

**UNC Workgroups 0498/0502 Minutes**  
**Amendment to Gas Quality NTS Entry Specification at BP**  
**Teesside System Entry Point**  
**Thursday 05 June 2014**  
**at ENA, Dean Bradley House, 52 Horseferry Road, London SW1P 2AF**

**Attendees**

Les Jenkins (Chair)	(LJ)	Joint Office
Lorna Dupont (Secretary)	(LD)	Joint Office
Andy Heppel	(AH)	TGPP Ltd
Anjela Maharajah	(AM)	RWE
Anna Shrigley	(AS)	ENI
Antonio Ciavolella	(AC)	BP Gas
Charles Ruffell	(CR)	RWEst
David Reilly	(DRe)	Ofgem
Dennis Rachwal	(DRa)	National Grid NTS
Francisco Goncalves	(FG)	Gazprom
Gerry Hoggan	(GH)	ScottishPower
Graham Jack	(GJ)	Centrica
Isabelle-Agnes Magne*	(IAM)	GDF Suez
Jeff Chandler	(JC)	SSE
Julie Cox	(JCx)	Energy UK
Kirsten Elliott-Smith	(KES)	Cornwall Energy
Marshall Hall	(MH)	Oil & Gas UK
Natasha Austin	(NA)	Poyry Consulting
Natasha Ranatunga	(NR)	EDF Energy
Nick Wye	(NW)	Waters Wye Associates
Ric Lea*	(RL)	Gazprom
Richard Fairholme*	(RF)	E.ON UK
Ricky Hill	(RH)	Centrica

\*via teleconference

Copies of all papers are available at: [www.gasgovernance.co.uk/0498/050614](http://www.gasgovernance.co.uk/0498/050614)

The Workgroup Report (combined 0498 and 0502) is due to be presented at the UNC Modification Panel by 20 November 2014.

**1.0 Introduction and Status Review**

LJ explained that following the UNC Modification Panel's consideration of Modification 0502 and recognition of its similarities to and common issues with Modification 0498, it was requested that a single Workgroup Report be provided that would address the views and recommendations in respect of both modifications. It was anticipated that the most effective approach to address this was within a combined Workgroup 0498/0502, and all relevant meeting papers would therefore be published at [www.gasgovernance.co.uk/0498](http://www.gasgovernance.co.uk/0498).

The focus of this first combined meeting would be centred on drawing out the perceived common issues and formulating an appropriate approach to address these.

## 1.1 Minutes

DRa requested the following changes be made to the previous Minutes (Workgroup 0498):

## "2.0 Initial Discussion

DRa outlined the process National Grid NTS had followed in response to the original request and explained what factors had been considered and assessed. DRa indicated confirmed that provisionally there were no safety concerns, and the NTS was not compromised, and no costs were envisaged. Referring to contractual obligations for Teesside gas flows, to date no contractual issues arising from the proposed change were identified in network analysis. National Grid NTS had written to organisations with connections to relevant parts of the network; some initial responses had been received, and these respondents ~~had been~~ are now encouraged to become involved and contribute to this Workgroup. "

The changes were agreed, and the Minutes will be revised and republished. The Minutes were then approved.

## 1.2 Actions

**0501:** National Grid NTS to consider and provide responses to the following questions:

- a) What is the limit on the total allowable inerts in the fuel specification when the CO<sub>2</sub> limit is lifted to 4 % mol?
- b) Where is the level of inerts stated in the GSMR?
- c) What is the expected normal future gas composition (including LHV, total inerts)?
- d) What is the expected Worst future gas composition and estimated durations when this worst case gas supply would be in use (including LHV, total inerts)?
- e) What is the anticipated rate of change of Wobbe that can be expected to be seen at an off take point?
- f) What is the expected profile of variations in gas supply quality at an take off point per hour/day/week/month/year?

**Update:** DRa provided a presentation, responding to each of the above questions. The responses were reviewed and the following comments noted.

- a) LJ observed that if the level of CO<sub>2</sub> lifts and the level of inerts does not, then some other constituent has to give.
- b) -
- c) -
- d) DRa confirmed there was some historical data on gas quality. It was observed that National Grid NTS could issue Terminal Flow Advice (TFA). National Grid NTS monitors compliance and if gas was coming out of specification there was a procedure/actions. National Grid NTS polices the limits but has no influence on the value within the allowable ranges.
- e) -
- f) Gas is accepted if within the range contractually obliged to receive and transmit. It was believed this information was not published at present (Wobbe). CV for billing purposes was published daily. Reference was made to the gas quality projections

in the Interoperability Code and DRa offered to provide a relevant link for the Workgroup's information.

**Post Meeting Note:** Draft EU code provisions relating to this matter: *Draft EU Interoperability Code Articles 17 and 18 on short and long term gas quality variation reporting*

[http://www.entsog.eu/public/uploads/files/publications/INT%20Network%20Code/2013/ACERSubmission/INT0352\\_131218\\_Network%20Code\\_Network%20Code%20on%20Interoperability%20and%20Data%20Ex%20%20%20.pdf](http://www.entsog.eu/public/uploads/files/publications/INT%20Network%20Code/2013/ACERSubmission/INT0352_131218_Network%20Code_Network%20Code%20on%20Interoperability%20and%20Data%20Ex%20%20%20.pdf)

It was observed by MH that at TSO level National Grid NTS experiences a greater variability in the quality of its supply than any other TSO in Europe. **Closed**

**0502:** Present what gas flows/patterns down the East coast look like, to help the Workgroup form a picture of which parties might be impacted.

**Update:** DRa provided an illustration of the gas flow patterns (based on 2013 Ten Year Statement, Future Energy Scenarios (FES), and network analysis for 2019). It was noted peak demand was largely confined to the North East and Manchester. Teesside gas forms a large proportion of summer load and gets blended into a more complex mix with Easington and Theddlethorpe gas. GJ commented that it could possibly also go into storage sites. JC recognised that on a low demand day it was not a local issue but much wider. AH observed that 2019 was on the cusp when some large gas fields could be commencing operation. AC suggested that more detail of the flow complexities might need to be established and more specific scenarios ascertained and refined. Referring to FES, MH confirmed that the information provided to National Grid NTS was annual flows, ie at Teesside and other terminals. It was suggested that the demand levels should be ascertained and assumptions clarified. DRa gave examples of the scenarios considered and indicated there was very little difference when run through the modelling. It represents quite a wide range of conditions to give a feel.

Referring to the arrangements for the North East, NW asked if this would have an impact on local NExAs – it was assumed that there would be no risk of parties being in danger of breaching their Wobbe levels? DRa pointed out that no change to Wobbe had been requested in these modifications. NW asked, would this affect contractual ranges at localised points and endanger NExA arrangements? DRa responded that National Grid NTS delivers GSMR compliant gas. LJ added that the Proposers must deliver within their Wobbe limits. AH believed the proposals would not endanger those limits. NW observed that it is assumed that the Wobbe indexes are consistent with the NExAs; there was a GSMR specific range for GB, but some NExAs were very old/longstanding and this may need checking. **Closed**

**0503:** *Potential revised gas specification for Teesside* – BP and National Grid NTS to produce appropriate information in response to E.ON's formal request for information made verbally at this meeting (01 May 2014).

**Update:** It was indicated that certain information might be able to be provided, subject to not being confidential/commercially sensitive to the Delivery Facility Operator (DFO). **Closed**

**0504:** Ascertain if there is any internal focus within Ofgem currently being applied to the area of gas quality.

**Update:** DRe advised that an Ofgem lead is to be appointed in respect of these modifications, and requested that the action be carried over. **Carried forward**

**0505:** Provide a view of any issues, as perceived by Ofgem.

**Update:** DRe advised that an Ofgem lead is to be appointed in respect of these modifications, and requested that the action be carried over. **Carried forward**

## 2.0 Discussion

The Workgroup reviewed the initial representations submitted.

### 2.1 Consideration of initial representations

#### **SSE**

JC indicated that following discussions at the previous meeting, SSE's representation had been expanded to provide more detail. He believed the issues remained notwithstanding National Grid NTS' response to the actions, above.

#### *Issue 1 – Increase in inherent CO<sub>2</sub>*

What will be the impact on the gas consumed? The composition and change of CO<sub>2</sub> was discussed. The gas specification would change but it would still be within the allowed limits. The level changes and is accounted for in monetary terms, ie gas quality and combustion, and the additional CO<sub>2</sub> emitted; consumers pay. JCx suggested that it was necessary to understand what the quality is now and also historically, to identify the level of cost and which party paid; also to understand the existing baseline and how this varies (daily, through the day, etc). It was noted that LNG, a rich gas at the high end of Wobbe, did not include CO<sub>2</sub> and mixing this with the low end gas will see a much wider and fluctuating range of gas. MH observed that the stable component is domestic production; pipeline gas is more price responsive.

#### *Issue 2 – Operation of physical assets*

Inerts approaching 4 % mol invalidates the warranty and plants are shut off.

#### *Issue 3 – Rate of change of gas quality*

The effects on the stability of processes were discussed. Instability would lead to a need for more frequent retuning and offline periods for intermittent support provision; this could impact security of supply (electricity?). When gas Wobbe changes the retuning of plant in the area has to take place, as has already been experienced. JCx added that tripping can be caused by gas fluctuations happening too quickly and with little or no warning.

AH commented that the composition of gas was changing, as existing gas fields decline, and new gas from other fields can be very different and highly variable. Inevitably, there will be significant changes in the composition of gas arriving at Teesside, and this was not just an issue to do with CO<sub>2</sub>. The key point was that this was anticipating an increasing degree of potential variability. The processing terminal makes sure that it meets the required specifications. There is a relationship between CO<sub>2</sub> and Wobbe but this may not be the only factor driving it.

Referring to the final paragraph of SSE's representation JC questioned, did it comply with the new proposed standard? DRa responded that DECC were involved in the draft standard. The applicability to GB is yet to be determined. The details of the standard were not yet known, by some workgroup attendees, but may need to be taken into account if deemed applicable and formally considered.

## **GrowHow**

LJ gave a brief overview of the organisation submitting the representation, setting in context its interest in the proposed changes. AH had spoken with the GrowHow respondent and reiterated their key concerns set out in their representation (the first two bullet points). Pressure drop was perhaps a minor issue, but raised the question would there be any issues on the local distribution networks.

## **Tata Steel**

This was also reviewed and recognised as expressing concerns common to the other representations in terms of CV/Wobbe.

## **2.2 Identification of common issues**

LJ developed an Issues Log (published alongside these minutes) to record and clarify the common issues identified in the review of the initial representations. This was reviewed on screen and refined by the Workgroup. Actions were then assigned to appropriate parties to address.

### *General comments*

It was suggested that information on the levels of variability at exit and entry points would be required and effects should be considered in the wider context, including such areas as tax revenue and security of supply.

Increasing the CO<sub>2</sub> would mean a loss in one or more of the other components in gas; it was queried which components would be affected and by how much.

It was questioned which power stations have these particular turbines that are affected by these limits; how many were there, and where were they located?

Relating to gas production offshore from Teesside, given that some had already experienced curtailment at certain times, what difference do these proposals make? Will curtailment become more frequent? Were there possible adverse consequences to *not* relaxing the entry specification at Teesside? Could any equipment located at the DFO entry/exit site be affected by increased emissions (physically, financially, legally)? Noting that National Grid NTS had already made contact with potentially affected parties, it was suggested that these parties should be approached again by National Grid NTS and Shippers and asked specifically how they perceived their operations might be affected.

It was questioned if a more refined phasing of maintenance programmes would help to smooth out the gas quality. It was noted that in summer domestic demand was less and therefore it was conceivable that a greater degree of CO<sub>2</sub> would filter through to I & C sites.

It was questioned whether it was more efficient/economic for downstream parties to have to adapt and incur these potential costs or for DFOs to deal with this at source? Consequential impacts would require consideration the further this moved downstream. NW gave an exposition of how this request for a relaxation of these limits affected competition between Shippers.

It was agreed that the Workgroup needed to be very clear on what assumptions were being made.

It was observed that one gas field alone may provide 5% of the GB gas requirements.

Looking at achieving the lowest emissions, other options were suggested for consideration:

- Do not develop any new gas fields with 'high' CO<sub>2</sub> – the best option for delivering the very lowest emissions, but recognised as not being realistic
- Offshore CO<sub>2</sub> removal – this option was acknowledged to be extremely expensive and potentially impossible on older platforms
- Onshore CO<sub>2</sub> removal – this option may be possible but more detail was required
- The proposals made under these UNC Modifications – potential increase in emissions would have a marginal effect when spread over a sufficient number of parties; ETS sites would see an impact.

It was questioned if 4% mol provided sufficient 'headroom'? How was it arrived at? AH and AC responded that it was anticipated that it could approach this level on some days and only from certain fields, but it was not expected to be reached all the time.

#### *Issues*

It was agreed that this list would be kept under review and refined as the Workgroup progressed and more information became available.

**Issue 1:** *What is the impact on gas quality at the entry and exit points for a change in the CO<sub>2</sub> to 4% in relation to:*

- CV
- Wobbe
- Variability in h/d/w timeframes
- for operation (eg maintenance and performance).

#### **Action 0601:**

- a) **Provide historical/forecast data on gas quality at (i) Teesside and (ii) other entry points. (AH/AC/DRa)**
- b) **Availability and suitability of historical/forecast data for exit points to be evaluated. (DRa)**
- c) **Refine the Tata Steel question into numbers. (AH/AC)**
- d) **Evaluate what data can be provided about Variability. (AC)**

**Issue 2:** *What happens to the increased CO<sub>2</sub> after consumption in relation to:*

- *In a gas turbine power plant*
- *Combusted for heat*
- *Feedstock*
- *Storage.*

**Action 0602:** **Where it is an ETS site, CO<sub>2</sub> passes through and impacts costs. Develop an impact assessment. (AH/AC)**

**Issue 3:** *What is the impact on OEM Warranties if increased levels of CO<sub>2</sub>/inerts are seen?*

**Action 0603:** **Seek views from Energy UK members, regarding volumes/types/ locations/limits. (JCx)**

**Issue 4:** *How does this fit with the proposed BS EN 16726?*

**Action 0604:** **Investigate scope/impact/relevance. (AH/AC)**

**Issue 5:** *What is the local impact on the DN and NTS operators?*

**Action 0605:**

**a) Understand the network flow impacts (see the GrowHow representation) – in relation to pressure/volumes/CV shrinkage. (DRa)**

**b) Consider any impact on IPs. (DRa)**

**Issue 6:** *What are the alternatives (include costs)?*

**Action 0606:** **Consider other options, including the onshore removal of CO<sub>2</sub> to be developed, and provide a high level view on costs/advantages/disadvantages. (AC/AH)**

### **3.0 Legal Text**

National Grid NTS will be the legal text provider for both modifications.

### **4.0 Workgroup Report**

LJ reiterated that the UNC Modification Panel had requested that the Workgroup offer its views/recommendations regarding Modifications 0498 and 0502 in a combined report.

The Workgroup Report (combined 0498 and 0502) is due to be presented at the UNC Modification Panel by 20 November 2014.

### **5.0 Any Other Business**

None.

### **6.0 Diary Planning**

Further details of planned meetings are available at: [www.gasgovernance.co.uk/Diary](http://www.gasgovernance.co.uk/Diary)

The next combined Workgroups 0498/0502 meeting will take place within the Transmission Workgroup on Thursday 03 July 2014, at the ENA, Dean Bradley House, 52 Horseferry Road, London SW1P 2AF.

**Action Table – Combined Workgroup 0498/0502 (05 June 2014)**

<b>Action Ref</b>	<b>Meeting Date</b>	<b>Minute Ref</b>	<b>Action</b>	<b>Owner</b>	<b>Status Update</b>
<b>0501</b>	01/05/14	2.0	<p>National Grid NTS to consider and provide responses to the following questions:</p> <p>a) What is the limit on the total allowable inerts in the fuel specification when the CO<sub>2</sub> limit is lifted to 4 mole %?</p> <p>b) Where is the level of inerts stated in the GSMR?</p> <p>c) What is the expected normal future gas composition (including LHV, total inerts)?</p> <p>d) What is the expected Worst future gas composition and estimated durations when this worst case gas supply would be in use (including LHV, total inerts)?</p> <p>e) What is the anticipated rate of change of Wobbe that can be expected to be seen at an off take point?</p> <p>f) What is the expected profile of variations in gas supply quality at an take off point per hour/day/week /month/year?</p>	National Grid NTS (DRa)	<b>Closed</b>
<b>0502</b>	01/05/14	2.0	Present what gas flows/patterns down the East coast look like, to help the Workgroup form a picture of which parties might be impacted.	National Grid NTS (DRa)	<b>Closed</b>
<b>0503</b>	01/05/14	2.0	<i>Potential revised gas specification for Teesside</i> – BP and National Grid NTS to produce appropriate information in response to E.ON's formal request for information made verbally at this meeting (01 May 2014).	BP Gas (AC) and National Grid NTS (DRa)	<b>Closed</b>



Action Ref	Meeting Date	Minute Ref	Action	Owner	Status Update
0504	01/05/14	2.0	Ascertain if there is any internal focus within Ofgem currently being applied to the area of gas quality.	Ofgem (LM)	Carried forward
0505	01/05/14	2.0	Provide a view of any issues, as perceived by Ofgem.	Ofgem (LM)	Carried forward
0601	05/06/14	2.0	<p><i>Issue 1: What is the impact on gas quality at the entry and exit points for a change in the CO<sub>2</sub> to 4% in relation to:</i></p> <ul style="list-style-type: none"> <li>• CV</li> <li>• Wobbe</li> <li>• Variability in h/d/w timeframes</li> <li>• for operation (eg maintenance and performance).</li> </ul> <p>a) Provide historical/forecast data on gas quality at (i) Teesside and (ii) other entry points.</p> <p>b) Availability and suitability of historical/forecast data for exit points to be evaluated.</p> <p>c) Refine the Tata Steel question into numbers.</p> <p>d) Evaluate what data can be provided about Variability.</p>	<p>a) Propose rs and NTS (AH/AC/DRa)</p> <p>b) NTS (DRa)</p> <p>c) Propose rs (AH/AC)</p> <p>d) BP Gas (AC)</p>	Pending
0602	05/06/14	2.0	<p><i>Issue 2: What happens to the increased CO<sub>2</sub> after consumption in relation to:</i></p> <ul style="list-style-type: none"> <li>• In a gas turbine power plant</li> <li>• Combusted for heat</li> <li>• Feedstock</li> <li>• Storage.</li> </ul> <p>Where it is an ETS site, CO<sub>2</sub> passes through and impacts costs. Develop an impact assessment.</p>	Proposers (AC and AH)	Pending

Action Ref	Meeting Date	Minute Ref	Action	Owner	Status Update
0603	05/06/14	2.0	<p><i>Issue 3: What is the impact on OEM Warranties if increased levels of CO<sub>2</sub>/inerts are seen?</i></p> <p>Seek views from Energy UK members, regarding volumes/types/ locations/limits.</p>	Energy UK (JCx)	Pending
0604	05/06/14	2.0	<p><i>Issue 4: How does this fit with the proposed BS EN 16726?</i></p> <p>Investigate scope/impact/relevance.</p>	Proposers (AC and AH)	Pending
0605	05/06/14	2.0	<p><i>Issue 5: What is the local impact on the DN and NTS operators?</i></p> <p>a) Understand the network flow impacts (see the GrowHow representation) – in relation to pressure/volumes/CV shrinkage.</p> <p>b) Consider any impact on IPs.</p>	National Grid NTS (DRa)	Pending
0606	05/06/14	2.0	<p><i>Issue 6: What are the alternatives (include costs)?</i></p> <p>Consider other options, including the onshore removal of CO<sub>2</sub> to be developed, and provide a high level view on costs/advantages/disadvantages.</p>	Proposers (AC and AH)	Pending