

Draft Modification Report
Correct Apportionment of NDM Error - Energy
Modification Reference Number 0228 / 0228A
Version 1.0

This Draft Modification Report is made pursuant to Rule 9.1 of the Modification Rules and follows the format required under Rule 9.4.

1 The Modification Proposals

Proposal 0228

Introduction

Modification Proposal 0194 was discussed at a UNC Development Workgroup which concluded in September 2008. The discussions about Modification Proposal 0194 originally covered both the **framework** for RbD allocation as well as the **levels of contribution** that each market sector should make.

Modification Proposal 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 Proposal 0194 was populated such that the prevailing apportionment of RbD error remained at a 100% allocation to the SSP market.

Modification proposal 0194 acts as a facilitator to the creation of a framework under which RbD can be re-allocated to create appropriate arrangements to incentivise parties in both the Small Supply Point Market and the Large Supply Point Market to address errors which contribute to RbD.

This modification proposal replicates the changes proposed under 0194 and builds upon this further by seeking to amend the levels of contribution each market sector should make and to populate the “RbD Allocation Table” accordingly.

This modification proposal had been amended following concerns that it was contingent upon Modification Proposal 0194. This proposal would have the same effect as modification proposal 0194, in that it introduces a new annex to the UNC, but in addition to Modification Proposal 0194 it changes the current levels of allocation.

We do not see any conflict between this proposal and Modification Proposal 0194 as this has additional benefits beyond those in 0194. Were 0194 to be implemented prior to this proposal, the effect of this proposal would not be to amend anything implemented in 0194 but only to add to it.

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 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 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, would introduce an "RbD Allocation Table" into the UNC. We propose that the UNC be amended to require that RbD Energy is allocated in accordance with the percentages indicated in the RbD Allocation Table (the Business Rules included within this Proposal provide further detail

of the proposed allocation process). We propose that the new table be an annex to TPD Section E, and the appendix to this Proposal provides a draft of how we believe this table could appear in the UNC, including illustrating the initial row and column headings that we believe are required to give effect to this Proposal.

Furthermore, this modification proposal changes the levels of contribution towards RbD by Shippers through the “RbD allocations table”. These 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.

This modification contains a calculation for the value of genuine reconciliation using data available through the AQ Review Process – Publication of Information Report established by UNC Modification 81. This calculation would be applied annually following the publication of the data, thus ensuring that the ‘genuine’ reconciliation element is updated with the most recent data available.

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 Proposal 0194 development workgroup to inform a revised and more accurate apportionment of RbD.

Market sector “classifications” and exclusions

This proposal 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

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” established by this proposal builds a foundation upon which new allocation arrangements for advanced metering may be introduced in future.

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.

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.

This proposal 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 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 or 15.000% of RbD.

This modification would allocate this 15% of RbD wholly to the SSP sector
 The volume of ‘genuine reconciliation’ has been calculated as follows –

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

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 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;

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

Where;

AQ¹ = Total LSP AQs in current Gas Year

AQ² = Total LSP AQs in previous Gas Year

mAQ¹ = market aggregate NDM AQ in current Gas Year

mAQ² = 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 Genuine Reconciliation Value using the above methodology.
2. Where the value of the Genuine Reconciliation element increases or decreases, an equal and opposite adjustment will be made to the Theft value, which is the balancing factor.
3. The RbD Allocation Table will be updated to reflect the revised values which will be presented to the UNCC for approval by majority vote.
4. 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 were 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 76.438% 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.

$$\text{LSP} = (55.35 + 3.36) / 2 = 29.35\% \text{ allocation}$$

$$\text{SSP} = (44.65 + 96.64) / 2 = 70.65\% \text{ allocation}$$

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.

The identification of theft as the ‘balancing factor’ is consistent with the conservative approach that we have taken above. Under this proposal we are only seeking to re-allocate 29.35% of the (76.438% of RbD) theft element. Any alternative to this would have resulted in an increased re-allocation of RbD to the LSP market in line with throughput and so would

have resulted in a 38% allocation to the LSP.

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.

The total levels of apportionment are set out in the RbD Allocations Table – Appendix I

Allocation process

The allocation process will follow the same business rules as those set out in UNC Modification proposal 0194 and are detailed below.

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

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 which amend the allocation or contribution made, other than by the annual recalculation of Genuine Reconciliation, should be 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.

Business Rules

Current RbD processing is unchanged, thus:

1. At M+1 the Aggregate Reconciliation Quantity will be calculated in respect of Month M.
2. At M+1 the Aggregate Reconciliation Quantity and associated charges will be apportioned to Smaller Supply Point (“SSP”) Users in accordance with current UNC provisions.
3. At M+1 Aggregate Reconciliation Transportation Charge Adjustments and any Aggregate Reconciliation Clearing Values (excluded from the new arrangements under point 5) will be issued to SSP Users in accordance with the values established in step 2.

The new arrangements will comprise:

4. Under this proposal the Aggregate Reconciliation Quantity and Aggregate Reconciliation Clearing Value (excluding those items specified in point 5) from Month M will be apportioned to Supply Point (“SP”) Users in accordance with the Apportionment Methodology. The following items are for consideration
 - i. Timing of apportionment - M+1 or M+2 etc (different to transportation invoice timings)
 - ii. Frequency - monthly / 6 monthly / annually etc
 - iii. Variability of the proportion allocated to market sectors (point 6)
5. Non-standard items outside the scope of apportionment under this proposal
 - i. Application of End of Year Reconciliations
 - ii. Application of Large Offtake Metering Adjustment
 - iii. Annual Shrinkage adjustment which will be apportioned in

accordance with the prevailing terms

6. The Apportionment Methodology is that the Aggregate Reconciliation Quantity and Aggregate Reconciliation Clearing value determined pursuant to point 4 will be apportioned:

a. to SPs within the following sectors in proportion to their SP Annual Quantity (“AQ”) Market Share within each sector

- | | | |
|------|--------------------------------------|-----|
| i. | SSP | a % |
| ii. | SSP (with Remote Metering Equipment) | b % |
| iii. | LSP | c % |
| iv. | LSP (With Remote Metering Equipment) | d % |
| v. | Daily Meter Sites | e % |

For the avoidance of doubt the sum of values a to e (above) will be 100%.

b. the AQ market share in (a) will be derived in proportion to their SP AQ Market Share in a consistent manner with existing RbD principles (i.e. excluding sites to which G3.4.3 applies).

c. the above percentages may vary from time to time in accordance with the relevant governance rules (proposed to be pursuant to UNC Modification)

i. Modification Proposal 0194 advocates the values detailed in 6a as:

- a. 100%
- b. 0%
- c. 0%
- d. 0%
- e. 0%

d. specific categories of SPs excluded from any application of the Apportionment Methodology and SP Market Shares are:

- i. NTS Supply Points
- ii. Special Metering Supply Points (DM)
- iii. DM CSEPs

7. Aggregate Reconciliation Quantities will be grouped into sectors and apportioned to SP market shares in accordance with the existing RbD sector principles (i.e. in accordance with the 1, 6 and 12 month apportionment rules (E7.2.1/7.2.2(f)).

Reconciliation Invoices will be issued to all Users (SSP and LSP) to reflect net liability (from Month M) as a consequence of the application of the Apportionment Methodology.

Proposal 0228A

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 –

$$\left[\begin{array}{l} \text{LSP Share of} \\ \text{NDM AQs} \\ \text{(2007/08)} \end{array} - \begin{array}{l} \text{LSP Share of} \\ \text{NDM AQs} \\ \text{(2008/07)} \end{array} \right] \times \begin{array}{l} \text{Total} \\ \text{NDM AQs} \\ \text{(2007/08)} \end{array}$$

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;

AQ1 = Total LSP AQs in current Gas Year

AQ2 = Total LSP AQs in previous Gas Year

mAQ1 = market aggregate NDM AQ in current Gas Year

mAQ2 = 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.

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

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 by way of a formal UNC Modification.

2

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

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

British Gas consider 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.

ScottishPower considers the detection and prevention of theft is a particularly important area and that proposal 0228A will extend incentives to apply to all market sectors.

Others consider this Proposal would lead to arbitrary cost allocation to the LSP sector, leading to potential cross-subsidies of the SSP market. It will therefore not incentivise good practice and will not reduce any of the root causes relating to unallocated gas and hence would not further this relevant objective.

Standard Special Condition A11.1 (b): so far as is consistent with subparagraph (a), the coordinated, efficient and economic operation of

- (i) the combined pipe-line system, and/ or***
- (ii) the pipe-line system of one or more other relevant gas transporters;***

Implementation would not be expected to better facilitate this relevant objective.

Standard Special Condition A11.1 (c): so far as is consistent with subparagraphs (a) and (b), the efficient discharge of the licensee's obligations under this licence;

Standard Licence Condition 4D requires all of the GTs to not discriminate between market participants. The LSP Sector contributes to the volumes of unallocated energy; however all of the costs for unallocated energy are borne by the SSP Sector.

Standard Special Condition A11.1 (d): so far as is consistent with subparagraphs (a) to (c) the securing of effective competition:

- (i) between relevant shippers;***
- (ii) between relevant suppliers; and/or***
- (iii) between DN operators (who have entered into transportation***

arrangements with other relevant gas transporters) and relevant shippers;

The Proposal provides a framework which would make it easier for Shippers to propose different allocations, thereby potentially facilitating competition.

British Gas considers it 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, 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 (unidentified gas).

The use of Theft as the ‘balancing factor’ for RbD in this proposal results in a lower total allocation for the LSP sector. 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.

ScottishPower considers 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.

However, making it easier to propose different allocations increases risk and uncertainty thereby adversely impacting competition. By introducing a framework based on allocating RbD Energy percentage shares, some Distribution Workstream Members felt that there would not be an accurate allocation between Shippers were there to be any move away from the present approach, creating perverse incentives that would adversely impact competition.

Some Shippers felt the proposal would lead to a risk of incorrect apportionment of energy to the LSP market.

Standard Special Condition A11.1 (e): so far as is consistent with subparagraphs (a) to (d), the provision of reasonable economic incentives for relevant suppliers to secure that the domestic customer supply security standards... are satisfied as respects the availability of gas to their domestic customers;

Implementation would not be expected to better facilitate this relevant objective.

Standard Special Condition A11.1 (f): so far as is consistent with subparagraphs (a) to (e), the promotion of efficiency in the implementation and administration of the network code and/or the uniform network code;

Implementation would not be expected to better facilitate this relevant objective.

3 The implications of implementing the 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 (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 the Modification Proposal, including:

a) 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 (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) Development and capital cost and operating cost implications:

An offline process could be used to deal with the revised arrangements set out in the proposal, without the need for significant development.

Transporters consider an on line service may cost £300,000 to develop.

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

The costs associated with this modification proposal are not significant enough to warrant special recovery mechanisms. However, some members felt that this could be considered a User Pays service.

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

No such consequence is anticipated.

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

This proposal does not have any affect on the Transporters' level of contractual risk.

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

Dependant upon the solution adopted changes to systems may be required.

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

Administrative and operational implications (including impact upon manual processes and procedures)

No such implications have been identified.

Development and capital cost and operating cost implications

No such implications have been identified.

Consequence for the level of contractual risk of Users

Introducing this Proposal would increase contractual risk for LSP Shippers in particular, and change the nature of LSP risk as a result of exposure to RBD, while reducing risk for SSP Shippers.

However implementation would help to ensure that risk is re-attributed to the appropriate market sectors.

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

Some Shippers felt I&C consumers may be impacted to the extent that I&C contracts are modified to reflect the existence of the framework within the UNC.

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

No such consequences have been identified.

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

Advantages

Some Shippers felt the Proposal offered the following 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.

Disadvantages identified by some were:

- The Proposal uses the existing RbD smear as the basis for reallocation. The issues highlighted in the table are not directly proportional to the RbD smear, which through the percentage mechanism is the basis on which this modification is proposed.

The Proposal introduces the concept of allocation by percentage market share, which does not reflect the diversity of the I&C market.

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

Written Representations are now sought in respect of this Draft Report.

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

Implementation is not required to enable each Transporter to facilitate compliance with safety or other legislation.

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

Implementation is not 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.

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

No programme for works has been identified.

15 Proposed implementation timetable (including timetable for any necessary information systems changes and detailing any potentially retrospective impacts)

As the proposal addresses a deficiency in present day arrangements it should be implemented as soon as possible.

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

No implications of implementing this Modification Proposal upon existing Code Standards of Service have been identified.

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

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 and Electricity Markets Authority in accordance with this report.

19 Text

Representations are now sought in respect of this Draft Report and prior to the Transporters finalising the Report.

For and on behalf of the Relevant Gas Transporters:

Tim Davis
Chief Executive, Joint Office of Gas Transporters

Appendix 1

RbD Allocation Table

ISSUE	% Of Rbd Error		APPORTIONMENT OF ERROR					Apportionment of RbD					
			% SSP- Non Smart	SSP Remote Meter Reading	%LSP NDM	LSP Remote Meter Reading	% LSP DM	SSP NSmt	SSP AMR	LSP NDM	LSP AMR	LSP DM	
Read submission issues		15.000%	100%		0.000%		0.000%		15.000%		0.000%		0.000%
Late and Unregistered		2.854%	24.000%		74.000%		2.000%		0.685%		2.112%		0.057%
Temp & Press I&C (LSP)		0.000%	62.000%		38.000%		0.000%		0.000%		0.000%		0.000%
Temp & Press Dom (SSP)		0.000%	62.000%		38.000%		0.000%		0.000%		0.000%		0.000%
IGT issues		5.708%	88.000%	As per SSP non smart (pro rata)	12.000%	As per LSP non smart (pro rata)	0.000%	5.023%		0.685%		0.000%	
Shrinkage		0.000%	62.000%		24.000%		0.000%	0.000%					
Theft		76.438%	70.650%		29.350%		14.000%	0.000%	0.000%		0.000%		0.000%
LDZ Metering		0.000%	62.000%		38.000%		0.000%	0.000%	54.003%		22.435%		0.000%
End Supply Metering		0.000%	62.000%		38.000%		0.000%	0.000%	0.000%		0.000%		0.000%
Other		0.000%	62.000%		38.000%		0.000%	0.000%	0.000%		0.000%		0.000%
TOTAL	0	100.000%						74.712%		25.232%		0.057%	
Total Apportionment													
SSP								74.711%					
LSP NDM								25.231%					
LSP DM								0.057%					