IME3 Compliance

for 2015

Balancing and Scheduling

Business Rules for Industry Consultation

Version 1.0

14th May 2015

Contents

1. Introduction

1.1.   It is necessary for Northern Ireland to comply with EU Regulations, specifically EU 715/2009, which requires (amongst other things) non-discriminatory and transparent balancing rules for network users, and the Balancing Regulation (EU 312/2014) which requires (amongst other things) that TSO's undertake residual system balancing by adoption of a compliant approach. The Balancing Regulation also specifies rules for nominations, including trade nominations, which are being addressed in the NI TSOs Nominations Business Rules and PTL Code Modification Proposal 31/GNI (UK) Code Modification Proposal 16.

1.2.   The Balancing Regulation intends that TSOs should aim to develop traded markets within their balancing zone by introducing market based balancing rules, with the ideal compliant model being that the TSO can then use that market to buy/sell residual balancing gas at the best possible prices. Options for residual system balancing include a trading or balancing platform, however there is currently insufficient activity in the NI gas market to support the development of either of these. Therefore the NI TSOs are implementing an 'Interim Measures' approach.

1.3.   On 10th November 2014 the NI TSOs issued a report on 'Interim Measures' for Industry Consultation. This report set out the context of the EU balancing requirements, including some detailed explanation of the various options for compliant approaches under the Balancing Regulation, and the reasoning why the NI TSOs recommended an 'Interim Measures' approach. The report was subsequently issued to the Utility Regulator for approval, which was granted on 26th March 2015.

1.4.   A key feature of the proposed Interim Measures approach is the use of 'Balancing Services' for residual system balancing [1]. NI already has an effective means for procuring balancing gas (balancing gas contracts) which satisfies the criteria for being an interim measure. Therefore, the NI TSOs will continue to rely on balancing gas contracts in the way that they do at present, although the NI TSOs anticipate that the contracts will be developed in due course to reflect the entry-exit model. This development is discussed in this document, although the NI TSOs are proposing only minimal change at this time in order to prioritise wider EU compliance requirements.

1.5.   For Shippers, a key benefit of the Interim Measures approach is the retention of Shipper balancing tolerances, for a transitional period at least. These apply a certain level of tolerance to the accuracy with which a Shipper balances its inputs and outputs, such that imbalances within the tolerances are not penalised – only larger imbalance positions exceeding the tolerance level are penalised. The NI Codes already contain rules for tolerance calculations, but to date, a Shipper's imbalance has been calculated 'per contract path' within the 'point-to-point' transmission regime. With the move to an entry-exit model, a Shipper will now have an overall NI imbalance position based on its aggregate system inputs and outputs. How the aggregate inputs and outputs are to be calculated is set out in the Allocations Business Rules and in PTL Code Modification Proposal 32/ GNI (UK) Code Modification Proposal 17.

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[1] Residual system balancing is balancing action by the TSO which is required when Shippers do not/are unable to balance their own inputs and outputs

1.6.   This Business Rules document sets out how the NI TSOs will modify current Balancing Tolerances and Charging rules for compliance with the Interim Measures approach under the Balancing Regulation and for the new entry-exit regime.

1.7.   These Rules will be developed into a Code Modification Proposal, and so will be effective, if approved, from the dates specified in that Code Modification Proposal.

2.   Relevant Context

2.1.   The following points are key elements of relevant context for these Business Rules:

a.   The current NI 'point to point' regime will be replaced with an Entry-Exit regime from 1st October 2015;

b.   Business Rules for Nominations and Allocations at Interconnection Points which introduce trading functionality, compliant nominations processes and an 'allocate – as-nominate' regime at IPs will be effective from October 2015;

c.   Potential future market developments may provide some trade in the NI market place, and also the potential for increased interconnection capacity. Should either of these develop, it might indicate that a balancing platform could be a useful means of both encouraging further market development and/or sourcing balancing gas even more competitively. The NI TSOs would keep this under review and if appropriate implement a balancing gas platform. They would also, over time, review the competitiveness of the existing balancing gas contracts and see if there was merit in introducing a direct TSO-trades-at-the-NBP approach as well. However, the NI TSOs are not implementing either a balancing platform or a trading platform at this time;

d.   Under Interim Measures, the Balancing Regulation requires that tolerances reflect network flexibility, user's needs, and reflect the level of risk to Shippers in managing the balance of their inputs and offtakes. They should only apply to the minimum extent and for the minimum duration necessary. It also states that the design of tolerance levels should not undermine the development of the short term wholesale gas market, nor result in an unduly excessive increase of the transmission system operator's balancing action costs. As discussed in the Interim Measures Report, as a consequence, the NI TSOs shall review the level of tolerances on an ongoing basis, and in particular annually, and shall propose changes to tighten the tolerance levels as and when they deem it to be appropriate to do so, including during the Gas Year if necessary.

e.   Under the Balancing Regulation, the tolerance level applicable for non-daily metered (NDM) off-takes should be based upon the difference between the relevant forecast of a Shipper's NDM off-takes and its' allocation for NDM off-take. The NI TSOs do not currently receive the relevant granularity of data from DNOs to perform this calculation. However, it is anticipated that this data will be sent

following 'Exit Review in 2016', which will enable further consideration of how to best meet this requirement.

f.   Shippers are required to provide Downstream Load Statements and maintain such statements up-to-date, in accordance with section 17 of the Code. Downstream Load Statements are used in the calculation of a Shipper's tolerances and so maintaining accuracy in these Statements is important. Please see PTL CAM Modification Proposal 28/GNI (UK) CAM modification Proposal 14, Code section 17.9.

g.   Terms with capital letters in these Business rules are defined in this document, or otherwise have the meanings given to them in the Codes. The NI TSOs may use different terms when developing the Code drafting.

3.   New Concepts

3.1.   The individual balance position of each Shipper with respect to a Gas Flow Day will be determined as the sum of their total system inputs less the sum of their total system outputs (as opposed to calculating multiple balance positions by 'contract path').

3.2.   In the determination of the Shipper's individual balance position, a Shipper's trade buys count as an input to the Shipper's individual balance position and trade sells count as an output from their balance position.

3.3.   A single Balancing Charge will be invoiced/credited in respect of a Shipper's Negative or Positive Imbalance.

3.4.   Scheduling Charges, which are designed to incentivise accurate Shipper nominations, will continue to be calculated and applied at Exit Points. Since Balancing Charges will now be applied in aggregate, a separate Scheduling Tolerance will be determined in respect of each Exit Point, such that the incentive to nominate accurately is maintained in respect of each Exit Point. However the NI TSOs are not currently proposing to amend the calculation of the Scheduling Tolerance.

BUSINESS RULES

4.   Aggregate NI Imbalance

4.1.   For each Shipper, in respect of each Gas Flow Day, its' **Aggregate NI Imbalance"** or **"ANII"** shall be determined as:

$$ANII = \text{Aggregate NI Entry Allocation}_D - \text{Aggregate NI Exit Allocation}_D$$

where:
Aggregate NI Entry Allocation $_D$ = Σ Final IP Entry Allocations $_D$ + Σ Trade Buy Allocations $_D$; and

Aggregate NI Exit Allocation $_D$ = Σ Final Exit Allocations $_D$ + Σ Final VRF IP Exit Allocations $_D$ + Σ Trade Sell Allocations $_D$;

where in each case, the sum of allocations is determined across the whole of the NI network, as set out in PTL Allocations Code Modification Proposal 32/GNI (UK) Allocations Code Modification Proposal 17.

4.2.   A **"Negative Imbalance"** is where the Shippers' Aggregate NI Entry Allocation is less than its Aggregate NI Exit Allocation on any Gas Flow Day.

4.3.   A **"Positive Imbalance"** is where the Shippers' Aggregate NI Entry Allocation exceeds its Aggregate NI Exit Allocation on any Gas Flow Day.

5.   Imbalance Tolerance

5.1.   There shall be no contribution to the Imbalance Tolerance in respect of Entry Points, as gas will be allocated as nominated at IP's and there are no Entry Points to the NI network which are not IPs.

5.2.   Trades at the NI Balancing Point will not contribute towards a Shippers' Imbalance Tolerance Percentage, as these will also be allocated as nominated.

5.3.   For each Shipper, a single aggregate **"Imbalance Tolerance Percentage"** or **"ITP"** will be calculated as a weighted average across all the NI Exit Points which the Shipper supplies. The existing formula for 'exit point tolerance' is therefore essentially applicable (since it incorporates all the possible load categories), and the NI TSOs propose to re-state the formula to ensure it covers all the NI Exit Points together. The Shipper's Imbalance Tolerance Percentage will be calculated as follows:

$$\text{ITP (as \%)} = \frac{100}{TCvm} \times (a+b+c+d)$$

where:

a = ∑Cvm x Cf for Un1

b = ∑Cvm x Cf for Un2

c = ∑Cvm x Cf for Un3

d = ∑Cvm x Cf for Un4

∑Cvm = max quantity (in kWh/d) required to supply all the Shippers' demand in the relevant load category on a Gas Flow Day at all NI Exit Points, as set out in the Shippers' Downstream Load Statement

TCvm = aggregate of each ∑Cvm

Un identifies the load category according to the Load Category Weighting Table

Cf =   weighting factor depending on the load category as listed in the Exit Point
        Tolerance Table

Exit Point Tolerance Table

Un	Downstream Load Category	Applicable Tolerance (Cf)
1	Power Generation	3%
2	>1,456,416,000 kWh/yr	3%
3	>733 but < 1,456,416,000 kWh/yr	10%
4	<733,000 kWh/yr	20%

5.4.   The NI TSOs shall be permitted to query the information in a Downstream Load
        Statement and/or request an update at any time, and may amend the Applicable
        Tolerance to be applied as it believes appropriate if necessary.

5.5.   The Imbalance Tolerance Percentage is a weighted average of the percentage tolerance
        applicable for each load category, and will be applied to the Exit Allocations of the
        Shipper in respect of each Gas Flow Day in order to determine an Imbalance Tolerance
        Quantity for each Gas Flow Day, and consequently the Balancing Charges payable to/to
        be paid by the Shipper, in accordance with the following paragraphs.

5.6.   In respect of a Gas Flow Day, the NI TSOs shall determine a Shippers' **"Imbalance
        Tolerance Quantity"** or **"ITQ"** by applying the weighted average percentage tolerance to
        the sum of a Shipper's Exit Allocations (though not including Trade Sell Allocations as
        these are allocated whole) where:

        $ITQ = ITP \times (\Sigma \text{ Final Exit Allocations }_D + \Sigma \text{ Final VRF IP Exit Allocations }_D)$

5.7.   Where a Shipper's Aggregate NI Imbalance exceeds its Imbalance Tolerance Quantity
        on a Gas Flow Day, the NI TSOs shall determine the amount of the Shippers **"Marginal
        Imbalance Quantity"** or **"MIQ"** as follows:

        MIQ = Aggregate NI Imbalance - ITQ

5.8.   In respect of a Gas Flow Day, where the Shipper has:

        (a)   a Negative Imbalance, it shall be required to pay Balancing Charges;

        (b)   a Positive Imbalance, it shall be eligible to be paid Balancing Charges;

        where the relevant Balancing Charges are to be calculated in accordance with
        paragraph 6 below.

5.9.   As currently stated in the Code, if a Shipper has a Negative Imbalance and/or Positive
        Imbalance which exceeds its Imbalance Tolerance Quantity on 4 consecutive days, or on
        6 days in a month, the NI TSOs will reduce the Shippers' Imbalance Tolerance Quantity

by one half, until such time as the Shipper has avoided a Negative Imbalance and/or Positive Imbalance for five (5) consecutive days when its Exit Point Tolerance shall be reinstated at the original level.

6.   Balancing Charges

6.1.   On any Gas Flow Day on which a Shipper has a Positive Imbalance, a Balancing Charge shall be payable to it equal to the sum of:

(a)   ITQ x Daily Gas Price; and

(b)   MIQ x P_{smpb} ;

where P_{smpb} is the lower of:

(i)   the Daily Gas Price multiplied by 0.7; or

(ii)   the System Marginal Sell Price on the relevant Gas Flow Day (as defined in the GB Uniform Network Code).

6.2.   On any Gas Flow Day on which a Shipper has a Negative Imbalance, it shall be liable to pay a Balancing Charge equal to the sum of:

(a)   ITQ x Daily Gas Price; and

(b)   MIQ x P_{smps} ;

where P_{smps} is the higher of:

(i)   the Daily Gas Price multiplied by 1.5; or

(ii)   the System Marginal Buy Price on the relevant Gas Flow Day (as defined in the GB Uniform Network Code).

6.3.   Where a power station is required to ramp up its offtake to support the NI Electricity Transmission System after 02:00, any Shipper nominating in respect of the relevant Exit Point shall be eligible to pay a 'Modified Balancing Charge' (as described in Code Modification Proposal 31 – Nominations). This is intended to ensure that any imbalance resulting from the ramp-up does not incur the marginal rates of charge, as the Shipper will not have had the opportunity to re-nominate.

6.4.   Where applicable, the Modified Balancing Charge shall be determined by using an applicable tolerance (Cf) of 100% in the Un1 category, in the formula set out in 5.3.

7.   Scheduling Tolerances and Charges

7.1.   Scheduling Charges will continue to be payable by a Shipper where its Final Exit Allocation differs from its Exit Nominated Quantity in respect of an Exit Point, on a Gas Flow Day.

7.2.   Scheduling Charges shall not apply at IP Entry Points (or VRF IP Exit Points) since Shippers will be allocated equal to their nominations at these points.

7.3.   In respect of an Exit Point and Gas Flow Day, a Shipper's **"Scheduling Difference"** or **"SD"** shall be calculated as:

Scheduling Difference = Final Exit Allocation – Exit Nominated Quantity

where, for the avoidance of doubt, both the Final Exit Allocation and the Exit Nominated Quantity are expressed as absolute values, and have the meanings given to them in the Allocations and Nominations Modification Proposals respectively.

7.4.   For each Gas Flow Day, in respect of each Exit Point for each Shipper, a **"Scheduling Tolerance Percentage"** or **"STP"** shall be determined as:

$$STP \text{ (as a \%)} = \frac{100}{TCvm} \times (a+b+c+d)$$

where:

a = Cvm x Cf for Un1

b = Cvm x Cf for Un2

c = Cvm x Cf for Un3

d = Cvm x Cf for Un4

Cvm =   max quantity (in kWh/d) required to supply all the Shippers' demand in the relevant load category on a Gas Flow Day at the relevant Exit Point as set out in the Shippers' Downstream Load Statement

TCvm = aggregate of each Cvm

Un identifies the load category according to the Scheduling Tolerance Table

Cf =   factor depending on the load category as listed in the Load Category Weighting Table

Scheduling Tolerance Table

Un	Downstream Load Category	Applicable Tolerance (Cf)
1	Power Gen	3%
2	>1,456,416,000 kWh/yr	3%
3	>733 but < 1,456,416,000 kWh/yr	10%
4	<733,000 kWh/yr	20%

7.5.   For any given Gas Flow Day, and in respect of an Exit Point, a Shipper's **"Scheduling Tolerance Quantity"** or **"STQ"** shall be determined by applying the STP to the Shipper's Exit Allocation at that Exit Point as follows:

$STQ_{EP} = STP_{EP} \times Final\ Exit\ Allocation_{EP}$

7.6.   For any given Gas Flow Day, a Shipper's Scheduling Charge in respect of an Exit Point shall be calculated as:

$Scheduling\ Charge_{EP} = (SD - STQ_{EP}) \times (5\% \times Daily\ Gas\ Price)$

7.7.   The total Scheduling Charge amount payable by a Shipper in respect of a Gas Flow Day shall be the sum of its' Scheduling Charges calculated in accordance with paragraph 7.6 at all NI Exit Points (i.e. on all the NI TSOs Networks):

$Total\ Scheduling\ Charge = \sum_{all\ NI\ EPs} Scheduling\ Charge_{EP}$

7.8.   For the avoidance of doubt, the amount of the STQ is not chargeable.

8.   Unauthorised Flow Charges

8.1.   Unauthorised Flow Charges shall continue to be payable where a Shipper flows gas in respect of an Exit Point where a Flow Order has been issued, to the extent that it has a Final Exit Allocation which exceeds the Exit Nominated Quantity as reduced by a Flow Order by more than 3%, as set out in the Codes.

8.2.   Unauthorised Flow Charges will not be applied at IP Entry Points since Shippers will usually be allocated as nominated.

9.   Administration of Disbursement Account Payments/Charges

9.1.   Due to the need for a single Aggregate NI Imbalance to be calculated for each Shipper, and charges to be invoiced accordingly, the NI TSOs have agreed that, from 1st October 2015, there shall only be one Postalised Network Disbursement Bank Account which shall be operated by PTL on behalf of the NI TSOs.

9.2.   PTL shall procure the set up and operation of the Postalised Network Disbursement Bank Account and shall procure the administration of the Account on behalf of all the NI TSOs in accordance with a procedure established pursuant to the NINOA. Premier Transmission shall pay into the Account all of the charges and make disbursement payments out of the Account as required, in accordance with these Business Rules and the PTL Code (including costs and expenses of the Verifying Accountant, taxes and interest on outstanding amounts).

9.3.   Therefore from October 2015, Premier Transmission Limited will issue monthly invoices to its Shippers and also, on behalf of GNI (UK), to GNI (UK) Shippers in respect of:

a. Aggregate Imbalance Charges;
b. Scheduling Charges;
c. Unauthorised Flow Charges;
d. Monies to be charged or credited to such Shippers in respect of the purchase or sale of Balancing Gas;
e. Disbursement Amounts;

and the TSOs will make the necessary arrangements for information exchange between them to support this in the NINOA

9.4.   Where GNI (UK) initiate balancing actions, the NI TSOs shall arrange for the payments for such action to be processed through the disbursement account, via amendments to the NINOA.

10.   Disbursement Payments/Charges

10.1.   PTL shall operate the Disbursement account to:

(a)   collect/make payments to/from Shippers for Imbalance Charges;

(b)   collect payments from Shippers for Scheduling Charges;

(c)   collect payments from Shippers for Unauthorised Flow Charges;

(d)   make payments for Balancing Gas, and recover the costs from Shippers;

(e)   pay/receive any other costs /expenses/tax/ interest associated with the administration of the account.

10.2.   Excess Revenues/Costs in the Disbursement Account will continue to be redistributed to/shared amongst Shippers on a monthly basis, such that the NI TSOs shall be financially neutral to the Disbursement Account.

10.3.   To date, the basis for sharing disbursement payments/charges has been the ratio of the Shippers' Final Exit Allocations to the total exit allocations of all Shippers, which was appropriate in a point-to-point regime. With the move to entry-exit, and the introduction

of trading at the NIBP, it is appropriate to use a wider measure of overall system throughput as the pro-rata basis for the sharing of disbursements to ensure that all market participants take an equitable share. Therefore a Shipper's **"Aggregate Throughput"** shall be determined, in respect of a Month, as:

$$\text{Aggregate Throughput}_{Shipper} = (\text{Aggregate NI Entry Allocations}_{Shipper} + \text{Aggregate NI Exit Allocations}_{Shipper});$$

And the **"Total System Aggregate Throughput"** in respect of a Month shall be the sum of all Shippers' Aggregate NI Entry Allocations and all Shipper's Aggregate NI Exit Allocations for that Month.

10.4. For each Shipper, in respect of a Month, a **"Disbursement Ratio"** shall be calculated as follows:

$$\text{Disbursement Ratio}_{Shipper} = \frac{\text{Aggregate Throughput}_{Shipper}}{\text{Total System Aggregate Throughput}}$$

10.5. For each Shipper, in respect of each Month, a Disbursement charge/payment shall be determined as the sum of:

(a) $\sum$ Imbalance Charges received(net) x Disbursement Ratio $_{Shipper}$

(b) $\sum$Scheduling Charges received x Disbursement Ratio $_{Shipper}$

(c) $\sum$Unauthorised Flow Charges received x Disbursement Ratio $_{Shipper}$

(d) $\sum$Balancing Gas Costs (net) x Disbursement Ratio $_{Shipper}$

where, in each case, the totals are for the preceding Month and charge amounts shall be calculated including VAT on the sum of the Disbursement charges/payment.

NB: Imbalance Charges received is the net amount, since Imbalance Payments may be made to long shippers, whereas short shippers have to pay Imbalance Charges. Balancing Gas Costs is also a net figure, since Balancing Gas may be sold as well as bought.

11. Balancing and Shrinkage Gas

11.1. The NI TSOs do not propose any change to Shrinkage Gas calculations, or the current procedure under which Shrinkage Gas is recovered via a Balancing Gas purchase, if necessary.

11.2. At present, procurement of Balancing Gas is via annually tendered Balancing Gas Contracts which deliver gas to PTL at Moffat and enable Balancing Gas sells to be made

at specific Exit Points. Given the scale of work required for EU compliance at present, the NI TSOs are proposing to utilise the current Gas Balancing Contracts, with some minor amendments to reflect the removal of the Moffat Agent and other minor changes associated with the introduction of entry-exit (for example regarding nominations and allocations processes), for a further period of one Gas Year starting from October 2015.

11.3.   During the Gas Year 2015-2016, the NI TSOs are intending to develop and consult on potential changes to the Balancing Gas Contracts, to enable Balancing Gas to be supplied to the NI TSOs at the NI BP. Whether or not these should replace the existing contract form or sit alongside the existing contract form shall be considered at the time of consultation. The TSOs would also consult on any other possible developments to the approach for tendering balancing gas that the TSOs consider should be evaluated at that time.

12.   Provision of information relating to Balancing Gas and Shrinkage Gas

12.1.   The NI TSOs are not proposing any changes to current information provision concerning Balancing Gas and Shrinkage Gas as set out in the Code, including notification to each Shipper at the end of the month of the quantity, cost and date of each sale and purchase of Balancing Gas on the NI Network in that Month.

13.   TSOs shipping Balancing Gas

13.1.   The NI TSOs shall continue to ship Balancing Gas as set out in the Code as though the TSO were a Shipper, but solely for such purposes. As is currently the case, the NI TSOs will not be liable for PS Transmission Amounts or PS Code Charges in respect of Balancing Gas.

14.   Consultation Questions

Shippers and other interested parties are invited to give their views on any aspects of these Business Rules. In particular, the NI TSOs would particularly welcome views and comments on the following:

- i)   the proposed retention of Imbalance Tolerances?
- ii)   the retention of the current load factor weightings?
- iii)   the retention of Scheduling Tolerances?
- iv)   the proposed approach regarding Balancing Gas contracts?
- v)   the arrangements for the calculation and administration of disbursement payments/charges?
- vi)   any other questions, comments or concerns?

Responses, and/or parts of responses, may be marked as confidential and will be treated accordingly.

15.   How to Respond

Shippers wishing to respond to this document are requested to provide their views on or by **Thursday 4th June 2015**. Responses may be made in writing or by email, or directly to the TSOs.

Written responses should be provided to:

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