modification Proposal to be capable of being implemented by 1st November 2005. The SME has been advised that this could only be achieved, consistent with normal process steps and standard timescales, if the FMR was completed shortly. Given that the Proposer has indicated that the Modification Proposal has been raised to encourage competition and improve security of supply the SME has considered it appropriate to use reasonable endeavours to satisfy the Proposer’s timetable aspirations.

Other than the limitations in respect of time available for the production of the Draft and Final Modification Report this modification has followed normal processes and timetables. The Proposal was considered ready to proceed to consultation by the UNC Modification Panel and the consultation period has been that which is “the standard”; it has in no way been compressed.

NGN indicated *“that it did not support the request to extend the consultation period beyond 7th October”* as requested by Corus. NGN indicated it *“would wish to place on record that representations received post this date, specifically addressing the issues raised within the note of 4th October should be given due consideration by the UNC Modification Panel when assessing representations received.”*. The reference to the 4th October note being what is elsewhere referred to as the 0049 clarificatory note.

Extent of information provision to support implementation decision

The Draft Modification Report sought views as to the potential implications that implementation of the proposal would have upon end-consumers. Both upsides and downsides associated with different customer classes or individual customers should be established to enable an informed decision as to whether to direct implementation of this Modification Proposal. This opportunity was afforded in the consultation process.

Several respondents, notably the CIA *“recognises the risk that the CEF may alter as a result of it [the proposal]”*. The issue of carbon emissions is addressed elsewhere in this report and the potential effects are quantified (at least in percentage terms). It is possible that these effects are different, and perhaps smaller, than many might previously have envisaged. Emissions arising from the combustion of natural gas primarily arise from hydrocarbon content rather than the indigenous CO₂. Uncertainty about future gas composition is not a new issue and is a factor affecting the ETS schemes now. The SME view is that it is by no means clear that these uncertainties

would increase as a result of implementation of this Proposal. The information referenced by, and in this report, might afford some insight into the potential cost impacts associated with implementation of this Proposal that could inform the decision.

The potential impacts associated with nitrogen impacts are far less clear. The CIA state *"an increase in inert gases to 5% will have significant financial impact on chemical feedstock users in the region of tens of millions of pounds per annum"*. It might be appropriate for further explanation of this to be provided to the UNC Modification Panel and Ofgem (and ideally the wider community) to inform the progress of this Modification Proposal and the implementation decision. This might then be used in conjunction with an assessment of the extent and location of nitrogen content changes to assess whether, and if so how much, extra cost might be borne by affected users.

Such information about the potential adverse primary cost impacts associated with emissions and nitrogen effects to relevant consumers might then be considered (in conjunction with other secondary impacts identified elsewhere in this report) against a wider assessment of the benefits of the proposal to all consumers arising from the security of supply and competition advantages generally accepted as would accrue from implementation of this Modification Proposal.

The implementation decision associated with this Modification Proposal would be further facilitated by Ofgem being in possession of quantified evidence of the extent, and timing, of additional gas deliveries that might otherwise not be able to gain access to the GB market if this Modification Proposal was not to be implemented. This information, the provision of which was sought and positively encouraged in the Draft Modification Report, has not been forthcoming within this consultation.

12. The extent to which the implementation is required to enable each Transporter to facilitate compliance with safety or other legislation

The Proposer has not identified any requirement in this respect.

13. The extent to which the implementation is required having regard to any proposed change in the methodology established under paragraph 5 of Condition A4 or the statement furnished by each Transporter under paragraph 1 of Condition 4 of the Transporter's Licence

The Proposer has not indicated that implementation is required to satisfy these conditions.

14. Programme for works required as a consequence of implementing the Modification Proposal

The Proposer has not identified any programme for works.

No systems changes are necessary and so the Modification Proposal is now capable of being directed.

15. Proposed implementation timetable (including timetable for any necessary information systems changes)

The Proposer has expressed a desire to have a Modification Proposal capable of implementation by 1st November 2005.

The SME therefore records his appreciation to BGT, CIPS, BBL and Corus who provided either early responses or an indication of their responses content before the 30th September, as requested in the Draft Modification Report. This permitted an early start on the preparation of some parts of this report.

16. Implications of implementing this Modification Proposal upon existing Code Standards of Service

The Proposer has not identified any implications in this respect.

17. Recommendation regarding implementation of this Modification Proposal and the number of votes of the Modification Panel

At the Modification Panel meeting held on 20 October 2005, of the 9 Voting Members present, capable of casting 10 votes, 8 votes were cast in favour of implementing this Modification Proposal. Therefore the Panel recommend implementation of this Proposal.

18. Transporter's Proposal

This Modification Report contains the Transporter's proposal to modify the Code and the Transporter now seeks direction from the Gas & Electricity Markets Authority in accordance with this report.

19. Text

UNIFORM NETWORK CODE - TRANSPORTATION PRINCIPAL DOCUMENT SECTION I - ENTRY REQUIREMENTS

Paragraph 2.2.3 amend to read as follows:

2.2.3 “Where:

- (a) the Transporter and the relevant Delivery Facility Operator have agreed (subject to a Code Modification) upon an amendment to any such Network Entry Provisions, such Network Entry Provisions may be amended for the purposes of the Code by way of Code Modification pursuant to the Modification Rules;
- (b) in respect of any Connected Delivery Facility, the Transporter agrees to a request by a Delivery Facility Operator to amend the Network Entry Provisions to contain revised Inert Gas Limits (without prejudice to any other conditions that have been agreed by the Transporter with the Delivery Facility Operator), then on the date of such agreement the Network Entry Provisions will be amended for the purposes of the Code;

and for which purposes only the Network Entry Provisions shall be deemed to form part of Code.”

Add paragraph 2.2.7 to read:

“

2.2.7 “Inert Gas Limits” means in the case of:

- (a) carbon dioxide, the limit shall be not more than 2.5% (molar);
- (b) nitrogen, there shall be no direct limit.”

Subject Matter Expert sign off:

I confirm that I have prepared this modification report in accordance with the Modification Rules.

Signature:

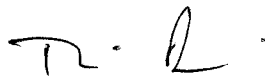
Date :

Signed for and on behalf of Relevant Gas Transporters:

Tim Davis

Chief Executive, Joint Office of Gas Transporters

Signature:

A handwritten signature in black ink, appearing to be 'T. Davis'.

Date :