

Representation

Draft Modification Report

0335: Offtake Metering Error – Payment Timescales

and

0335A: Significant Offtake Metering Error – Small Shipper Payment Timescales

Consultation close out date: 02 December 2011

Respond to: enquiries@gasgovernance.co.uk

Organisation: Wales & West Utilities Ltd

Representative: Simon Trivella

Date of Representation: 07 December 2011

Do you support or oppose implementation?

0335 - Not in Support

0335A - Not in Support

If either 0335 or 0335A were to be implemented, which would be your preference?

Prefer 0335A (based on the concept of being the “lesser of two evils”)

Please summarise the key reason(s) for your support/opposition.

The main reasons for not supporting either modification are detailed below, in summary:

- It is unclear whether either modification is seeking to introduce a compensatory mechanism or a incentive regime for Transporters, in our view neither proposal does either of these;
- The RIIO-GD1 Outputs and Incentives conclusions have dealt with Offtake Metering Errors and, after industry consultation, concluded that the existing UNC regime is fit for purpose and that meter errors would be a secondary non-financial output within the RIIO-GD1 incentives framework. Implementation of either proposal would directly contradict these arrangements;
- The basis for the time period of 'payback' will often, if not always, be less than the time period from notification to invoicing (i.e. Shippers will have already benefited from deferred payment for longer than the duration of the error);
- Moving the invoicing of energy from National Grid NTS to the relevant GDN will mean that the credit /security, that an affected Shipper is required to have in place with the GDN, will significantly increase putting additional cost and burden upon them;
- Moving the invoicing of energy from National Grid NTS to the relevant GDN will also place additional credit / security requirements on to the iDNs (WWU, SGN & NGN). This will unfairly discriminate between GDNs based upon their size (Regulatory Asset Value) and will have no such impact on National Grid Distribution as they have no requirement to provide credit / security to National Grid NTS due to them being regarded as a single legal entity for UNC credit purposes;
- The analysis and supporting paper that WWU submitted to the RIIO-GD1 Outputs and Incentives Safety & Reliability Working Group¹ shows that the deferred payment benefit that Shippers gain from Significant Meter Errors can be several million pounds and, along with the duration of the error notification process, more than adequately 'compensates' for any cash flow impact;
- The current Meter Error Notification process is working well and provides the industry with an early enough view of the magnitude of any meter error. The vast majority of meter errors are small in volume (energy) and demonstrate how the audit, validation and monitoring processes that GDNs have in place

¹ WWU paper "Offtake Measurement Error Strategy" was submitted for discussion to the RIIO-GD1 Safety & Reliability Working Group in March 2011 and is included in Appendix 1

are working effectively;

- The cost implications of a Significant Meter Error to a GDN are not insignificant (e.g. independent expert contract costs, operational activities to support testing/trials, administrative process) and should already be seen as a sufficient incentive to ensure meter errors are minimised;
- Energy reconciliations can occur through the correction of any data relating to Offtake metering, this includes exit meters connected to the distribution networks. For large sites, or for smaller sites in aggregate, the amount of energy subject to such reconciliations can be larger than the average Offtake Meter Error. There is no audit, validation, industry notification or transparency on such exit metering installations; and
- Modification 0335 has a retrospective element to it as it proposes to apply to measurements error that are currently being dealt with through the Meter Error Notification process, the alternative, modification 0335A, only applies to errors notified post-implementation. We agree entirely with the proposer of 0335A that applying an incentive/penalty regime to Transporters on meter accuracy to errors that have already been notified is wholly inappropriate.

Are there any new or additional issues that you believe should be recorded in the Modification Report?

We believe that all the issues referred to below have previously been discussed at Workgroups and therefore are not 'additional issues'.

Relevant Objectives:

How would implementation of these modifications impact the relevant objectives?

We do not believe that implementation would help to further the relevant objectives. As indicated below, implementation is likely to be detrimental to the furtherance of relevant objectives A11.1(a), (d)(i), (d)(ii), (d)(iii), (e) and (f) of our transporters licence.

Impacts and Costs:

What analysis, development and ongoing costs would you face if these modifications were implemented?

Xoserve have provided a cost estimate covering the central system costs for these modifications, it is likely that the total cost would be between £45k and £100k. Both modifications have been raised as non-User Pays which we believe is in direct contradiction to the User pays Guidelines document. In our view implementation of either modification would bring unjustified benefits to Shippers and therefore they should fund any implementation costs.

There are no development costs for WWU as there would be no change to our own internal meter error processes. However, as mentioned below, the ongoing cost of dealing with an error under the proposed regime would mean that we would incur significant costs due to the credit / security that would be required by National Grid NTS.

Implementation:

What lead-time would you wish to see prior to these modifications being implemented, and why?

Xoserve have produced a ROM for modification 0335 that indicated analysis of the solution requires 16 to 22 weeks with implementation requiring a further 12 to 15 weeks.

We do not believe modification 0335 could be implemented until the system changes had been made as the proposal contains a retrospective element that could apply to meter errors that are currently being processed. Early implementation could mean that Transporters were unable to process an error under the 0335 regime and would therefore be unable to comply with the requirements of the UNC.

Modification 0335A could possibly be implemented sooner as it is highly unlikely that any qualifying errors would be discovered, notified and reconciliation values be ready for invoicing within the 37 week implementation timescales.

Legal Text:

Are you satisfied that the legal text will deliver the intent of each modification?

We are satisfied that the legal text does deliver the intent of the modifications. However, we would like to point out that the extent of the text changes demonstrates the complexity of the modifications and, as mentioned below, supports our position that implementation of either modification would be to the detriment of the furtherance of relevant objective A11.1(f) contained within our transportation licence.

Is there anything further you wish to be taken into account?

Please provide any additional comments, supporting analysis, or other information that that you believe should be taken into account or you wish to emphasise.

As indicated above, the reason for our non-support of either modification is based upon the following reasons:

Intent of modification

It is unclear whether either modification is seeking to introduce a compensatory mechanism or an incentive regime for Transporters; in our view neither proposal does either of these.

Although we do not believe a compensatory regime is required, for the regime to operate as a compensatory mechanism we believe it should be aligned with the Compensation process contained with UNC TPD Section V10. The existing process ensures that level of payments and treatment of Transporters and Users is proportional and non-discriminatory. The proposed mechanisms of 0335/0335A will have a differing magnitude of impact on Transporters/Users and is therefore in direct conflict with relevant objective A11.1(d) of our licence.

We also do not believe that either modification would act as an incentive for GDNs to invest in or improve Offtake metering accuracy. There are already sufficient incentives in place, and obligations, to ensure that Offtake meters function to a high degree of accuracy. As discussed below, our Offtake Meters record over 99.9% of energy entering into the LDZs correctly first time, reconciliations then take place when measurements errors have been identified through any of the detection process that we have in place (e.g. system control monitoring, alarms, annual validation, audits).

RIIO-GD1 Outputs and Incentive conclusions

The RIIO-GD1 Outputs and Incentives conclusions² have dealt with Offtake Metering Errors and, after industry consultation, concluded that the existing UNC regime is fit for purpose and that meter errors would be a secondary non-financial output within the RIIO-GD1 incentives framework. Implementation of either proposal would directly contradict these arrangements.

The Ofgem decision document outlines the issues around Offtake Meter Errors that were raised as part of the RIIO-GD1 Safety & Reliability Working Group discussions and, after considering the points raised by GDNs and Shippers, concluded that an additional financial incentive is not required.

²<http://www.ofgem.gov.uk/Networks/GasDistr/RIIOGD1/ConRes/Documents1/GD1decisionoutput.pdf>

In summary, Ofgem concluded³ that:

"We welcome the output of the working group and the two proposals put forward by the group.

*We have considered the historical meter error data submitted by the GDNs and the processes in place through the JO and have decided to place an output measure on the GDNs to report meter accuracy. **We consider this provides transparency and reputational incentives on the GDNs and that an additional financial incentive is not required.***

*Year on year reporting of the percentage of incorrectly recorded throughput as a percentage of total throughput will illustrate for all GDNs what progress has been made to improve on any LDZ, where historical issues have arisen, and continue to illustrate the reliability of LDZs where accuracy has not been a concern. **Further meter offtake errors impose a short-term rather than ongoing cost on shippers and suppliers as they will be rectified once the errors are reported.***

Based upon this decision we do not believe that it would be appropriate for GDNs to be financially penalised through the UNC for a 'network reliability' matter that will be subject to an industry agreed outputs incentive regime within our transporter licence from April 2013.

Time period of "payback"

Modification 0335 is based upon Shippers having a duration to pay the resulting reconciliation that is equal to the period of the meter error. Our understanding is that this is to mitigate against the cash flow impact that a meter error causes. It is our view that the energy (gas) that relates to the reconciliation has already been offtaken by Suppliers and sold on to the end consumer.

In the majority of cases, the time taken from initial notification of an error to the reconciliation invoices being raised will be greater than the error duration. For example, the Aberdeen error spanned for a period of 12 months and therefore under modification 0335 the payback period would be 12 months from the Significant Meter Error Report being published. The Aberdeen error was first notified in September 2010 and is unlikely to be concluded by summer 2012. With a period of notification of almost 20 months we see no justification for delaying the correct apportionment of costs to the relevant Shippers for a further 12 months.

We believe that the existing Meter Error notification process offers an appropriate period of time for Shippers to assess the financial impact of an error and mitigates any suggested cash flow issues. Modification Proposal 0185VV introduced the Meter

³ Paragraphs 9.53, 9.54 and 9.55 of the Ofgem decision document

Error Notification Process and one of the proposed benefits from its implementation was that:

"Greater transparency and early notification should reduce risk to Users, who may also wish to take advantage of the ability to propose changes to the Guidelines with a view to further reducing risk."

Ofgem agreed with this point and within the decision letter stated:

"Such a change will improve transparency and will allow users to assess the likely impact of errors upon their business at an earlier stage..."

We therefore do not believe that an additional period of 'payback' is required and the existing arrangements that were introduced through Modification Proposal 0185VV already provide sufficient payment timescales and transparency for Shippers.

Credit arrangements for Shippers

Moving the invoicing of energy from National Grid NTS to the relevant GDN will mean that the credit /security, that an affected Shipper is required to have in place with the GDN, will significantly increase putting additional cost and burden upon them.

As the cost of the reconciliation energy (gas) will be paid to NG NTS by the GDNs the Shippers will then be liable for payment to the GDNs. For large errors payable over a short period of time (e.g. a few months) the monthly invoiced amounts are likely to be significant to some Shippers and will undoubtedly result in an increase in the credit / security required by the GDN. We have seen numerous modifications recently related to small Shippers available credit and the profiling of payments to GDNs, this modification can only exacerbate the issue. The requirement for additional security will ultimately be borne by the end consumer or, if absorbed by the Shipper, will be of significant detriment to competition for smaller Suppliers/Shippers.

By deferring the payment for energy will also increase the risk to the industry should a Shipper fail prior to completing the payback to the GDN. As the GDN will have been operating within the credit rules and invoicing requirements of the UNC, the bad debt created by such a failure it is likely that this would be passed on to the industry.

Credit and financing arrangements for GDNs

Moving the invoicing of energy from National Grid NTS to the relevant GDN will also place additional credit / security requirements on to the GDN. This will unfairly discriminate between GDNs based upon their size (Regulatory Asset Value) and will have no such impact on National Grid Distribution (due to NG being a single legal entity for UNC credit purposes). If this regime is to act as an incentive on GDNs then we would expect the impact to be proportional to the issue and to be proportional across the GDNs.

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This is clearly not the case and this regime would therefore be detrimental to the furtherance of relevant objective A11.1(d)(iii) the securing of effective competition between DN operators.

WWU paper on Meter Error process (Appendix 1)

As part of the RIIO-GD1 Safety & Reliability Working Group discussions WWU submitted a paper outlining the current Meter Error Notification Process, the work that GDNs currently undertake to ensure meter accuracy and some analysis on existing GDN Offtake metering measurement accuracy. We have included the paper within Appendix 1 of this response. The data used for the analysis contained within the report, and referred to below, is based upon the Meter Error Notification information published on the Joint Office website in March 2011.

We would like to this opportunity to highlight some key points from the paper that are relevant to these modifications:

Overall meter accuracy

"There have been 92 NTS/LDZ Offtake measurement errors reported in total since December 2009; the Total Energy associated with these errors is 5,247 Gwh. This compares to the total LDZ demand for the same period of 880,752 Gwh and gives a measurement error rate of 0.596%. This means that the GDNs have accurately measured 99.4% of all LDZ energy within the period."

The two largest measurement errors have been:

- *Aberdeen MTA Offtake - accounts for 61.4% of the total energy; and*
- *Braishfield B MTB Offtake - accounts for 22.1% of total energy*

Together these two measurement errors account for 83.5% of the total energy related to measurement errors.

Excluding these 2 measurement errors would equate to an error rate of just 0.098% (or 99.9% accurately measured energy). These figures clearly demonstrate that the GDNs are already diligently measuring almost all gas that enters their networks."

It is quite clear that the magnitude of these 2 errors has been the catalyst for these modifications. Whilst we appreciate the magnitude of these 2 errors they have occurred within one GDN that has since worked with the industry to put in place the appropriate measures to lessen the likelihood of future occurrences. The data above clearly demonstrates that the vast majority of meter errors are immaterial, dealt with effectively under the existing process and that GDN Offtake meters are successfully recording over 99.9% of all energy entering the networks.

Deferred payment benefit to Shippers

"The largest measurement error that has occurred (~3,200 Gwh) spanned a time period of approximately 12 months

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and, following the work carried out by the ITE, the financial adjustment will take place approximately 12 months later. The total cost of the financial adjustment is likely to be in the region of £40 million, compared to the cost of the total LDZ energy for the period which would be approximately £8 billion.

Where, as in this case, an under registration of gas has occurred, the downstream Shippers will not be allocated the correct amount of gas for their customers and therefore will have not paid for it. Deferring the payment for the gas will be of benefit to Shippers and, in this example, would lead to a net gain of approximately £2 million."

As above, this data was collated in March 2009 and, for the purposes of the report, the expected invoicing date for the Aberdeen Significant Meter Error was conservatively estimated to be June 2010. We now do not anticipate the invoicing of this error to occur before June 2012, this would increase the deferred payment benefit to Shippers to approximately £3.2m.

As the paper goes on to state:

"The adjustments are carried out to ensure that the Shippers that have provided, via their Supplier, gas to their customers are correctly charged for the gas they have already offtaken/sold as recorded at the consumer's meter. There is therefore no enduring consequence to Shippers from Offtake meter measurement errors."

The figures demonstrate that the impacts of meter errors do not warrant further delays to the reconciliation process and that the longer such reconciliations take the greater benefit there is to those parties that should be subject to them. It is therefore clearly unnecessary and inappropriate to place further cost and complexity on GDNs and the industry through implementation of either of these modifications and, by doing so, would be in direct conflict with the furtherance of relevant objectives:

- A11.1(d)(i), (d)(ii) & (d)(iii) the securing of effective competition between parties as allocation of costs and additional costs will be inappropriately delayed or placed upon parties;
- A11.1(f) the promotion of efficiency in the implementation and administration of the UNC by implementing a complex invoicing regime that has no demonstrable benefit; and
- A11.1(a) the coordinated, efficient and economic operation of the GDN's pipeline systems as implementation will not increase the accuracy of Offtake metering but will create unwarranted additional costs for GDNs.

Existing Meter Error Notification Process

The current Meter Error Notification process is working well and provides the industry with an early enough view of the magnitude of any meter error. The vast majority of meter errors are small in

volume (energy) and demonstrate how the audit, validation and monitoring processes that GDNs have in place are working effectively. This is consistent with the output from the RII0-GD1 discussions and with Ofgem's decision on future incentives and outputs.

The Meter Error Notification process is subject to industry governance under the UNC process. This governance has already led to improvements in the transparency of GDN reporting (e.g. audits, validation) and incremental enhancements to the guidelines. We would welcome future discussions at the Offtake Arrangements Workgroup of any potential improvements or changes that the industry believes may be beneficial.

Implications for GDNs of Meter Errors

The cost implications of an Offtake measurement error to a GDN are not insignificant. There is a base level administrative cost of complying with the Meter Error Notification Guidelines, however, where a Significant Measurement Error is discovered the costs will include:

- Contractual costs of the industry selected independent expert;
- Operational activities to support testing and trials that the independent expert wants to carry out; and
- Additional administrative activities involved in OAW attendance and the update process.

Costs for a single Significant Measurement Error can easily be over £100k and this is already seen as a more than adequate incentive on GDNs to ensure meter errors are minimised.

There are also significant reputational impacts from Offtake Meter Errors and, moving to a RII0-GD1 regime that focuses on Stakeholder Engagement and Customer Satisfaction as two key outputs, this also acts as a robust incentive for GDNs to minimise the duration and volume of Offtake Meter Errors and in turn minimise the exposure to Stakeholders.

Meter errors not covered by the Meter Error Notification process

Energy reconciliations can occur through the correction of any data relating to Offtake metering, this includes exit meters connected to the distribution networks. For large sites, or in aggregate, the amount of energy subject to such reconciliations can be greater than the average Offtake Meter Error. There is no audit, validation, industry notification or transparency on exit meter errors. It therefore seems wholly inappropriate to introduce financial penalties on GDNs that operate under the successful meter error notification process whilst other metering installations are not subject to any industry or regulatory scrutiny. The AUGER process may go some way to quantify exit meter accuracy discrepancies and make the appropriate financial adjustments between the SSP and LSP markets, however, this does not tackle the root cause.

Retrospection (0335 only)

Modification 0335 has a retrospective element to it as it proposes to apply to measurements error that are currently being dealt with through the Meter Error Notification process, the alternative, modification 0335A, only applies to errors notified post-implementation. We agree entirely with the proposer of 0335A that applying an incentive/penalty regime to Transporters on meter accuracy to errors that have already been notified is wholly inappropriate.

Hopefully these comments are helpful to the Modification Panel and to the Authority; please do not hesitate to contact me should you have any questions relating to this matter.

Yours sincerely

{By email}

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Offtake Measurement Error Strategy

GDN Paper - Safety & Reliability Working Group

9th March 2011

Final Version 1.0



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1. Document History

<i>Document reference</i>	<i>Date of creation</i>	<i>Created by</i>	<i>Approved by</i>
Offtake Measurement Error Strategy V1.0	10/03/2010	WWU	NGG/SGN/NGN

2. Measurement Error Reporting

2.1 Reporting Process

The process for reporting Measurement Errors through the Joint Office (JO) had been implemented on the 1st September 2008 under Modification 0185VV. After identification of a potential Measurement Error the Gas Distribution Network (GDN) is required to provide the JO with details of the error for publication on the JO of Gas Transporters website, as part of the Measurement Error Notification Mechanism.

A reasonable estimate is initially required to confirm if the error qualifies as:

- A Significant Measurement Error Report (SMER) or
- A Measurement Error Report (MER) or
- A Null Report (NR).

A Measurement Error that is estimated to be greater than 50 Gwh qualifies as a SMER with those estimated to be less than 50 Gwh qualifying as a standard MER. If, for every day within the identified error duration, the error represents less than 0.1% of the end of day quantities measured at that Offtake, then no reconciliation will be made for any day within the error duration and a null report written. The compilation of MER's and Null Reports is the responsibility of each relevant GDN, however where the error qualifies as a SMER an Independent Technical Expert (ITE) must be appointed through the Joint Office, Offtake Arrangement Workstream. If it is expected that on final production of a MER that the error would either exceed the 50 Gwh threshold or the error could have significant implications for the industry then the process for compilation of a SMER would be implemented. The ITE is required to submit the SMER evaluation methodology to the JO prior to providing the completed SMER to the relevant GDN for publication. Following the publication and subsequent invoicing of a Measurement Error a final notification is provided to confirm closure of the error via the JO of Gas Transporters website, in accordance with the Measurement Error Notification Mechanism.

2.2 Role of the GDN's

Upon identification of a Measurement Error it is the responsibility of the relevant GDN to correct the fault and inform the upstream party. Where an error exists, the GDN is required to provide the upstream party with the relevant corrected readings. As part of the Measurement Error Notification Mechanism each GDN is required to complete and submit to the JO a Measurement Error Notification Pro-forma (Fig. 1). This is updated throughout the SMER/MER production process and re-issued to the JO for publication. As previously mentioned SMERs must be completed by an ITE with MERs and NRs being completed by the relevant GDN, however an ITE may also be appointed to compile the MER/NR.

Prior to publication, the SMER, MER or NR is issued to the Upstream Party (NG NTS). NG NTS, as the Upstream Party, are also acting as the NTS Shrinkage Manager as any adjustment to NTS/LDZ Offtake quantities will have an equal and opposite effect to NTS Shrinkage. At this stage the report is examined, where any queries are communicated to the relevant GDN before sign off and subsequent publication. Using the daily correction factors in the SMER or MER the upstream party (NTS) adjust the daily volumes recorded in the central systems (e.g. Gemini). The information is also shared with Xoserve, acting as the joint Transporter Agent, in order for the necessary invoices to be issued to Shippers for both upstream and downstream parties.

Measurement Error Notification			
Unique Reference Number (Allocated by Joint Office)			
Error Status			
Brief Description			
Reason Measurement Error Detected			
Process Dates	Latest Notification Update		
	Anticipated MER/SMER Publication		
Measurement Error Dates	First Notified		
	Discovered		
	Started (or last good read)		
	Corrected		
Offtake			#N/A
Transporter	Upstream	✓	#N/A
	Downstream	✓	#N/A
Meter Type		✓	#N/A
LDZ		✓	#N/A
Average flow rates for the meter for the perceived duration of the Measurement Error (MCM/Day)			
Assessed volume of error (MCM)			
Estimated quantity of error (GWh)			
Estimated Significance		Medium	>= 30, < 50 GWh
Systematic Bias?		Yes	
Over or Under Read?		Over	

Fig 1. Measurement Error Notification pro forma

2.3 What are the risks?

Notification of a Measurement Error indicates that the measurement system has not functioned correctly for a period of time. Many scenarios exist that can manifest as a mis-measurement, which will have commercial implications of varying impact depending on the scale of the error.

Unrestricted access to Measurement Error updates published through the JO website allows for visibility and scrutiny by all GDNs and the wider industry. The nature of the associated error fault may indicate non-compliance with any Regulatory, Commercial, Industry and/or engineering standards, which can seriously tarnish a GDNs reputation.

2.4 Measurement Error Analysis

There have been 92 NTS/LDZ Offtake measurement errors reported in total since December 2009; the Total Energy associated with these errors is 5,247 Gwh. This compares to the total LDZ demand for the same period of 880,752 Gwh and gives a measurement error rate of 0.596%. This means that the GDNs have accurately measured 99.4% of all LDZ energy within the period.

The two largest measurement errors have been:

- Aberdeen MTA Offtake - accounts for 61.4% of the total energy; and
- Braishfield B MTB Offtake - accounts for 22.1% of total energy

Together these two measurement errors account for 83.5% of the total energy related to measurement errors.

Excluding these 2 measurement errors would equate to an error rate of just 0.098% (or **99.9% accurately measured energy**). These figures clearly demonstrate that the GDNs are already diligently measuring almost all gas that enters their networks.

The largest measurement error that has occurred (~3,200 Gwh) spanned a time period of approximately 12 months and, following the work carried out by the ITE, the financial adjustment will take place approximately 12 months later. The total cost of the financial adjustment is likely to be in the region of £40 million⁴, compared to the cost of the total LDZ energy for the period which would be approximately £8 billion.

Where, as in this case, an under registration of gas has occurred, the downstream Shippers will not be allocated the correct amount of gas for their customers and therefore will have

⁴ This is based on the System Average Price (SAP) for the period.

not paid for it. Deferring the payment for the gas will be of benefit to Shippers and, in this example, would lead to a net gain of approximately £2 million⁵.

2.5 Impact on Shippers

The financial impact on Shippers⁶ from a measurement error is triggered once the error has been quantified and the corrected readings have been provided to the upstream Transporter (i.e. National Grid NTS). The corrected readings are then used to carry out a financial reconciliation covering the period of the measurement error.

As the analysis in 2.6 shows historically the materiality of such measurement errors and adjustments has not been significant in comparison to the total amount of gas entering the GDN networks and the cost of day-to-day Shipper/Supplier activities. The adjustments are carried out to ensure that the Shippers that have provided, via their Supplier, gas to their customers are correctly charged for the gas they have already offtaken/sold as recorded at the consumer's meter. There is therefore no enduring consequence to Shippers from Offtake meter measurement errors.

There is no impact on consumers from Offtake meter measurement errors as consumers are billed on the volumes of gas offtaken that is calculated or derived from their meter readings.

Measurement error adjustments are carried out for all errors above +/- 0.1%.

⁵ This is based on having a 3.5% cash flow benefit of payment deferral (equivalent to cash in the bank or the cost of financing other debt).

⁶ The Shippers impacted by the financial reconciliation that is triggered by a measurement error are those Shippers that have Supply Points on GDN networks with an AQ <73,200Kwh (known as Smaller Supply Points (SSP)).

88% of reported measurement errors have been classified⁷ as “Low Significance”. The criterion for a Low Significance Error is that it must equate to less than 30Gwh. On average there are approximately 3 Low Significance Errors per month and the average energy value for each Low Significance Error is 4.8 Gwh, giving an average total monthly Low Significance Error value of 14.4Gwh; The average monthly LDZ demand of 52,720 Gwh.

A measurement error at an NTS/LDZ Offtake will result in over/under registration of energy that will have an opposite impact on NTS Shrinkage volumes. Any measurement error correction will apply equally to both and, through the reconciliation process, the counterparties to LDZ energy and NTS Shrinkage (i.e. Shippers) will correctly fund each element.

For information, the financial adjustments that are the result of a measurement error correction cover 3 types of charges:

- 1) Commodity/Energy Charges (cost of gas) (billed by NG NTS);
- 2) GDN Transportation Charges (billed/collected by the relevant GDN); and
- 3) NG NTS Transportation Charges (billed/collected by NG NTS)

Commodity/Energy Charges

The largest proportion of a measurement error reconciliation will be the Energy charges that Shippers receive via the Reconciliation by Difference (RbD) process, this will account for approximately 96% of the financial reconciliation. Charges through RbD, which can be positive or negative, are borne by Shippers based on their proportional share of the Smaller Supply Point (SSP) market. This adjustment ensures that Shippers are correctly allocated the gas that has been offtaken and paid for by their customers.

GDN Transportation Charges

⁷ Classification of measurement errors as ‘Low/Medium/High Significance’ is a requirement of the UNC process contained within the Measurement Error Notification Guidelines for NTS to LDZ and LDZ to LDZ Measurement Installations.

The impact of GDN Transportation Charges is limited as 96.5% of this charge is based on Capacity rather than Commodity (i.e. throughput). Transportation Capacity charges are not subject to reconciliation so it is therefore only the Transportation Commodity Charge (3.5%) which will be affected by an MER/SMER and will result in either a positive or negative financial adjustment to relevant Shippers. This accounts for less than 2% of the total reconciliation amount.

NTS Transportation Charges

Similar to the GDN Transportation Charges, these are fairly insignificant when compared to the cost of Energy and will only account for approximately 2% of the total reconciliation amount.

For Measurement Errors prior to October 2008 there would also be an LDZ Shrinkage Adjustment as the Shrinkage Factor is applied to LDZ throughput. As Shrinkage is now based on fixed volumes no future adjustments to LDZ Shrinkage will be necessary.

When any Measurement Error is corrected, and the subsequent energy reconciliation takes place through RbD, there is an equal and opposite impact to the NG NTS Shrinkage regime. Any measurement error that was under registering the amount of gas being offtaken at an NTS/LDZ Offtake will have artificially inflated the amount of NTS Shrinkage. The cost of NTS Shrinkage is borne by Shippers that have customers directly connected to the NTS. NG NTS are also financially impacted through their licence incentive mechanism. Although all measurements error will impact on NTS Shrinkage they may not always result in a financial one and, even when they do, as with the RbD adjustment the amount is proportionally immaterial. Whether a financial adjustment is required or not will depend on the timing and duration of the error, and the length of time it has taken to identify the error, investigate and to calculate the corrected readings. If this all takes place within a short period of time then the NTS Shrinkage adjustment may not have been included in any NTS charge adjustment to account for the apparent increase/decrease in NTS Shrinkage and will therefore not require any subsequent adjustment.

2.6 Impact on Gas Transporters (GDNs and NG NTS)

The financial cost to GDNs of any Measurement Error will include the following:

- Cost of physical investigation;
- Administrative activities (compiling reports, liaising with the Joint Office etc.);
- Attendance at Offtake Arrangements Workstreams; and
- Contractual costs for MER production (where an ITE is required)
- Potential expenditure to correct the fault

These impacts, along with UNC obligations, act as a significant driver and incentive for GDNs to ensure Offtake measurement errors are minimised, are rectified as soon as possible and that adjustment are carried out in a timely manner to ensure all parties have correctly paid for the gas they have offtaken.

2.7 Risk Mitigation

In order to mitigate the frequency and impact of Measurement Errors a number of processes and procedures are implemented.

- **Annual Validation:** Validation of Measurement equipment is completed in accordance with Section D of the Offtake Arrangements Document (OAD) (which sets out the responsibilities for the maintenance and Routine Validation of Measurement Equipment (procedures T/PR/ME2 Part 1, 2 & 3), at an Offtake, Inter-LDZ installation, non-diurnal Storage installation or Entry Point by the GDN. A Routine Validation is scheduled and undertaken at least once every twelve months or when the Measurement Equipment is significantly modified or replaced. Upon completion of a Routine Validation a Validation Report is made available to the Upstream Party. (N.B. An Exceptional Validation is performed at the request of the Upstream Party.)
- **Daily Monitoring:** Telemetered real time and derived data via GTMS (Gas Transporter Management System) and previous Gas Day data via HPMIS (High Pressure Metering Information System) is screened on a daily basis to ensure correct performance of measurement equipment.

- **Annual Witnessing Programme:** An Annual Witnessing Programme has been established where a selection of sites are attended by the Upstream Party during the Routine Validation process. This is in place to ensure that the above procedure, T/PR/ME2 Part 1, 2 & 3, is being adhered to.
- **Annual Metering Audit:** An independent metering expert is appointed to audit an Ofgem agreed selection of metering installations. This ensures compliance with validation procedures T/PR/ME2 Part 1, 2 & 3 and T/PR/GQ/3 and also assesses meter performance against the requirements of conditions set out in the agreed Supplemental Agreements of OAD.
- **SGS Inspections:** SGS, on behalf of Ofgem, complete annual inspections on GDN's metering systems as well as performing quarterly inspections (less frequently if no issues identified) on the Gas Quality (CV) systems.

3. Fault Events

The JO notification process has provided visibility to a range of events that have manifested as a Measurement Error. The cause of a measurement error is often by nature unavoidable (e.g. multiple component failure due to lightning strike) however through providing continued visibility and discussion around Measurement Errors it would be hoped that a reduction could be achieved in the frequency, or at least scale of more controllable Measurement Error associated faults.

Below is a list of factors that have resulted in or have the potential to generate a Measurement Error.

- Instrument drift / malfunction
- Contamination
- Force majeure situations (extended power outages, vandalism, floods, lightning strikes etc.)
- Sudden failures

- Incorrect entry of system data / operating parameters
- Incorrect installation / orientation of measurement equipment

4. Output Measure Options

Primary Measure

- **Error significance** (Percentage of daily throughput or amount of LDZ energy)

The example illustrated below in Table 1 could be a potential output measure which will identify the absolute accuracy of NTS/LDZ Offtake metering. **The numbers in the table below are fictitious and are for illustrative purposes only**

Asset Name LDZ 1	Total throughput in period of error	Corrected throughput in period of error	Energy correction in period
Offtake A	1,000,000	1,250,000	250,000
Offtake B	2,000,000	2,000,000	0
Offtake C	4,000,000	3,900,000	-100,000
Total LDZ 1	7,000,000	7,150,000	350,000
Total throughput in year for LDZ 1 - 100,000,000			
Throughput corrected (absolute) - 350,000			
Percentage inaccurate in period - 0.35%			

Table 1

For understanding the following data is contained above.

Each Offtake in LDZ 1 (in the period) had a MER submitted to the Joint Office. In two instances a correction resulted. An under read correction for Offtake A and an over read correction for Offtake C. No correction was required for Offtake B despite a MER being issued.

It is appropriate to measure the absolute LDZ error of reporting (i.e. no netting off). In this instance 350,000 was read in error. In the example given this is contrasted with the total volume of gas transported through these offtakes (100,000,000). This equates to a percentage absolute error of 0.35%. Note this LDZ has 3 offtakes, and in this proposed measure the total throughput would be measured against all offtakes irrespective of whether they had a MER issued in the period.

Reporting this percentage year on year will illustrate for all LDZs what progress is being made to either (i) improve on any LDZ where historical issues have arisen (ii) continue to illustrate the reliability of LDZs where accuracy has not been a concern. This trend across 13 LDZs will allow all parties to clearly identify the GDNs safety and reliability in this key area.

Secondary Measures

- **Notification timescales** (once discovered how long does it take to notify)

The time taken to issue a notification to the JO following identification of a Measurement Error may be considered as a secondary measure. However in order to facilitate the process of notification, the submission of error size would not necessarily accompany the notification at this first stage.

- **Duration of error / time taken to spot it** (maybe only for significant errors)

Another option that may be considered as a secondary measure, which if implemented would require suitable parameters.

5. Incentives Mechanisms

Whilst we are supportive of having suitable Output Measures, the measurement error analysis shown above (2.6) clearly demonstrates that financial incentives are not appropriate for NTS/LDZ Offtake measurement errors.

Any incentive mechanism should ensure that it suitably evaluates the materiality of 'performance' that it drives the right behaviour and can be the stimulus for improvement. With accuracy levels of over 99.9% and no demonstrable financial implications for Shippers, Suppliers or consumers, we do not see this being a suitable candidate for a financial incentive mechanism.

There are clear risk mitigations already in place (as covered above) and the industry wide Offtake workgroup meetings and the UNC processes for notification, rectification and adjustments, provide a clear focus on all aspects of Offtake metering performance.

If any incentive mechanism is to be considered in this area, further work will be required to establish what, if any, action would facilitate improvements in GDN 'performance' that could have any meaningful impact on the occurrence of faults.