

CODE MODIFICATION PROPOSAL No xxxx
"Correct Apportionment of NDM Error - Energy"
Version 0.2

Date: 19/09/2008

Proposed Implementation Date:

Urgency: Non Urgent

1 The Modification Proposal

a) Nature and Purpose of this Proposal

Introduction

Modification 0194 was discussed at a UNC Development Workgroup over the last 6 months. The discussions about modification 0194 originally covered both the **framework** for RbD allocation as well as the **levels of contribution** that each market sector should make.

Modification 0194 was amended to propose the introduction of a **framework** referred to as the **“RbD Allocation Table”** that provides for a more analytical and accurate mechanism for determining how RbD error should be allocated. This enables greater accuracy, equitability and efficiency. The RbD Allocation Table proposed by Modification 0194 was populated such that the prevailing apportionment of RbD error remained at a 100% allocation to the SSP market.

This modification seeks to amend the levels of contribution each market sector should make and to repopulate the “RbD Allocation Table” accordingly. This proposal is contingent upon Modification Proposal 194 and would be withdrawn if Modification Proposal 0194 is rejected by Ofgem.

The current regime

Throughout the development of Modification 194 and previous discussion around Modification 115 it has been established that;

1. RbD is not solely a function of NDM Reconciliation; the majority of energy associated with RbD is caused by a number of measurement errors.
2. It is unacceptable for one market sector to bear the entire costs of these measurement errors.

RbD has not been caused entirely by SSP meter reading or deeming shortfalls, but is largely a consequence of measurement failures that are applicable to all non-daily metered sites. These measurement errors potentially include;

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 RbD error. 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 RbD costs are allocated in their entirety to the Small Supply Point sector. 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 which currently impact RbD can be reduced if Shippers 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 which 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 arising from the current RbD cost allocation methodology 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 RbD error.

In addition the unfair allocation of RbD error costs to the SSP sector penalises Shippers active within this market sector. This misallocation of costs adversely affects competition and results in increased prices for customers within the SSP sector.

This proposal

This modification proposal sets out amendments to the levels of contribution established by the "RbD allocations table" detailed in modification proposal 0194. The new figures are presented in appendix [I] of this proposal.

In this proposal we have identified the level of Genuine Reconciliation within RbD by looking at the differences in rate of AQ change between the LSP and the SSP sectors when compared with the overall level of AQ change in the market.

This proposal establishes a methodology for the annual calculation of the genuine reconciliation element of RbD and then uses independent analysis to identify the causes of the remaining RbD error.

Benefits

This “RbD Allocation Table” allows for an analytical and more accurate approach to the allocation of RbD error. The table sets out individual types of “measurement error” that contribute to RbD and the level of impact associated with each error.

Proposals to change the figures within the “RbD Allocation Table” can be raised at any time by any code party, as new evidence about RbD error becomes available.

The allocation table then goes on to identify different market sectors, or categories, that have been identified as having differing impacts on the levels of RbD.

This proposal uses the independent analysis provided to the Modification 0194 development workgroup to inform a revised and more accurate apportionment of RbD.

Market sector “classifications” and exclusions

Modification proposal 0194 sets out the following “market sector classifications” to which NDM error might be apportioned. These are itemised in the “RbD Allocation Table”

These are;

Small supply point - Non Daily Metered

Small supply point - Advanced metering technology

Large supply point – Non Daily Metered

Large supply point – Advanced metering technology

Large supply point – Daily Metered

The rationale for the individual market sector classifications is set out in

modification proposal 0194.

Advanced Metering Technology

This proposal recognises sites with advanced metering technology as a distinct and different classification within both the small and large Non Daily metered sectors. This proposal does not allocate different levels of RbD error to advanced metered sites versus standard or ‘dumb’ metering in any sector. Presently there is no evidence of differing propensity to theft or other measurement errors. Advanced technology meters can still be bypassed, and can still be Shipper-less. Advanced technology meters do not presently receive different treatment from an RbD allocation perspective, and our proposal does not change that.

However “The RbD Allocation Table” as proposed in modification 0194 together with this proposal build, a foundation upon which new allocation arrangements for advanced metering may be introduced.

Genuine Reconciliation

It is recognised that an element 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. These differences manifest themselves though the reconciliation to actual reads process and need to be considered in any allocation.

Modification 194 allows for the identification and correct allocation of these costs through the use of the ‘Read Submission Issues’ section of the RbD Allocation Table.

Our analysis of the UNC Modification 0081 data for the 2007 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 2007 the LSP sector (including threshold crossers) reduced total AQ by 5.83%, whereas the SSP sector was reduced by 4.3%.

During the Gas year 2006/07 the volume of energy in RbD attributable to this was 1.72TWh of the total 8.6TWh of RbD or 19.999% of RbD.

This modification would allocate this 19.999% of RbD wholly to the SSP sector.

The volume of ‘genuine reconciliation’ has been calculated as follows –

$$\text{AQ}_{2007/2008} - \text{AQ}_{2006/2007} \times (1 - \text{Reduction in Aggregate AQ})$$

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 Genuine Reconciliation 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;

$$AQ^1 - AQ^2*(1-TAQR)$$

Where;

AQ1 is the market LSP(+ threshold crossers, up and down) aggregate NDM AQ for the current Gas Year

AQ2 is the market LSP(+ threshold crossers, up and down) aggregate NDM AQ for the preceding Gas Year

TAQR is the percentage Aggregate AQ Reduction during the period (i.e. (mAQ1 – mAQ2)/ mAQ2

mAQ1 is the market aggregate NDM AQ for the current Gas Year

mAQ2 is the market aggregate NDM AQ for the preceding Gas Year

It is proposed that this calculation is carried out by xoserve within 15 working days of the publication of the Modification 0081 data.

The RbD Allocation Table will subsequently be amended to reflect the revised values which will be presented to the UNCC for approval.

Where the UNCC does not approve the amendments to the RbD Allocation Table, the prevailing values will remain in use.

Levels of contribution to RbD Error

Our proposal is that RbD should be apportioned to each market sector “classification” in a manner consistent with the extent to which that sector causes RbD. To do this we have;

1. Identified each potential measurement error that can contribute to NDM error.
2. Used independent industry data to determine the scale of each measurement error
3. Expressed each measurement error as a % of NDM error.

4. Used independent industry data to determine the extent to which each market sector “classification” is responsible for or contributes to each individual measurement error.

We reviewed extensive detailed independent analysis as to what the known and potential measurement errors are and the differing extent to which they cause RbD error.

Further to discussions under the auspices of modification 194 development workgroup there is consensus, supported by independent analysis, that the following measurement errors exist;

- Late and Unregistered Sites

Independent xoserve analysis presented to the modification 194 development work group on 11th July 2008 demonstrated that at least 2.854% of RbD was caused by the failure of Shippers to register supply points in a timely manner.

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

Small supply points, 24% of volume associated with this measurement error

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

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

- IGT Issues

Independent xoserve analysis presented to the modification 194 work group on 27th March 2008 demonstrated that a maximum of 5.708% of RbD 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 RbD cost allocation should be driven by the level of throughput in the IGT sector, that is as follows;

Small supply points, 88% of volume associated with this measurement

error

Large non daily metered supply points, 12% of volume associated with this measurement error

Large daily metered supply points, 0% of volume of volume associated with this measurement 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 194 work group on 12th June 2008 demonstrated that 0.0004% of RbD 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 RbD error associated with differences between initial and final shrinkage levels should be attributable to individual sector “classifications” as follows;

Small supply points, 62% of volume associated with this measurement error

Large non daily metered supply points, 24 % of volume associated with this measurement error

Large daily metered supply points, 14% of volume associated with this measurement error

- Supply point metering

Consensus was reached via discussions at the modification 194 development workgroup that there is **potential** for measurement errors to be caused by supply point metering;

However there was no evidence presented to demonstrate that supply point metering had an adverse impact on RbD. Nor was any evidence or rationale presented to demonstrate that any one market classification made a greater contribution to supply point metering and measurement errors than the other.

Our assumption is that supply point metering does not contribute to NDM

error.

- LDZ off take metering

Consensus was reached via discussions at the modification 194 development group that there is **potential** for measurement errors to be caused by LDZ off-take metering;

Any error in the measurement of gas entering the system would, so long as undiscovered, simply distort the true level of NDM error.

The costs and benefits associated with any under-statement or over statement of gas entering the system should be borne by all sectors.

However our primary assumption is that overall there is not an over or under registration of gas entering the system

- Theft and Unreported open By-Pass valves

Scale of theft

Independent xoserve analysis presented to the modification 194 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 194 development work group that, where no other explanation for RbD 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 71.439% of residual error is attributable to theft.

Contribution from each market sector classification

Extensive independent xoserve analysis has been presented to the modification 194 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 considered 3 options;

Option 1 – Percentage of AQ of Allegations

Using the proportion of AQ for sites where there has been an allegation of theft across sectors to determine the level of apportionment.

This approach would result in a 55.35% allocation to the SSP Sector and a 44.65% allocation to the LSP NDM Sector.

Option 2 – Corrected Percentage of ‘valid’ theft energy

Uplift volume of detected LSP theft so as to;

- 1. Correct for the frequent failure of many LSP suppliers to submit the kwh volume of stolen gas to the Transporter.*
- 2. Correct for the significantly lower detection rate of LSP suppliers that is a result of the lack of incentives upon them to detect theft. Using the proportion of AQ for sites based on detected theft in the LSP market, and increase the value by the same conversion rate factor between allegation and valid as exists in the SSP.*

Uplifting the 3.3% detected I&C theft in this manner would result in a 7.9% allocation to the LSP sector.

However the base figure is so artificially low because of the apparent skewing effect that LSP practices have on masking true levels of theft

Option 3 – Simple average between allegations and detected theft

Using a simple average between the percentage of allegations and the lower (excluding network relevant theft) detections rate.

$LSP = (44.65 + 3.36) / 2 = 24.01\%$ allocation

$$\text{SSP} = (55.35 + 96.64) / 2 = 75.99\% \text{ allocation}$$

Whilst there are arguments in support of options 1 and 2 we elected to use option 3.

In our view Option 2 is supported by strong logical arguments, however it does not fully address the distortion caused to the level of allegations arising from the lack of incentives in the LSP sector.

We also believe that there is strong justification for Option 1, however we have elected to use option 3 on the basis that this more conservative approach would removed any doubt that our proposals may result in an over allocation of cost to the LSP Sector.

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.

We therefore propose that the RbD associated with theft should be attributable to individual sector “classifications” as follows;

Small supply points 75.99% of volume associated with this measurement error.

Large non daily metered supply points 24.01% of volume associated with this measurement error

Large daily metered supply points 0% of volume associated with this measurement error

Overall Contribution

Further to the detailed analysis and debate undertaken in the Modification 194 development workgroup and described above we have populated the “RbD Allocation Table” and attached this as appendix [I]

The total contribution that each sector makes to RbD is calculated by aggregating the assessments that have been made for that sector regarding the level of contribution and scale of each error.

This gives a final allocation as follows;

$$\text{SSP} = 79.993\%$$

$$\text{SSP Advanced Metering} = \text{As SSP}$$

LSP NDM = 19.949%

LSP NDM Advanced Metering = As LSP

LSP DM = 0.057%

Allocation process

The allocation process will be as defined under the business rules as set out in modification 194.

We are keen to ensure a clean transition from the current arrangements to those proposed within this modification proposal; however it is our intention that this proposal should not have any retrospective consequences. Therefore we propose that this new methodology is only applied to debit and credit reconciliations arising for gas days after the date of implementation. This means that any reconciliation that relates to gas days prior to implementation date will be allocated as per the arrangements that were in place on those gas days.

Review process

The arrangements for review and revision of the parameters adjusted in this proposal have been detailed in modification proposal 0194.

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 AOs.

For the avoidance of doubt it is our intention that subsequent changes to either this methodology or which amend the allocation or contribution made by other measurement errors is made by way of a formal UNC Modification.

Other issues - Transportation charge cost reflectivity

In its decision letter Ofgem did express concerns about Transportation charge cost reflectivity

In recognition of Ofgem's concerns the proposer has elected to exclude the allocation and charging of transportation costs from this proposal. This effectively decouples the matter of transportation charging from energy allocation. Whilst there are many commonalities between the way that RbD energy costs and RbD transportation costs can be allocated, the two need not be dependent upon each other, and so can be addressed by separate proposals and at separate times.

This is consistent with the electricity industry where the allocation of distribution costs is treated separately to the allocation of energy costs. In addition we recognise that Ofgem has recently decided to reduce the portion of commodity based transportation charges from 50% to 5%. These changes result in a 10 fold reduction in the transportation revenues associated with

RbD charges.

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

There is presently a clear justification for Urgency on the basis of the significant negative commercial impact upon RbD Shippers of inappropriate cost allocation.

However at this time we have chosen not to request Urgency to allow for a more inclusive approach towards industry engagement with regard to our proposal.

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 initiated further to extensive discussion and development under the auspices of the Modification 0194 development group.

We recommend that this proposal proceeds directly to consultation.

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 to which this proposal will extend the incentives to. 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 RbD.

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 LSP 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 RbD error 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:

We 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 and at low cost.

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:

The proposer 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. If anything contractual risks will be reduced by better flow of data that will result from increased incentives on LSP suppliers to tackle the systematic drivers of RbD.

- 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

Mitch Donnelly (British Gas)

Proposer

Steve Briggs (British Gas)