

CODE MODIFICATION PROPOSAL No 0228A
"Correct Apportionment of NDM Error - Energy"
Version 1.0

Date: 24/12/2008

Proposed Implementation Date:

Urgency: Non Urgent

1 The Modification Proposal

a) Nature and Purpose of this Proposal

Introduction

Following a development workgroup which concluded in September 2008, British Gas Trading (BGT) amended their modification proposal 0194 so that it creates a framework for the re-allocation of Reconciliation by Difference (RbD) each month between the SSP and LSP sectors.

Corona Energy subsequently raised an alternate proposal that uses the same principle of an 'Allocation table' but is based on fixed values rather than linked to RbD.

Both of these proposals do not immediately impact upon costs to industry parties as they are both facilitating modifications that create the ability within the Uniform Network Code for costs to be redistributed but leave the actual levels for subsequent modifications to determine.

BGT have since gone on to raise a further modification proposal 0228, which both established the framework as set out in 0194 and populates this using data identified through the 0194 development workgroup.

BGT's proposal 0228 replicates the changes in their modification proposal 0194, and adds to this by populating the RbD Allocation Table. In the same way, this modification proposal replicates the changes proposed by Corona Energy in their alternate 0194A and builds upon this further by seeking to;

- (i) establish the process for calculating the volume of gas to be allocated to the LSP sector, and
- (ii) populating the "Large Supply Point unidentified gas allocation table" using the same data identified through development workgroup 0194.

ScottishPower are of the opinion that the methodology proposed by BGT within Mod 228 introduces a pragmatic approach to the re-apportionment of Unknown Gas to the LSP market sector and as such believe that the extension of the principles proposed within modification 194A will be enhanced by the population of the Large Supply Point unidentified gas allocation table" by applying the same methodology.

The current regime

Re-allocation of market error Modification Proposals 0115/0115a attempted to allocate some of these measurement errors via RbD. Ofgem gave support to the general principle of spreading the costs of unidentified gas to all market players. In its Modification Proposal 0115 decision letter dated 24th October 2007, Ofgem stated that:

“we agree with the basic tenet of the proposals, that it is inappropriate for one sector of the gas market to bear all the costs of unallocated gas”

The decision letter went on to state that

“there are many issues which are currently contributing to the RbD charge, only some of which have been explored as part of these proposals and not all of these can necessarily be attributed to I&C shippers.”

The Modification Proposal 0194 Development Work Group considered the use of RbD to allocate such energy to the LSP market. However, issues were raised by some parties with using this approach.

Further to the initial estimation of gas, the RbD mechanism adjusts the allocated consumption between SSP and LSP markets by allocating any change in the actual LSP allocation to the SSP sector by market share.

It has been agreed that at present a percentage of this RbD adjustment includes an element of unidentified gas. In addition to a percentage of genuine reconciliation caused by the movement between the LSP and SSP market, which is reflective of actual SSP consumption.

Identification of Error

We believe that for these purposes the LSP market can be divided into two sectors, namely:

- NDM (Non Daily Metered)
- DM (Daily Metered – including Non-Mandatory DM)

The methodology will identify differing market activities that are contributing towards to the overall market error, namely:

- LDZ Off take metering errors
- Shrinkage
- Independent Gas Transporter network reconciliation
- Unregistered, unconfirmed and unrecorded sites

- Supply point metering bias
- Theft and meter bypasses

Of these errors theft is believed to be by far the biggest contributor to unidentified gas. Theft poses significant risks to consumers and the public in general. In addition because perpetrators are not paying for the gas they steal they are likely to use energy in a manner that is inefficient, wasteful, and damaging to the environment.

Presently all unidentified gas costs are allocated in their entirety to the Small Supply Point sector via RbD. It is unacceptable for this to continue. This fails to provide appropriate incentives around Shipper's performance and fails to accurately allocate such significant costs.

Many of the measurement errors can be reduced if Shipper's are taking appropriate actions to address the issues. The current arrangements are deficient as they do not utilise the allocation of costs generated by these errors to incentivise their resolution.

Where there are measurement errors that cannot be attributed solely to Shippers actions in a market sector, but are caused as a result of Transporter error such as with IGTs or more general market issues such as LDZ Shrinkage allocation, it is inappropriate that these costs are allocated to one market sector.

This ultimately results in the misallocation of costs, placing disincentives upon the LSP sector that restrict its willingness to resolve the issues, such as for example theft, and so reduce the level of error.

This misallocation of costs adversely affects competition and results in increased prices for customers within the SSP sector.

Our proposal

We propose that the UNC be modified to include provisions that provide for the allocation to the LSP sector of specific volumes of otherwise unidentified gas.

We propose that this could be achieved by adding an appendix to Section E, the "Large Supply Point unidentified gas allocation table", and cross referencing this Table as appropriate within the UNC.

This table could then be used to allocate unidentified gas (that would otherwise fall to RbD) attributed to individual causes to the LSP sector.

It is envisaged that the table could be introduced in the following format:

Source of Error	Market Segment	
	LSP NDM (GWh)	LSP DM (GWh)
Late confirmation, unregistered and orphaned Sites	211.83	5.72
IGT Issues (Late confirmation, unregistered and orphaned Sites)	68.70	0.00
Shrinkage contribution	0.009	0.005
Theft and Unreported open meter by-pass valves	2691.74	0.00

These causes are collectively referred to below as “LSP unidentified gas”

NB. For the avoidance of doubt please note that this Proposal limits itself to the consideration of energy charges and Transportation charges are excluded.

1. Changes to the size of each contribution of the LSP unidentified gas, i.e. variation in the values in the table other than that proposed within the methodology to the Theft value, shall be introduced through the implementation of a Modification Proposal. It is envisaged, but not considered to require any explicit UNC reference, that a proposal to vary the values in the table should be implemented in line with the same notice period and start date as for LDZ transportation charges, as specified in GT Licences.
2. At M+1, the monthly NDM LSP Error Charge will be calculated for the relevant calendar month (“M”).
3. The calculation of the monthly LSP unidentified gas cost shall be 1/12 of the overall LSP unidentified gas (as specified in the proposed table) multiplied by the rolling average 30 day SAP starting on the 1st calendar day of month M.
4. At M+1 the LSP unidentified gas costs will be levied on users as a proportion of their NDM LSP market share in month M. This market share will be derived from the site Aqs in the shipper’s ownership. For the avoidance of doubt this will include LSP Aqs for sites situated on LDZ CSEPs within the relevant shipper’s ownership. The transporters will raise debit invoices to all Shippers for their proportion of the unidentified gas. It

is not envisaged that there will be any specific query process however standard invoice query rules would apply.

5. Provisions will be made for a reduction in RbD of the same value as the proposed debit invoices to the LSP sector. The reallocation of the accrued NSM LSP unidentified gas costs payments to the SSP Shippers will be made on the basis of their NDM SSP market share. Following feedback from xoserve it has been decided that this will be done following current RbD rules. It is therefore proposed that all refunds go into the one month RbD pot for calculating market share.

Calculation of Unknown Gas

In calculating the level of Unknown Gas we have used the same approach as identified by BGT in their proposal 0228 for the calculation of genuine reconciliation.

A proportion of RbD can be attributed to genuine reconciliation where there is shown to be a difference between the rate of movement in AQ share between the LSP and SSP sectors.

Under the current RbD Mechanism, energy is initially allocated between the LSP and SSP based on their AQ share.

If the AQs for the SSP and LSP are equally overstated or equally understated then 'reconciliation' would be a net zero amount, as the balance between the two would still be correct.

Where the AQs in either market are more or less accurate than the other, reconciliation will result.

Therefore differences between AQ accuracy need to be considered in any allocation.

BGT's analysis of the UNC Modification 0081 data for the 2008 AQ Review has identified that, when modification 640 movements are allowed for, the LSP Sector AQ decreased at a greater rate than in the SSP.

During 2008 the LSP sector (including threshold crossers) reduced total AQ by 5.14%, whereas the SSP sector was reduced by 3.48%.

During the Gas year 1st October 2007 – 30th September 2008 the volume of energy in RbD attributable to the different rates of declining LSP and SSP usage was 1.77TWh of the total 11.8TWh of RbD.

Therefore the total Unknown Gas volume to be considered is 10.03TWh.

The volume of 'total Unknown Gas' has been calculated as follows –

$$\left[\begin{array}{c} \text{LSP Share of} \\ \text{NDM AQs} \\ \text{(2007/08)} \end{array} - \begin{array}{c} \text{LSP Share of} \\ \text{NDM AQs} \\ \text{(2006/07)} \end{array} \right] \times \begin{array}{c} \text{Total} \\ \text{NDM AQs} \\ \text{(2007/08)} \end{array}$$

As the volume of genuine reconciliation occurring in the market will be subject to change at each AQ review, we propose that the following methodology be established within the UNC for the value to be calculated annually.

Methodology for the calculation of Unknown Gas Volume

The level of genuine Reconciliation can be calculated by looking at the levels of AQ movement between the LSP and the SSP sectors and comparing this to the overall level of AQ movement within the market, as below;

$$\left[\frac{\text{AQ}^1}{\text{mAQ}^1} - \frac{\text{AQ}^2}{\text{mAQ}^2} \right] \times \text{mAQ}^1$$

Where;

AQ^1 = Total LSP AQs in current Gas Year

AQ^2 = Total LSP AQs in previous Gas Year

mAQ^1 = market aggregate NDM AQ in current Gas Year

mAQ^2 = market aggregate NDM AQ in previous Gas Year

It is proposed that;

1. Within 15 working days of the publication of the AQ Review Process – Publication of Information Report established by UNC Modification 0081, xoserve recalculate the Unknown Gas value using the above methodology.
2. Where the value of the Unknown Gas element increases or decreases, an equal and opposite adjustment will be made to the Theft value, which is the “balancing factor”.
3. The Large Supply Point unidentified gas allocation table will be updated to reflect the revised values which will be presented to the UNCC for approval by a majority vote.

4. Where the UNCC does not approve the amendments to the Large Supply Point unidentified gas allocation table, the prevailing values will remain in use.

Level of LSP unidentified gas

- Late confirmed and Unregistered Sites

Independent xoserve analysis presented to the modification 0194 development work group on 11th July 2008 demonstrated that at least 2.854% of unallocated gas - **286.26GWh** was caused by the failure of Shippers to register supply points in a timely manner.

That analysis also demonstrated that those sites were attributable to individual sector “classifications” as follows;

Large non daily metered supply points, 74 % of volume associated with this measurement error or 211.83GWh

Large daily metered supply points, 2% of volume associated with this measurement error or 5.72GWh

- IGT Issues

Independent xoserve analysis presented to the modification 0194 work group on 27th March 2008 demonstrated that a maximum of 5.708% of unidentified gas i.e. **572.51GWh** could be associated with measurement errors connected with independent gas transporters’ networks. This error is a result of an under allocation of energy to the IGT market, caused by deficiencies within the CSEPs creation process which have been reviewed as part of UNC Modification 157.

UNC Modification 157 review group has identified problems that are structural rather than attributable to specific Shipper performance or market sector classification characteristics. For example the connections process between the IGT and the DNO and the arrangements for acceptance of readings by the IGTs.

This demonstrates that unidentified gas allocation should be driven by the level of throughput in the IGT sector, that is as follows;

Large non daily metered supply points, 12% of the error *i.e.* **68.70GWh**

Large daily metered supply points will not incur any charges as a result of this error.

- Shrinkage Errors

It is an accepted principle that losses which occur upstream of the

emergency control valve are recovered based on throughput outside of the LSP and SSP allocations. In the present regime, LDZ Shrinkage is calculated based on a set of assumptions at the beginning of the period. These assumptions are validated at the end of the period and any differences are charged solely to RbD.

Independent xoserve analysis presented to the modification 0194 work group on 12th June 2008 demonstrated that 0.0004% of total unidentified gas *i.e. 0.04GWh* could be associated with the difference between initial and final levels of shrinkage.

It is widely acknowledged that the costs of shrinkage should be allocated on a throughput basis, such that they are borne equally by all market sector classifications

Therefore unidentified gas error associated with differences between initial and final shrinkage levels should be attributable to individual sector “classifications” as follows;

Large non daily metered supply points, 24 % of the error *i.e. 0.009GWh*

Large daily metered supply points, 14% of the error *i.e. 0.005GWh*

- Theft and Unreported open By-Pass valves

Scale of theft

Independent xoserve analysis presented to the modification 0194 development workgroup on 9th June 2008 demonstrated that significant volumes of theft have been detected, even greater volumes of theft have been alleged, and that a significant number of allegations have not been investigated.

Clearly the very nature of theft is such that the absolute level cannot be quantified. It is widely accepted that the level of detected theft is not reflective of the level of actual theft.

Having considered and made an assessment of the extent of all other potential causes of RbD error it was agreed at the modification 0194 development work group that, where no other explanation for unidentified gas exists, theft was the “balancing factor”. That is to say that the remaining error that cannot be attributed to other measurement errors should be attributable to theft.

Having considered all other potential measurement failures it can be concluded that 9,171.19GWh of residual error is attributable to theft.

Contribution from each market sector classification

Extensive independent xoserve analysis has been presented to the modification 0194 development work group with regard to the extent to which theft is alleged and detected in various market sector

classifications.

The independent xoserve data demonstrates that by volume 55.35% of theft **allegations** relate to the Large Supply Point Non Daily Metered Sector and 44.65% relate to the Small Supply Point Non Daily Metered Sector

The independent xoserve data demonstrates that by volume 7.45% of theft **detections** relate to the Large Supply Point Non Daily Metered Sector, or 3.36% when network relevant thefts are excluded, and 92.55% relate to the Small Supply Point Non Daily Metered Sector

There is no evidence of theft on daily metered sites. It is widely accepted that the propensity for theft on such sites is negligible.

It is a matter of fact that there are no incentives to detect theft on Large Supply Points. For this reason the level of alleged theft is likely to be a more reliable indicator of apportionment than the level of detected theft.

In determining a level of apportionment we have Used a simple average between the percentage of allegations and the lower (excluding network relevant theft) detections rate.

$$\text{LSP} = (55.35 + 3.36) / 2 = 29.35\% \text{ allocation of the error} - \mathbf{2691.74GWh}$$

This approach most likely means that a cross subsidy in favour of the LSP sector remains. However the revised allocations that we propose will reduce this cross subsidy from the prevailing level and more crucially put in place incentives to tackle theft, reducing the level of unreconciled energy, costs and risks to consumers and delivering carbon saving benefits.

Review process

In this modification proposal we have outlined the methodology for the annual calculation of genuine reconciliation caused by differing rates of change between SSP and LSP AQs.

For the avoidance of doubt it is our intention that subsequent changes to either this methodology or that amend the allocation or contribution made, other than by the annual recalculation of Genuine Reconciliation, should be by way of a formal UNC Modification.

b) Justification for Urgency and recommendation on the procedure and timetable to be followed (if applicable)

Not applicable

- c) **Recommendation on whether this Proposal should proceed to the review procedures, the Development Phase, the Consultation Phase or be referred to a Workstream for discussion.**

This proposal has been raised as an alternate to Modification Proposal 0228 and should be considered with that proposal.

2 Extent to which implementation of this Modification Proposal would better facilitate the achievement (for the purposes of each Transporter's Licence) of the Relevant Objectives

A11.1 (a) the efficient and economic operation of the pipe-line system to which this licence relates.

This proposal will extend to a broader range of Shippers the incentives for identifying and resolving measurement failures that manifest as unreconciled energy and resultant charges to RbD. Such issues have been described earlier.

The detection and prevention of theft is a particularly important area. We believe that this proposal will extend incentives to apply to all market sectors. There is presently no incentive upon LSP Shippers to detect theft and this proposal addresses this.

As a result of this proposal the extent to which measurement failures and theft especially persist shall be reduced, and this will enable more efficient operation of the pipeline system and ultimately reduced costs for consumers.

A11.1 (d) – the securing of effective competition (i) between relevant Shippers and (ii) between relevant suppliers.

This proposal reduces the extent to which the SSP market sector, and Shippers / Suppliers operating predominately within it, cross subsidise the LSP NDM market sector, and the Shippers / Suppliers operating predominately in it.

The reduction of a cross subsidy between market sectors and individual Shippers / Suppliers operating in them, in our view, better secures effective competition between Shippers and Suppliers. It ensures better targeting of costs and broadens incentives upon all Shippers to tackle the underlying causes of unidentified gas.

The use of Theft as the 'balancing factor' for the allocation of unidentified gas has resulted in a lower total allocation for the LSP sector, as the methodology used takes a more conservative approach when interpreting the xoserve data to determine the true levels of LSP theft.

Any alternative view on balancing factors would invariably result in an allocation close to through-put levels for the LSP market, i.e. an allocation of 38% rather than the significantly lower 29.35% proposed in this modification.

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

Theft if unabated results in an inability to predict and control consumption. This has proven a significant problem in some international utility markets, where theft is on such a scale that security of supply is compromised.

Broadening incentives to all Shippers such that theft is reduced will increase the certainty, transparency and predictability of consumer consumption levels.

4 The implications for Transporters and each Transporter of implementing this Modification Proposal, including:

a) The implications for operation of the System:

This Modification proposal will result in a more concerted effort by industry to tackle the systematic drivers of unidentified gas by broadening the coverage of incentives to include LSP Shippers.

Such focus on improved settlement data, and improved measurement accuracy should have a positive impact on the operation of the system.

b) The development and capital cost and operating cost implications:

ScottishPower understand that an offline process could be used to deal with the revised arrangements set out in our proposal, without the need for significant development.

c) Whether it is appropriate to recover all or any of the costs and, if so, a proposal for the most appropriate way for these costs to be recovered:

ScottishPower does not believe that the costs associated with this modification proposal are significant enough to warrant special recovery mechanisms.

d) The consequence (if any) on the level of contractual risk of each Transporter under the Uniform Network Code of the Individual Network Codes proposed to be modified by this Modification Proposal

We do not believe that this proposal has any affect on the transporters' level of contractual risk.

5 The extent to which the implementation is required to enable each Transporter to facilitate compliance with a safety notice from the Health and Safety Executive pursuant to Standard Condition A11 (14) (Transporters Only)

None identified

6 The development implications and other implications for the UK Link System of the Transporter, related computer systems of each Transporter and related computer systems of Users

None identified

7 The implications for Users of implementing the Modification Proposal, including:

a) The administrative and operational implications (including impact upon manual processes and procedures)

None identified

b) The development and capital cost and operating cost implications

None identified

c) The consequence (if any) on the level of contractual risk of Users under the Uniform Network Code of the Individual Network Codes proposed to be modified by this Modification Proposal

None identified

8 The implications of the implementation for other relevant persons (including, but without limitation, Users, Connected System Operators, Consumers, Terminal Operators, Storage Operators, Suppliers and producers and, to the extent not so otherwise addressed, any Non-Code Party)

None identified

9 Consequences on the legislative and regulatory obligations and contractual relationships of the Transporters

None identified

10 Analysis of any advantages or disadvantages of implementation of the Modification Proposal not otherwise identified in paragraphs 2 to 9 above

Advantages

- ◆ By addressing theft issues this proposal will result in a reduction in energy consumption, thus delivering carbon benefits. End users able to receive gas without a realistic prospect of paying for it have no incentive to use gas efficiently, extending incentives for the detection of theft to the LSP Shippers will result in a reduction in theft and so a reduction in inefficient energy use. This proposal improves the ability of Shippers to price accurately by apportioning costs more accurately to them.
- ◆ From the date of its implementation our proposal will remove the barrier to entry associated with an allocation of costs to the small supply point sector that

is inequitable and inaccurate.

- ◆ Removal of an inappropriate and unacceptable cross subsidy of the predominately non domestic LSP sector by the mainly domestic SSP sector will better facilitate competition between Shippers.
- ◆ This proposal improves the ability of Shippers to price accurately by apportioning costs more accurately to them.

Disadvantages

A cross subsidy may remain, likely in the favour of I&C / LSP Shippers, however this cross subsidy will be reduced when compared to current levels.

11 Summary of representations received as a result of consultation by the Proposer (to the extent that the import of those representations are not reflected elsewhere in this Proposal)

12 Detail of all other representations received and considered by the Proposer

No other representations received

13 Any other matter the Proposer considers needs to be addressed

No other matters outstanding

14 Recommendations on the time scale for the implementation of the whole or any part of this Modification Proposal

Given that our proposal addresses a deficiency in present day arrangements we believe it should be implemented as speedily as possible.

15 Comments on Suggested Text

16 Suggested Text

Code Concerned, sections and paragraphs

Uniform Network Code

Transportation Principal Document

Section(s) E

Proposer's Representative

Proposer

Marie Clark, ScottishPower Energy Management Ltd