EU Balancing Regulation EU 312/2014

Interim Measures Update Report 2018

Version 1

For Shipper Consultation

November 2018

GMO Northern Ireland

Executive Summary

The EU Balancing Regulation 312/2014 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. It sets out implementation rules and reporting requirements and provides for alternatives in case there is no sufficiently liquid traded market available in the balancing zone.

On 8th December 2014, the NI TSOs submitted their first report under the Balancing Regulation, recommending the adoption of Interim Measures in Northern Ireland. The Utility Regulator subsequently approved the report. The Interim Measures proposed were that NI TSOs should continue to utilise balancing contracts for residual balancing and with this arrangement, continue to apply imbalance tolerances for Shippers and calculate imbalance charges using prices at the National Balancing Point (NBP) in Great Britain.

It is necessary under the Balancing Regulation to report on the use of Interim Measures, demonstrate that they are compliant, and report on the costs incurred using them. This document therefore provides an update on Shipper and residual balancing, which shows that these have been broadly consistent since the last report.

It also reports on the development of the traded market. Four more Shippers have participated in trading at the NI BP, but there has been no significant increase in trading activity and there is still no wholesale commodity market in Northern Ireland. Bi-lateral trades are notified to the TSOs via their new system, Delphi, which was introduced with the new Single System Operator arrangements (GMO NI) in October 2017.

The Balancing Regulation requires that TSOs consider how they will develop the Balancing regime to foster market development, ultimately with a view to moving out of Interim Measures. It requires consideration of the specific steps that could be taken in future and the criteria for taking these steps.

Since the first report, the NI TSOs have made a number of changes to the arrangements for balancing contracts, aimed initially at stimulating competition, which was not successful, and latterly at encouraging participation which has been more successful. This document reports on the changes made, the specific intentions, the market response and the outcomes at each stage. The NI TSOs propose that the tender for next year will follow essentially the same form as the tender for this year.

Given that it is only three years since the introduction of an entry-exit transmission regime and there has not been any progress in developing any short-term wholesale traded market, it is not possible to move away from the use of balancing contracts. The NI TSOs therefore recommend the continued use of Balancing Services, and retention of tolerances and administered imbalance prices, as Interim Measures for the forthcoming year.

The NI TSOs are undertaking a programme of work aimed at further developing the Balancing regime, including a Tolerance Review, a Review of NDM Forecasting Accuracy and a Cost Benefit analysis on Information Provision. These separate components of work are introduced in this document, but the main focus of development at present is the possibility of a trial of a trading platform. A trading platform has been launched in the Republic of Ireland and the platform operator has offered to host a trial for a platform in Northern Ireland. This is clearly worth consideration in Northern Ireland, and the possibility is presented and consulted upon in this document. Shippers views are sought on this particular subject as well as on any aspects of this report.

There are three other possible permitted alternative routes to moving out of Interim Measures. They are: a Balancing Platform, the ‘TSO-trades-at-an-adjacent-hub’ approach and, where other options have been unsuccessful, approval to continue to rely on Balancing Services. This report outlines these possibilities and briefly considers what they may offer, should a trading platform not proceed.

Contents

1. Introduction: Implementation of the Balancing Regulation in Northern Ireland

This document is an Interim Measures update report as required under the EU Balancing Regulation (EU312/2014, 'the Balancing Regulation').

In summary, it contains:

- an update on the performance of the balancing regime in Northern Ireland
- sections to demonstrate compliance with the Balancing Regulation
- proposals to continue to apply Interim Measures for the forthcoming gas year
- an introduction to the Forwards Work Programme for balancing regime and market development
- a consultation on the possibility of a trial of a trading platform, on which Shippers views are specifically sought
- a view of the possible ways forward should a trial not proceed
- consultation questions, at the end of the document

The first report under the Balancing Regulation was submitted to the Utility Regulator by the NI Transmission System Operators (NI TSOs) in December 2014 and proposed the adoption of Interim Measures. This proposal was approved by the Utility Regulator in March 2015.

The Balancing Regulation concerns gas balancing on transmission networks and the associated processes and information sharing requirements. It sets out that Shippers should be incentivised to balance their own portfolios, and that residual network balancing should be carried out by the Transmission System Operator (TSO), where possible using a market for short-term gas commodity products, since this should be the most cost effective and efficient way to procure balancing gas.

For those TSOs without a short-term commodity market in their balancing zone, Interim Measures provides a route to compliance which recognises that such a market takes time to develop and implement and may not always be ultimately feasible. In such cases, there are three possible alternatives under the Balancing Regulation which can ultimately be approved by the Regulator.

These alternatives are:

- the development and use of a Balancing Platform
- the TSO trading at an Adjacent Hub
- the use of Balancing Services

The Balancing Regulation sets out conditions for the use of these alternatives and prescribes how certain elements of such arrangements should be implemented. Any alternatives to a traded short-term wholesale market should foster the development of the market to the extent possible.

In accordance with the Utility Regulator's decision letter and the Balancing Regulation, the NI TSOs are required to monitor the implementation of Interim Measures and report on progress with market development and planned steps towards reducing reliance on Interim Measures where possible. This document has been produced to meet those requirements.

Further associated requirements of the Balancing Regulation include:

- the appointment of a 'Forecasting Party' to provide demand forecast information
- further rules for the provision of forecast information, including regular review of its accuracy
- reporting on the use of any Balancing Services
- how prices and penalties for imbalances should be calculated
- the conditions for use of imbalance tolerances and how they should be calculated,

This document therefore also brings together the various strands of compliance and reporting requirements and introduces the Forwards Programme of balancing-related work that the NI TSOs are planning over the next year. All of this work is aimed at fostering market development and ensuring that network balancing can be carried out as efficiently as possible, and hence with a view to ultimately moving out of Interim Measures.

The first element in this Forwards Programme of work is to seek Shipper's views on the possibility of a trial of a trading platform.

This is consulted on specifically in this document, and Shippers are invited to respond to the questions in section 20 and provide any other comments or views they have by 7th December 2018.

Views are also invited on any other aspect of this document.

Following the consultation, this document will be updated by the NI TSOs as required, before submission to the Utility Regulator for approval.

2. Relevant Developments in the NI Transmission Regime

To provide context for this report, this section provides a summary of the main relevant developments in the NI Transmission Regime, over the period since the requirement for Balancing Regulation compliance began. The following table sets out the chronology of relevant developments:

Date	*Event*	*Further Details*
December 2014	First Report on Balancing Regulation Compliance	Shipper Consultation: December 2014 Approved by Utility Regulator: 21st April 2015
September 2015	PTL appointed Forecasting Party	Utility Regulator Decision: 17th September 2015
October 2015	Implementation of the Northern Ireland Balancing Point (NI BP) and a Northern Ireland entry-exit zone (also known as a balancing zone)	The entry-exit zone replaced the previous point-to-point contractual framework for gas transmission. The NI BP provided the opportunity for Shippers to trade with each other within the zone for the first time
Summer 2016	Annual Balancing Gas Tender	Changes made to foster market development Very limited interest
December 2016	Interim Measures First Update Report	Shipper Consultation: December 2016 Resubmitted with minor amendments on request from Utility Regulator: 19th July 2017 Approved by Utility Regulator: 31st July 2017
Summer 2017	Annual Balancing Gas Tender	Changes made to encourage participation Very limited interest
October 2017	Implementation of GMO NI, the Single Code, the System Operator Agreement and the Delphi system	An extensive set of industry changes including a new TSO system (see further details below), all aimed at simplifying the interface for Shippers
Autumn 2017	Approval of Forecasting Party Agreement between Distribution Network Operators, PTL	Approved by Utility Regulator: 28th September 2017 Implementation of the practical arrangements via the new Delphi system and in the context of GMO NI
Summer 2018	Annual Balancing Gas Tender	Further changes to encourage participation More interest
November 2018	Interim Measures Update Report 2018 (this report)	Consultation on a trial of a trading platform Decision by Utility Regulator anticipated by mid-2019

Table 1: Relevant Developments in the NI Market

During 2017 the four NI TSOs (Premier Transmission Limited, Belfast Gas Transmission Limited, GNI(UK) Limited and West Transmission Limited) developed joint arrangements to meet licence obligations to implement a 'single system operator' arrangement. These comprised:

a) a single NI Network Gas Transmission Code, replacing the four individual network codes of the NI TSOs
b) a contractual agreement to set up and run GMO NI, to provide a single interface for Shippers
c) an updated system operator's agreement, building on those previously in place and enabling further harmonisation of the TSOs arrangements for joint operation of the four individually-owned gas transmission networks
d) Delphi, a single Shipper interface system, replacing the individual TSOs systems

These arrangements were the culmination of a substantial programme of work and have cemented the co-operation between the NI TSOs whilst simplifying the contractual arrangements for Shippers.

3. Report Requirements and Structure

The Balancing Regulation contains a number of requirements for annual reporting. Of these, the relevant items for Northern Ireland at present are:

- Article 8: Use of Balancing Services
  Where Balancing Services are in use, it is necessary to report on the services used and the costs incurred, and there are specific items to be considered when procuring Balancing Services.

- Article 46: Interim Measures Update
  Where Interim Measures are in use, there is a set of reporting requirements (shown in full in appendix 1) which includes an assessment of the current state of development of the market, a description of the Interim Measures in use and reasons why they are required, an assessment of how they will increase the liquidity of the market and descriptions of the steps being taken towards reducing reliance on Interim Measures and the criteria for making these steps.

There are obligations to report regularly on NDM Forecast Accuracy, to keep tolerances (where used) under review, and to examine the cost benefit balance associated with providing further information to Shippers to help them balance their portfolios. There is also a range of further rules and requirements associated with the alternative approaches to residual balancing.

Therefore, this report is structured in the following sections to meet these various requirements, starting with reports on performance and development efforts, and then moving on to look at the way forwards:

A: Operational Report
This section provides performance reports, facts and figures about Balancing regime activity over the last three years, looking firstly at Shipper balancing performance, then residual balancing and concluding with a summary of payments under the Disbursements Account.

B: Report on the state of development of the Market
This section looks at gas trading activity at the Northern Ireland Balancing Point (NI BP), and for context provides information about trading activity in the adjacent hubs at the GB NBP and in the ROI.

C: Interim Measures
This section briefly confirms the Interim Measures which have been in use and reviews the efforts which have been made to foster market development, specifically through improvements to the Balancing Services procurement process and contractual framework. It also confirms how those services comply with the requirements of Article 8 and the proposed approach to Balancing Services for the forthcoming Gas Year.

D: Forwards Programme for development of the Balancing Regime
This section sets out the Forwards Programme of work which the NI TSOs are undertaking, aimed at developing the market, the Balancing arrangements and, in the longer run, at moving out of Interim Measures. It contains the information concerning the possibility of a trial of trading platform which is being consulted on in this document.

E: Consultation Arrangements
This section summarises the specific points for consultation and sets out a suggested framework of topics and questions for interested parties to consider when responding to this document.

SECTION A: OPERATIONAL REPORT

4. Supply and Demand Characteristics

4.1 Supply to Northern Ireland

The sole source of supply for Northern Ireland continues to be via the Moffat Interconnection Point with GB.[1]

There is also a physical interconnection point with the gas transmission system in the Republic of Ireland at Gormanston, known as the South North Interconnection Point (South North IP), however gas has yet to flow at this point on a commercial basis. At present, one Shipper is registered to use the South North IP under the NI Network Gas Transmission Code for the purposes of providing balancing gas via that point.

4.2 Demand Characteristics

In Northern Ireland, the peak daily demand during Gas Year 2016 (GY16, i.e. 2016-2017) was 69,351,848 kWh (c. 6.3mcmd) and the peak demand for Gas Year 2017 (GY17, i.e. 2017-2018) was 68,251,078kWh (c. 6.3mcmd), slightly lower than the Gas Year 2015 (or GY15, i.e. 2015-2016) level of around 6.6mcmd.

Demand in Northern Ireland remains dominated by the requirements of the power stations, as illustrated by the chart below, showing domestic and power station demand separately, since October 2015.

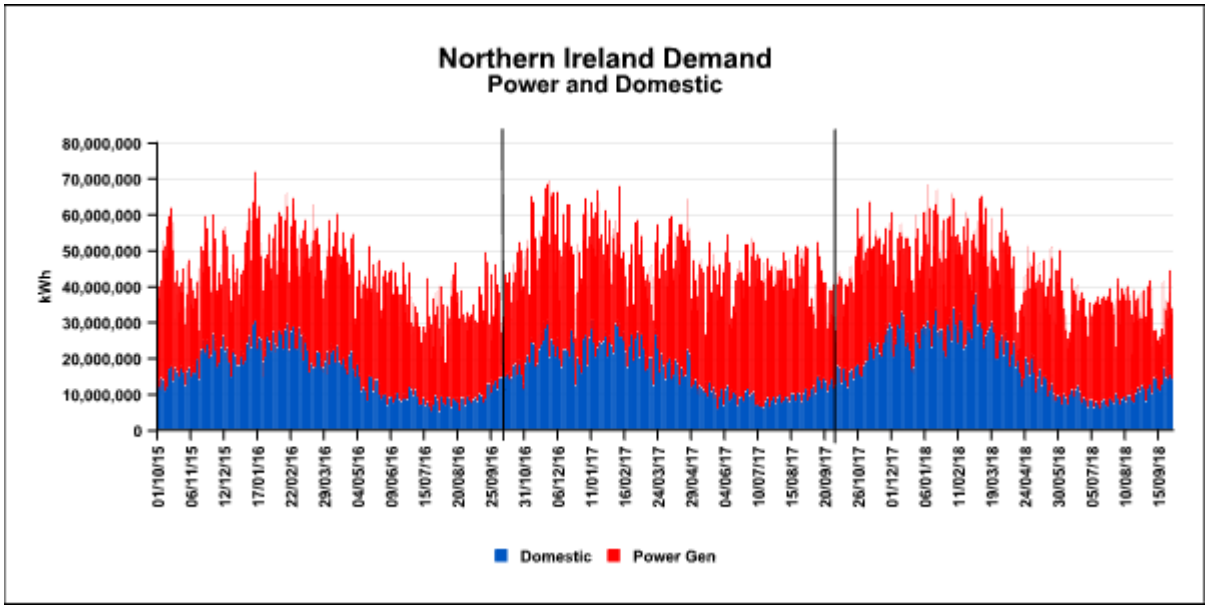

Fig 1: Northern Ireland Demand, showing Power and Domestic sector components

[1] The Moffat Interconnection Point is the point at which gas is treated as entering the NI Transmission Network from National Grid's NTS, and where NI Shippers book (bundled) capacity with GB under the Capacity Allocation Mechanisms Regulation (EU 984/2013). A tri-partite inter-operator agreement between National Grid, GNI(UK) and PTL enables this. Gas flows from Moffat to Twynholm (in Scotland) through a GNI (UK)-owned pipeline under inter-operator arrangements between GNI (UK) and PTL, which further facilitates the commercial treatment of Moffat as the NI entry point. From Twynholm, gas physically flows to Northern Ireland across the SNIP (Scotland to Northern Ireland Pipeline) which is owned by PTL.

5. Shipper Balancing Performance

5.1 Current Tolerance and Imbalance Pricing Regime

In Northern Ireland, Shippers must balance their portfolio within tolerances which are calculated based on their portfolio of demand, using a given percentage for each load type. The percentages reflect the fact that domestic loads are generally less predictable and more weather dependent than commercial loads.

Downstream Load Category	Type of Consumer	Tolerance %
1	Power Generation	3%
2	Downstream consumers whose loads are greater than or equal to 1,465,416,000 kWh/annum and are not power generation consumers	3%
3	Downstream consumers whose loads are greater than or equal to 733,000 kWh/annum but less than 1,465,416,000 kWh/annum	10%
4	Downstream consumers whose loads are less than 733,000 kWh/annum	20%

Table 2: Applicable tolerances for different types of load

The Imbalance Tolerance [2] provides a margin for a Shipper's Imbalance position, within which it is not penalised for being out of balance. Imbalance positions within tolerance are 'cleared' each day at the System Average Price (i.e. the GB SAP). Outside of the tolerance level, marginal prices apply, to provide an incentive on the Shipper to balance its inputs and outputs to within its tolerance. The marginal prices are calculated using the marginal buy and sell prices from Great Britain.

The Imbalance charge arrangements comply with Article 49 (2) of the Balancing Regulation, which describes the use of an administered or proxy market price where there is no short-term commodity market within the balancing zone, and in accordance with Article 49 (3) they seek to satisfy the requirements of Article 22, and in particular Article 22 (6), which describes how imbalance charges should provide an incentive to Shippers to balance their portfolios. The application of tolerances is in line with Article 50 relating to Interim Measures, under which tolerances are permitted where Shippers do not have access to a short-term market with sufficient liquidity.

5.2 Shipper Balancing Performance

The first Interim Measures update report indicated that some Shippers routinely balanced to well within their tolerance levels and others rarely achieved a within-tolerance position. This appears to have continued to be broadly the case, though four Shippers do appear to have balanced better each year compared to the previous one. Three Shippers have balanced less well each year, two have mixed performance over the period. One Shipper has stayed within their tolerance levels consistently.

The following charts provide an indication of overall (anonymised) Shipper balancing performance.

The first looks at the frequency of each Shipper failing to achieve a within-tolerance position, in each of the relevant gas years:

[2] Shippers submit Downstream Load Statements so that the NI TSOs can evaluate the Shippers' applicable tolerance levels. A Shippers' overall portfolio tolerance is a weighted average calculation based on the proportion of the different categories of consumer in their portfolio. Typically, Shippers have individual Imbalance Tolerances of between 3% and around 17%.

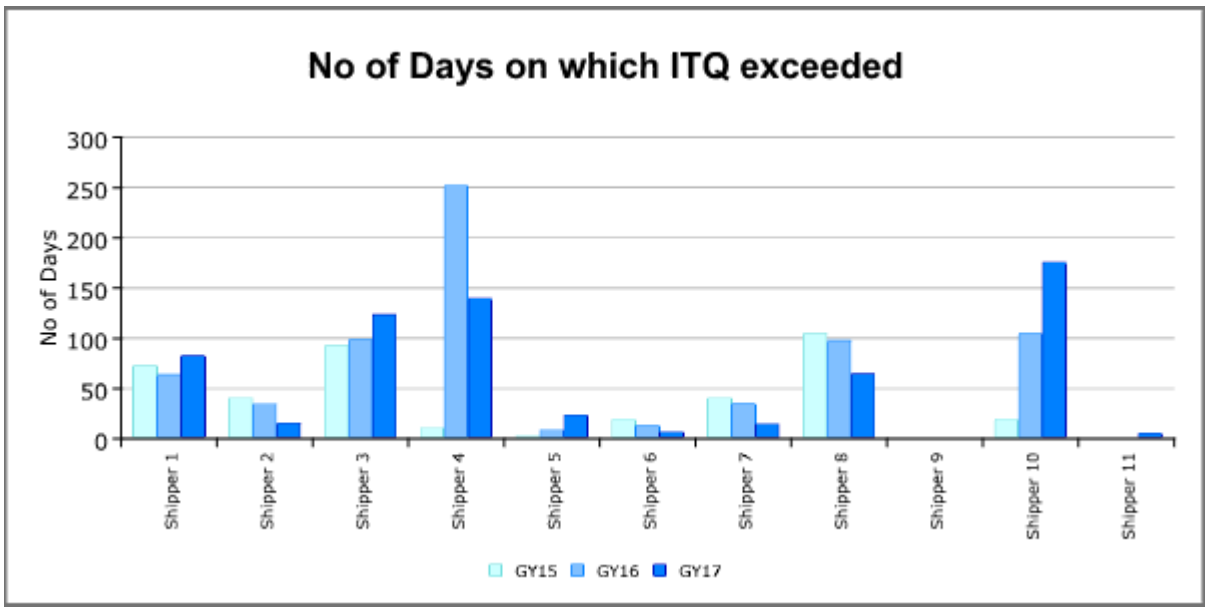

Fig 2: Total No of days on which Shippers exceeded their Imbalance Tolerance Quantity in each year

The following chart shows the average amount by which the tolerance was exceeded by each of the Shippers.

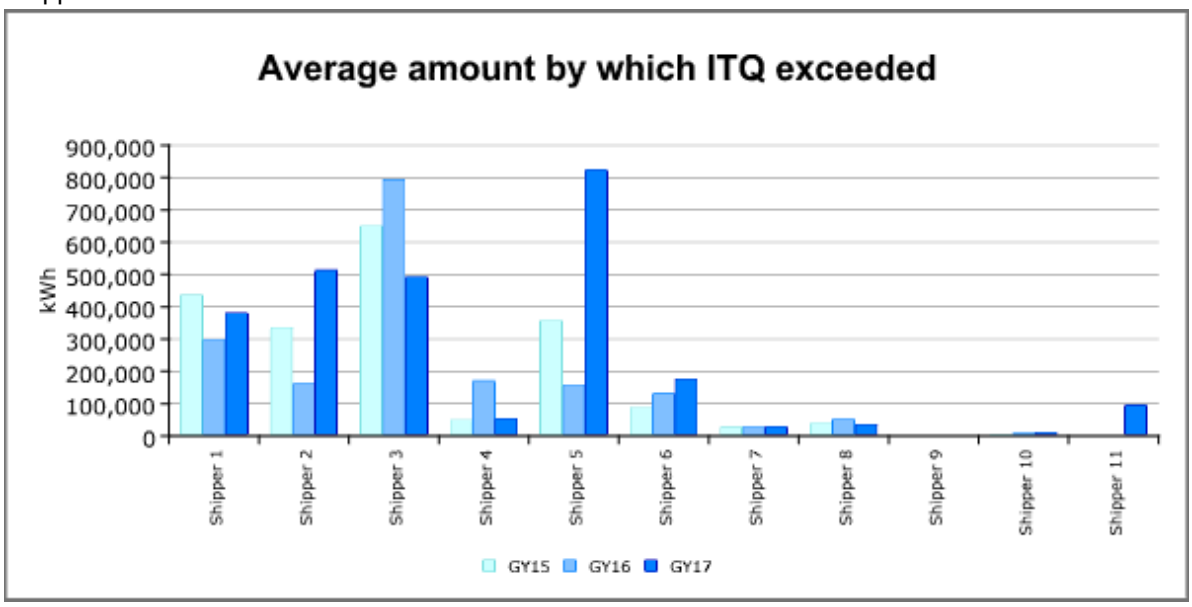

Fig 3: Average daily amount by which Shippers exceeded their Imbalance Tolerance Quantity in each year
The labels Shippers 1 – 11 refer to the same parties in Figures 2 and 3.

This, together with Figure 2, illustrates that some Shippers are generally staying within tolerance, others breach tolerances more frequently but by relatively small quantities, and others occasionally exceed their tolerances but by a relatively larger quantity. On the whole, though, the quantities by which ITQs are generally exceeded are still fairly small for most of the Shippers.

In order to maintain commercial confidentiality with only 11 parties in the market, the specific levels of demand for each Shipper are not published here. However, it should be noted that there is a significant range across the Shippers of the scale of the portfolios being served, ranging from power stations to just a small number of domestic and/or industrial end users. The range of demands for each individual Shipper therefore varies, with the largest Shippers having typical daily demands of over 30,000,000kWh and several of the smallest Shippers having daily demands of just hundreds of thousands of kWh.

5.3 Conclusion on Shipper Balancing Performance

Shipper's balancing performance has been broadly consistent over the period, leading to the consistency observed in the requirement for residual balancing, further described in section 6.

The analysis shows that there is a range of balancing performance amongst the Shippers which is to be expected in the Northern Ireland market, where there are a few Shippers supplying power stations and a number of participants with much smaller loads.

It should be noted, as a general point concerning the Northern Ireland market, a typical smaller portfolio may have a total daily peak demand which is similar to or less than a minimum-sized trade at the GB NBP (which is 4000 therms/day or c.117,200kWh/day).

In such cases, simply procuring daily quantities will often mean relying on purchasing from larger third parties who have the scale to be signed up to trade on a formal platform, and direct access to a short-term commodity market (even in an adjacent zone) is not generally of value to such players until they reach a scale at which their load is at least a multiple of the minimum trade size.

6. Residual Balancing Performance – TSO Balancing Actions

6.1 Aggregate Imbalance Position

The following chart shows the total Northern Ireland gas demand for each day of the period from 1st October 2015 to 30th September 2018, against the daily aggregate imbalance position (the sum of all Shipper's entry allocations less the sum of all Shipper's exit allocations). This illustrates that there has not been any significant change in the requirement for residual balancing, over the three year period.

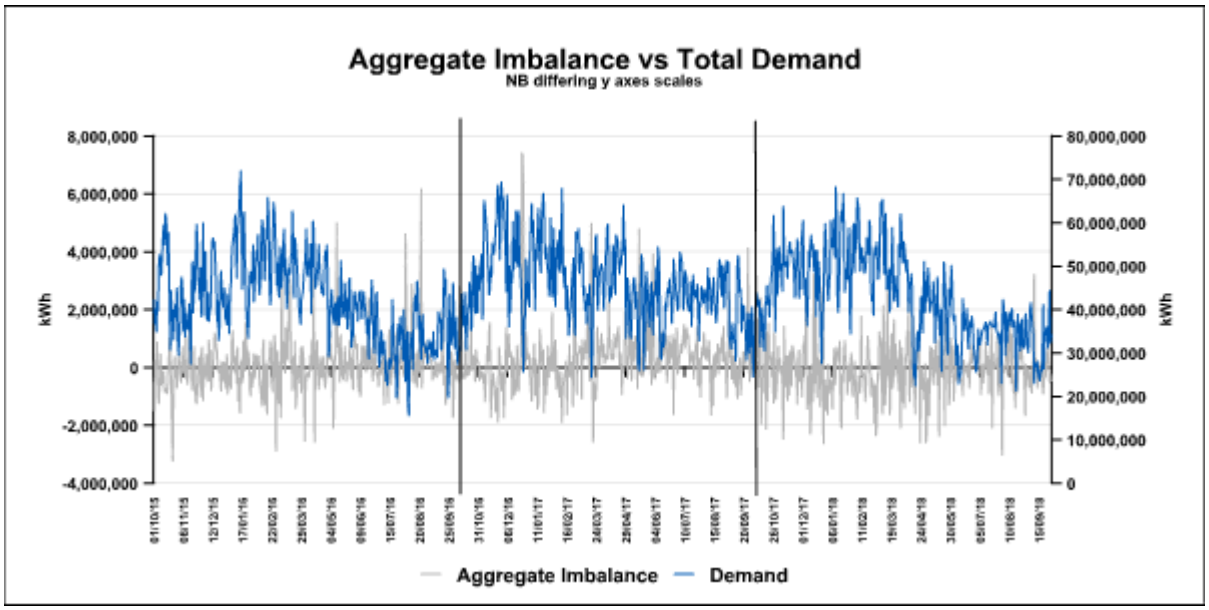

Fig 4: Aggregate (daily) Imbalance for the NI Network against Demand

6.2 Balancing Actions

The following three charts show when balancing action was taken by the NI TSOs, and the quantity of Balancing Gas bought or sold, against the aggregate imbalance position for the same period. Please note that the GY17 chart has a different y-axes scale from those for GY15 and GY16.

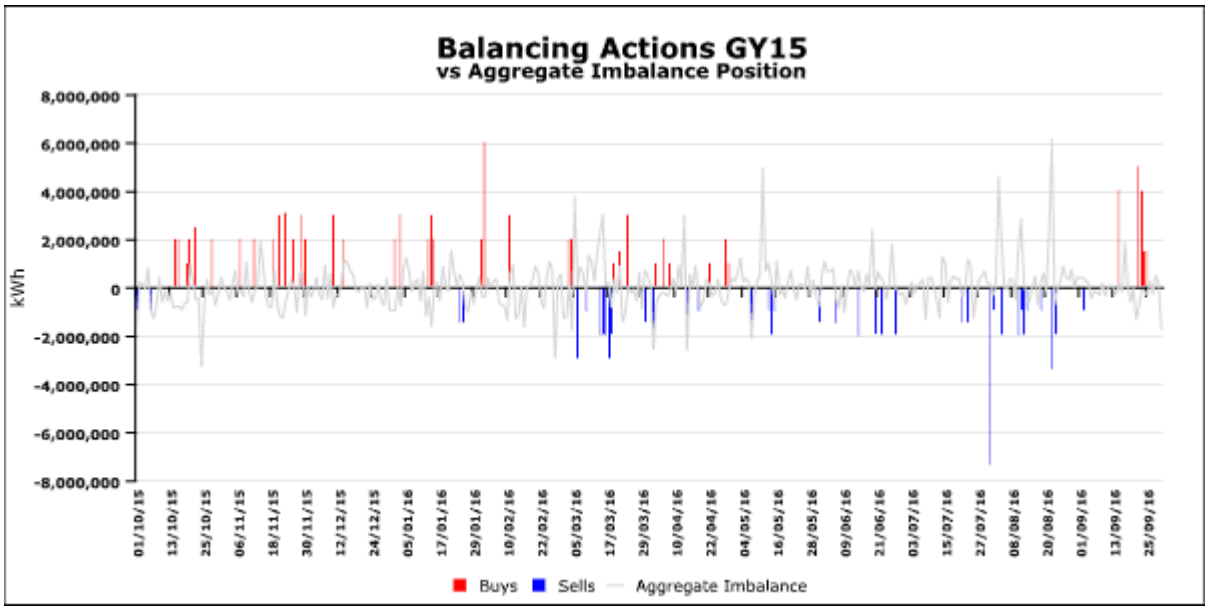

Fig 5: NI TSO Daily Balancing Actions against the Aggregate Imbalance position for GY15

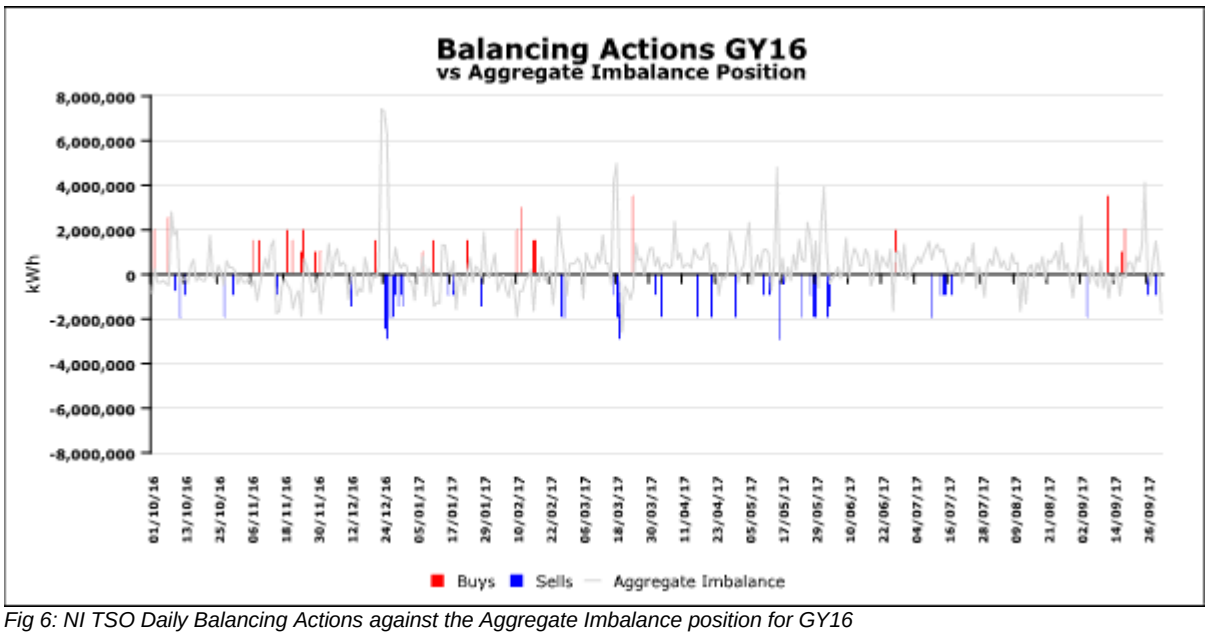

Fig 6: NI TSO Daily Balancing Actions against the Aggregate Imbalance position for GY16

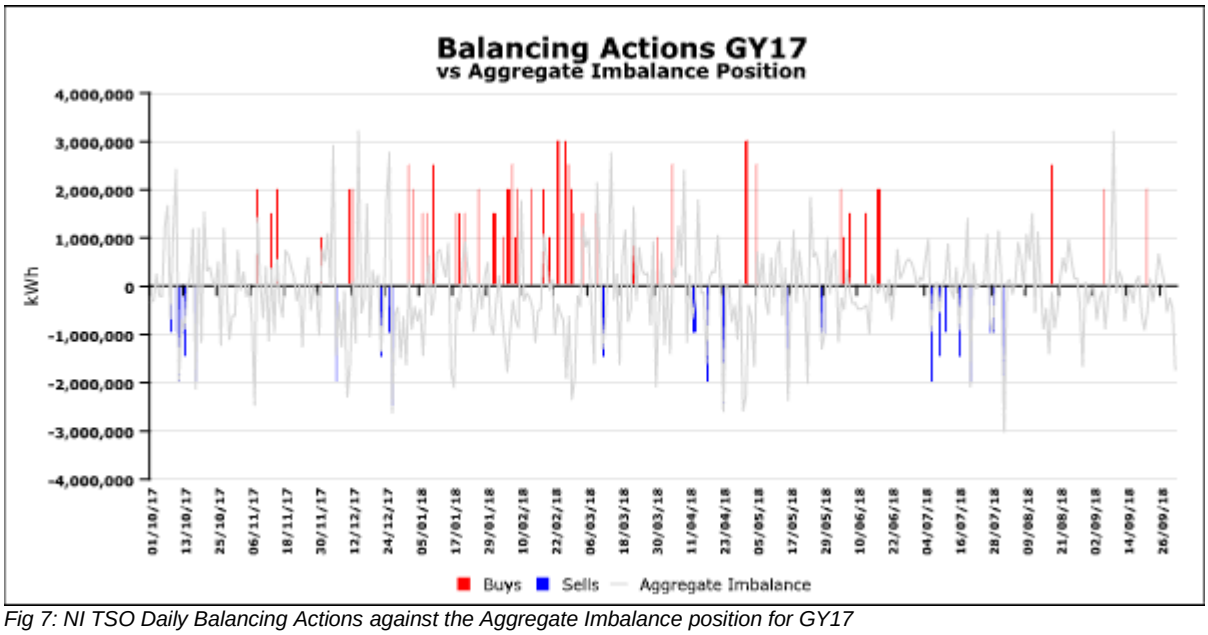

Fig 7: NI TSO Daily Balancing Actions against the Aggregate Imbalance position for GY17

Again, this illustrates that residual balancing activity is broadly consistent year-on-year.

As is evident from these charts, the NI TSOs purchase and sell balancing gas in standard sized quantities, rather than making smaller or larger adjustments, depending on the size of the system imbalance position. This reflects the processes and provisions of the balancing gas contracts in place.

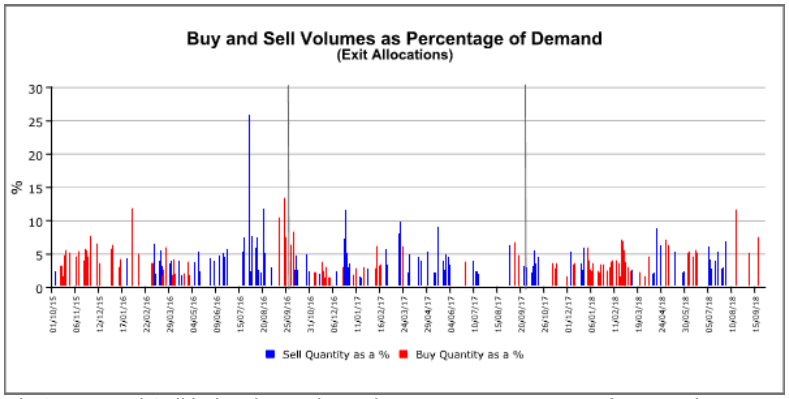

Fig 8: Buy and Sell balancing action volumes as a percentage of Demand

The quantity of gas bought and sold as a proportion of demand has also remained consistent at an average of between 3 and 5%, throughout the three-year period, as illustrated in Figure 8.

6.3 Balancing Costs

The following tables show the total number of buys and sells, along with the total volume, average price and the total cost of each type of balancing action, taken by the NI TSOs over each of the three gas years. The average price and the cost of buys includes all transaction fees and balancing contract management fees. No such fees apply on the sell side.

Gas Year	No of Buys	Total Volume kWh	Av Price p/kWh	Total Cost of Buys
GY15	43	92,100,027	0.011	£1,053,289
GY16	23	41,500,000	0.015	£642,340
GY17	49	93,000,000	0.021	£1,939,294
Total	*115*	*226,600,027*	*0.017*	*£3,749,845*

Table 3: Balancing Buy Information

Gas Year	No of Sells	Total Volume kWh	Av Price p/kWh	Total Cost of Sells
GY15	47	69,817,015	0.010	£710,351
GY16	60	72,300,000	0.014	£978,586
GY17	26	40,000,000	0.018	£704,562
Total	*133*	*182,117,015*	*0.013*	*£2,393,499*

Table 4: Balancing Sell Information

As the tables above show, there were (relative to the other years shown here) more sells in GY16 and more buys in GY17, particularly during the winter period of extreme weather, and this is reflected in the costs. Higher prices in 2017-2018 also made an impact on overall costs on both the buy and sell sides. The total net cost of balancing (i.e. buy costs less sell costs) over the three-year period was c.£1.3m, including the total cost of fees for balancing services which was c.£115,000. The fees added only around 0.0005 p/kWh to the average (buy) price each year.

6.4 Conclusion

The residual balancing requirements for Northern Ireland have been broadly consistent over the three-year period, reflecting consistency in Shipper individual balancing.

The system appears to have been short more frequently in GY17, and the NI TSOs have observed a number of possible contributing factors:

- Late renominations by Shippers, which cannot be accommodated under the upstream inter-operator rules governing maximum hourly rate changes. This may also leave the system short the following morning
- Variations in Shipper nominations relative to their demand forecasts
- Operational requirements for slightly higher pressure

All these factors are likely to contribute to the requirement for residual balancing to a certain degree and it is not feasible to separate or quantify individual impacts, as they will interact differently with each other on a daily basis.

There is also insufficient data to determine whether any of these observations, or the slight increase in frequency of balancing buys, represent significant or material trends. Nonetheless, the NI TSOs will continue to monitor and report on the drivers for residual balancing, in case a clear requirement to take action to minimise the residual balancing requirement arises.

Despite this small increase in balancing buys, it is clear that the TSOs have been able to effectively source gas in a timely and cost effective way, using the available balancing contracts, to meet the needs of the system as they have arisen, throughout the period under review. The overall fees of the balancing contracts arrangements represent about 8% of total net balancing costs, and about 1.8% of the absolute costs of both buys and sells.

7. Disbursement Account – overall Balancing Regime Performance

The NI Network Gas Transmission Code provides for clearing of imbalance positions at the end of each day through an arrangement known as the Disbursement Account.

Through this mechanism, provided for in the NI Network Gas Transmission Code, Shippers are paid for 'long' imbalance positions and must pay for 'short' imbalance positions. Shippers must also pay scheduling charges reflecting the accuracy of their nominations [3], (although these tend to be less material than imbalance charges or balancing costs). The total costs/receipts of balancing, including any applicable contract fees, are netted together with scheduling costs and Shippers then pay, or get paid, in proportion to their throughput for the month.

The following charts show the relevant charges to/from the Disbursement Account mechanism over the three-year period. The total Balancing Gas charges include management and transaction fees.

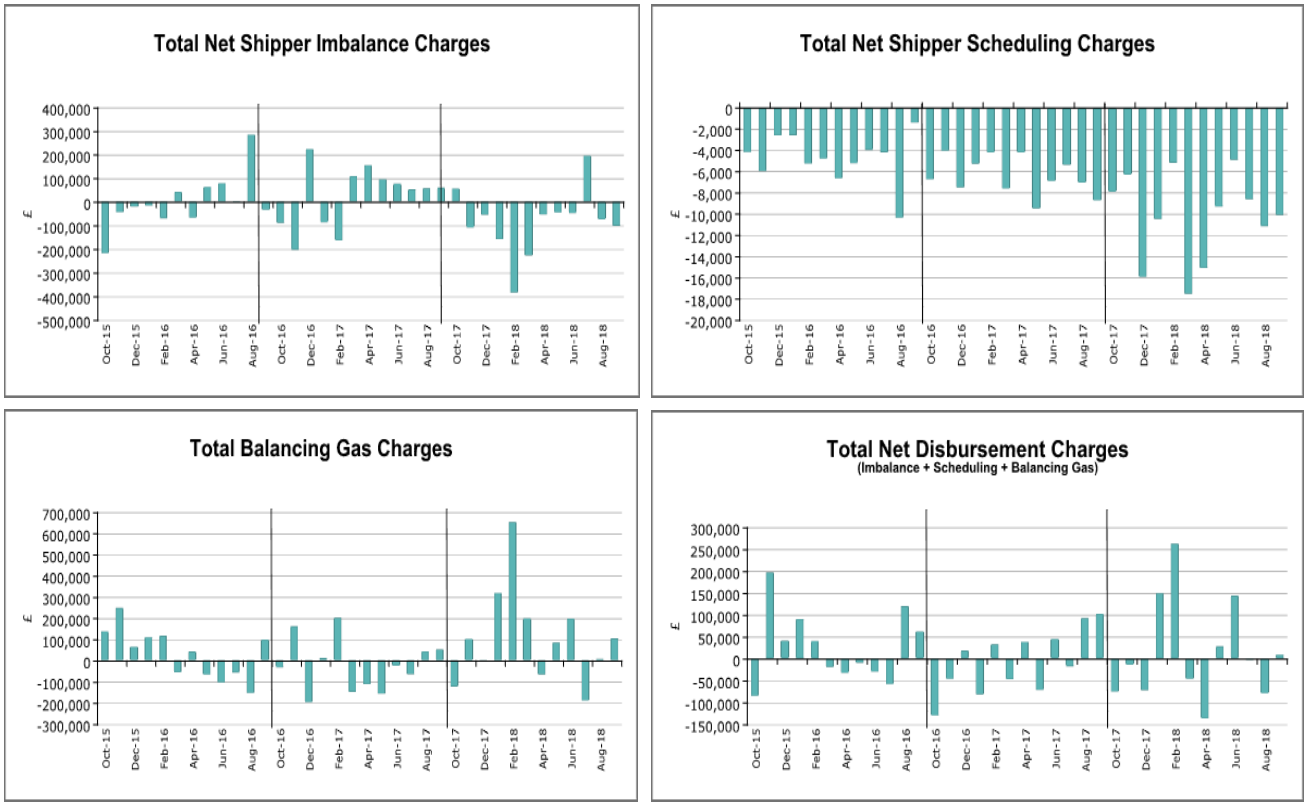

Fig 9: Disbursement Account Monthly Values since October 2015

These charts highlight the peak in balancing costs associated with the severe weather in early 2018. The scheduling charges chart could be viewed as indicating a worsening in Shipper nomination accuracy in more recent times, although higher gas prices are also relevant here. Table 5 below shows the annual values for total scheduling costs.

However further analysis and investigation, and probably more data, would be needed to understand whether increasing scheduling charges represents a trend, and if so, what the underlying reasons for this would be.

Scheduling Charges	Costs £
GY15	-£57,787
GY16	-£77,705
GY17	-£123,053

Table 5: Total Scheduling Charges

[3] Charges for unauthorised gas flows are also included in Disbursement charges, but these only apply if Shippers flow gas when they have been instructed not to, in an emergency situation, and none have been applied during the period.

SECTION B: REPORT ON THE STATE OF DEVELOPMENT OF THE MARKET

8. Market & Gas Trading Activity

8.1 Northern Ireland Gas Trading Activity

There has been a very small increase in the number of Registered Shippers in Northern Ireland since the last Interim Measures Report, with just one more actively shipping at present.

No of Shippers:	GY15	GY16	GY17
Registered as Shippers (excluding DNOs)	12	14	15
Actively Shipping	10	10	11
Registered to Trade	6	9	13
Have made Trade Nominations	3	3	7

Table 6: Registered and Active Shippers and Trade Nominations participation

There are now 13 Shippers registered to use the trade nominations functionality at the NI BP. However, of these, only 7 have ever submitted a trade nomination, and only 5 are using the NI BP on a regular (daily) basis. The 2 non-regular users of the functionality have made only a very small number of trades in total during the last gas year.

At the start of these arrangements in 2015, there were typically been around 2 trades per day (i.e. 4 transactions) and GY17 has seen this increase slightly, moving closer to an average of 3 per day.[4]

There has been small increase in the total number trades as illustrated below:

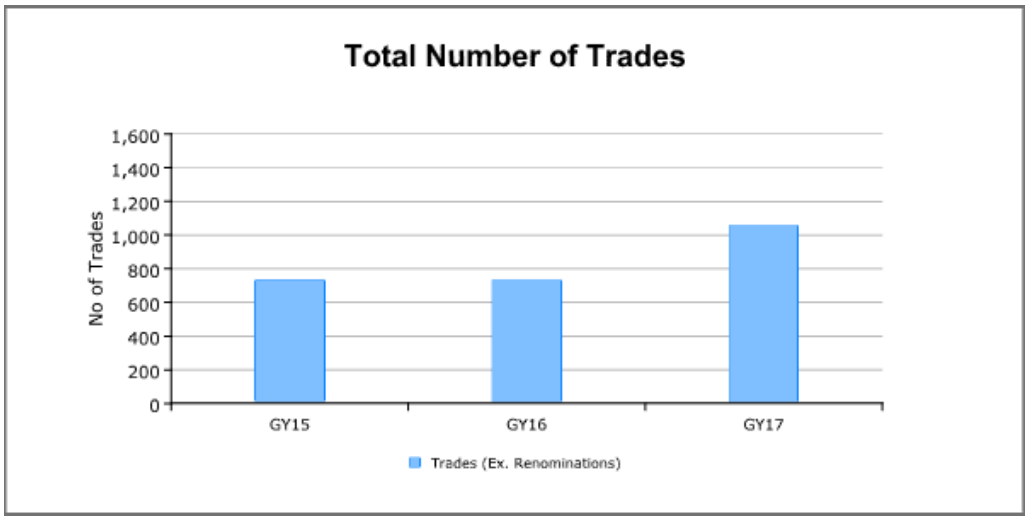

Fig. 10: No of Trades per year at the NI BP

However, the total quantities being traded (on average) have not changed significantly since 2015, as illustrated in Figure 11.

[4] With the new NI Network Gas Transmission Code and the new Delphi system in 2017, trade functionality was amended so that where trading partners wish to amend the quantity they have agreed to trade between themselves in respect of any given Gas Day, they make Trade Renominations (instead of making new Trade Nominations, for example in the opposing direction, to derive a net traded quantity). The number of trades reported above for 2017-2018 excludes renominations of a trade between 2 parties during a day and the data for previous years was also reviewed to exclude such within day changes between trading partners.

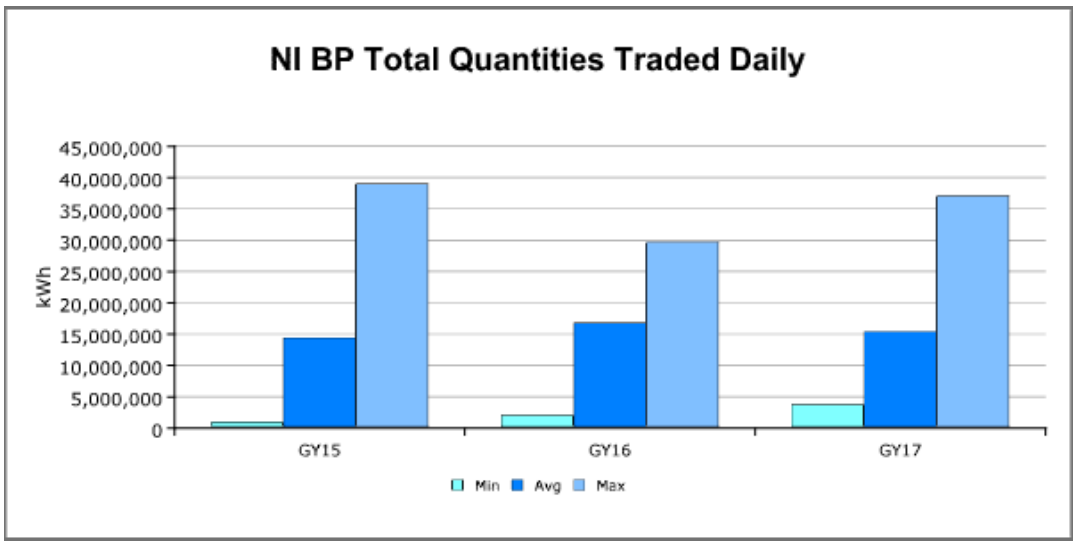

Fig 11: Typical trade size at NI BP

Fig 12: Total Traded Quantity at NI BP

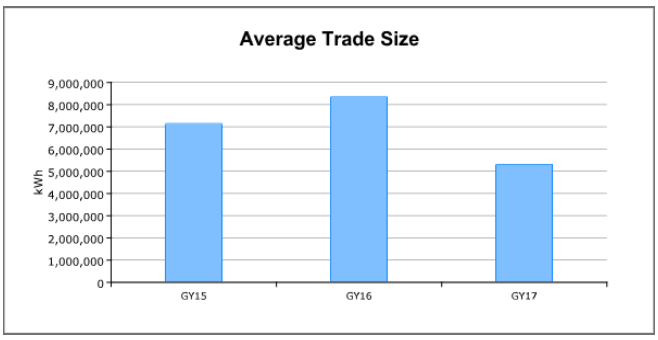

Fig 13: Average Trade Size at NI BP

The small increase in the number of trades has been offset by a reduction in the average trade size (as shown in Figure 13). The total quantity traded in GY17 is actually lower than that for GY16 as shown in Figure 12.

Whilst the increasing number of Shippers registered to trade and actually using the available functionality on occasion is a positive step, this trading behaviour indicates that the NI BP continues to be used as a transaction point for delivery of long-term contracts, as opposed to being used to source spot gas.

8.2 GB Market Comparison

By way of a brief comparison and to provide a sense of scale of the Northern Ireland market, in GB there are over 250 companies registered as shippers, of whom at least 40 are sizeable and active parties.

On the GB on-the-day commodity market (OCM) typically, there are between 150 - 350 trades per day for each of the within day and the day ahead gas products alone, and sometimes many more than this. The OCM offers a much wider range of additional products as well.

Total trade at the NBP is on a completely different scale, and being an active, liquid market, it includes forwards and futures contracts. For example, traded volumes reported by Trayport for the last year show the NBP declining against the TTF in terms of volume of European trade, but Trayport is still seeing something approaching 1000 TWh per month of NBP gas traded on its platform.

8.3 Northern Ireland Gas Market Prices

In Northern Ireland, trades are conducted bilaterally between Shippers and reported to the Transporter via the Delphi system as trade nominations. It is therefore not possible to report any price data.

It is likely though, since all gas entering Northern Ireland is delivered via Moffat from the GB NBP, that the price of trades at the NI BP broadly reflects the price for the gas at the GB NBP plus the transportation costs of delivering the gas to the NI BP.

8.4 Assessment of the current state of development and liquidity of the NI gas commodity market

In the three years since the NI BP was first implemented, it is clear that there has not been any significant growth in trading in Northern Ireland, and the NI BP is still being used solely as a contractual delivery point. This is despite a modestly growing interest in using the NI BP amongst the Shippers.

Spot gas is not being offered and there is, in effect, no commodity trading and hence no short-term liquidity in the Northern Ireland gas commodity market, and nor is there any formal mechanism for price discovery amongst Shippers.

This reflects both the small size of the Northern Ireland market, the small number of market participants, and the proximity of the market to the GB NBP as a liquid and reliable source of spot gas.

It is therefore clear that there is no market in short-term commodity products which the TSOs could use for balancing, at present.

Given the small size of the market and the proximity of the GB hub, it is likely that this will not change in the foreseeable future and there is a limit to how much growth could ever be reasonably expected to develop within the Northern Ireland market.

8.5 Developments in the Republic of Ireland Gas Market

In September 2017, a gas trading platform hosted by Energy Broking Ireland (EBI) commenced activity in the Republic of Ireland (ROI).

The gas market in the Republic of Ireland is roughly 3.5 to 4 times the size of the Northern Ireland market, in terms of demand. In the year 2017-2018, non-power generation demand has been typically 3.5 times greater than Northern Ireland, whilst power generation demand has generally been 4 to 5 times greater. Gas is supplied to the ROI from GB via Moffat and also via the indigenous Corrib gas field, which is now supplying gas into the ROI network from the west side of the country.

There are 28 registered Shippers in ROI, although this includes sister and dormant companies and hence not all are active Shippers. There are 10 Shippers now signed up to use the EBI Platform.

Around the end of May 2018, Gas Networks Ireland (GNI), the Irish Transporter, commenced use of the platform for balancing gas purposes, whilst also retaining balancing gas contracts. As of September 2018, GNI had contracts in place with 8 parties to supply balancing gas via trades on the platform.

Trade on the platform overall has been developing, with transaction #1000 taking place almost exactly a year after the launch in 2017. The minimum trade size is 1000 therms. During August - September 2018, an average of 275k therms was traded each day, with an average of 4 trades per day. The highest volume traded on a day was 745k therms and the highest number of trades the platform has seen on a day is 10. About 30% of trade is now taking place in the evening and overnight.

Prices broadly tend to track the NBP, though prices are occasionally lower than the NBP. This indicates that local factors such as Corrib production and electricity generation do also sometimes affect traded prices, rather than pricing being invariably the cost of the gas at the NBP plus the costs of transporting it to ROI. Early indications are that the launch of the I-SEM electricity market could drive further trading out of office hours.

GNI has used the platform over 15 times since mid-August, buying/selling over 1.2m therms in total. It has bought or sold over 30 times since start of its participation on the platform, and it is now able to buy/sell variable quantities according to its requirements rather than being constrained by contractual quantities.

At present there are no day ahead products being traded, although EBI anticipates that i-SEM may also generate interest in such products in future.

8.6 Next Steps for Northern Ireland

The commencement of Corrib as a second source of supply into ROI has provided an opportunity for trade to begin to develop there and the market has responded with the development and implementation of the ROI trading platform.

In Northern Ireland, where 100% gas is sourced via Moffat and consumed within Northern Ireland, there is not currently the same incentive amongst market participants to trade with each other.

However, it should be noted that, as a TSO-provided system, the Delphi platform does not provide trading platform functionality such as price transparency and the ability to post bids/offers to trade.

Given the recent developments in the Republic of Ireland market, and the obligation on the NI TSOs to explore possibilities for improving market development and minimising balancing costs, the question of whether a trading platform would be viable in Northern Ireland is relevant at this time.

The possibility of a trial of a trading platform in Northern Ireland is therefore discussed in section 17.

SECTION C: INTERIM MEASURES

9. Description of Interim Measures currently in place

9.1 Description of measures and why they are needed

As has been described above, there is no market for short-term standardised products in Northern Ireland, despite the introduction of bi-lateral trading at the NI BP. Neither Shippers nor the NI TSOs have access to a local market within the balancing zone.

The Interim Measures currently in place are therefore:

- Use of Balancing Gas Services
- Use of Imbalance Tolerances
- Use of administered Imbalance Prices (set by prices on the GB NBP as a proxy for local market prices)

9.2 How the Interim Measures will increase liquidity of the short-term wholesale gas market

In the absence of a short-term commodity market, the TSOs have continued to pursue the development of balancing contracts with a view to fostering market development.

The changes to the tender process and contractual structure for Balancing Services have all been intended to make small steps towards developing the potential for liquidity in a short-term wholesale market, by encouraging non-discriminatory participation in balancing services provision and familiarising Shippers with the use of the NI BP.

The logic behind this approach is that where Shippers find that there is value in providing balancing gas to the NI TSOs, then this could encourage more Shippers to provide flexible gas.

Should there be sufficient parties wishing to offer balancing gas, then this could lead to competition in its provision, and to the associated availability of flexibility for Shippers as well, and this activity could then be facilitated via a trading platform.

Encouraging participation in the provision of balancing services is therefore a starting point in trying to develop the potential for a wholesale gas market to evolve in Northern Ireland.

Whether it would ever have sufficient liquidity to rely on for cost-effective residual balancing is a separate question, though it still would seem unlikely in such a small market.

Nonetheless, the NI TSOs have been working towards market development and the following section 10 reviews in detail the changes made to the tender process and structure, and section 11 then confirms the compliance of the Balancing Services with requirements of Article 8.

10. Interim Measures – Balancing Gas Tender Development

10.1 Summary of Tender Amendments

The diagram below summarises how the elements of the tender have been amended each year. The specific changes and the outcome of each set of changes are discussed in the paragraphs which follow.

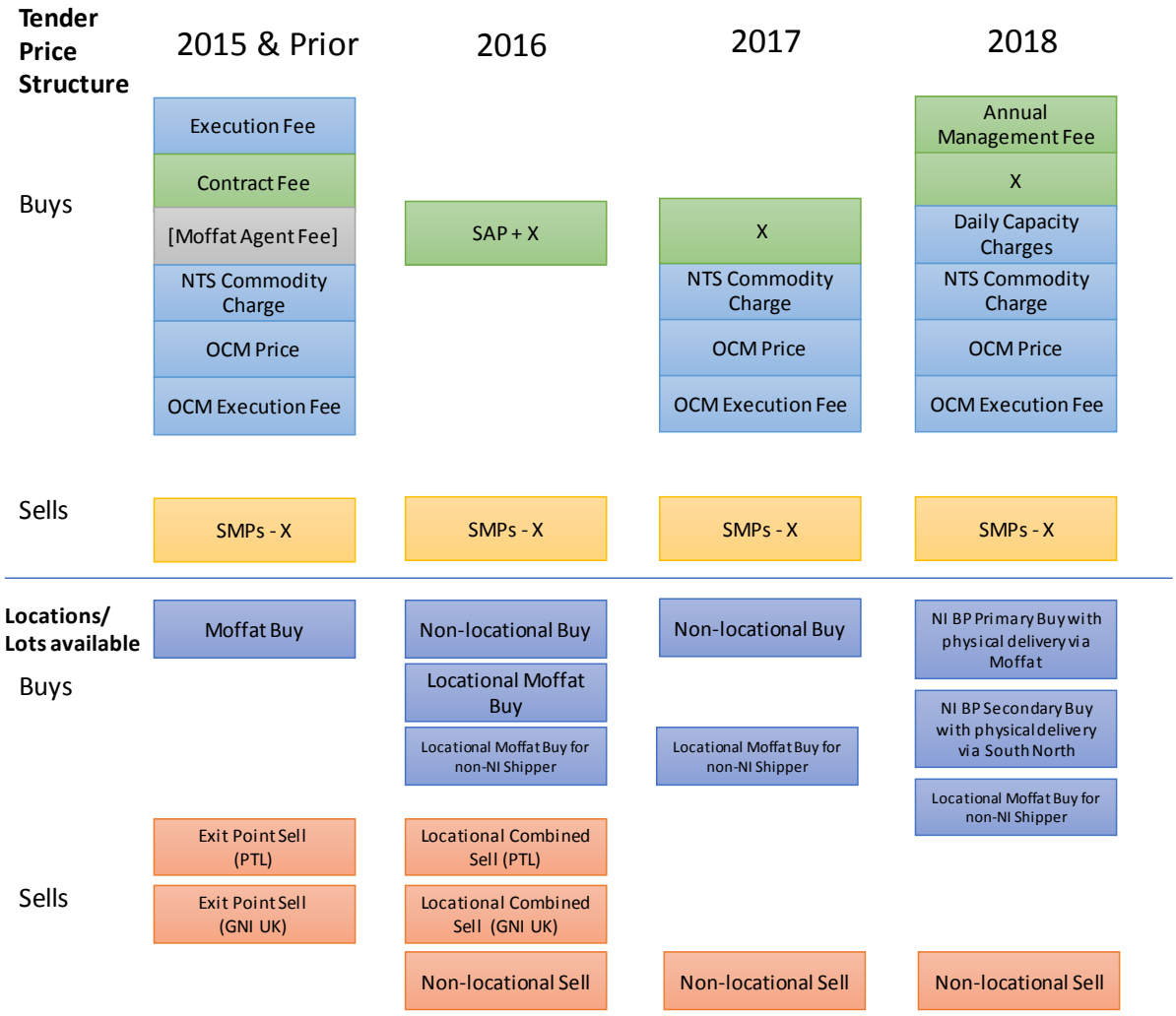

Fig 14: Developments each year in the Balancing Tender Structure

10.2 Original Status of Balancing Gas Contracts

In 2015, the previous year's balancing gas contracts were rolled over from the previous year. This comprised one buy and two sell agreements. The sell agreements operated using a structure based on the historic point-to-point transmission arrangements and the fact that there were multiple system operators. This meant that the contracts needed to be specific to the operator (either PTL or GNI (UK)) on whose network the exit point was located. In addition, since there was no possibility of an exit point actually consuming more gas, the sell activity had to be enacted by a turn-down in the Shipper's Moffat Entry Point nomination, to ensure that the transaction resulted in less gas entering the system. The Moffat Agent Fee applied prior to 2015 but was removed in 2015 when the Moffat Agent ceased its role in gas allocations for Shippers at Moffat.

Prior to the introduction of the entry-exit regime in 2015, Shippers did not have to book entry capacity into Northern Ireland at Moffat. GB-side exit capacity was available as interruptible capacity at zero cost. This is why no capacity charges were included in the previous price structure.

With the introduction of the entry-exit regime, NI Shippers were allocated an initial amount of (unbundled) Northern Ireland entry capacity reflecting their long-term exit capacity bookings and they must now hold separate IP Entry Capacity at Moffat as well as exit capacity. IP Entry Capacity may be either bundled with GB capacity if purchased since 2015, or unbundled (for the remaining duration of the initial allocations), and overrun charges apply if allocations exceed capacity bookings.

10.3 Changes for GY 2016

For GY 2016, the tender was significantly amended to try and encourage market development, in line with the requirements of the Balancing Regulation. A number of changes were made which were specifically intended to encourage competition between Shippers in bidding for the services.

These included removing minimum quantity thresholds and hourly rate requirements to enable smaller Shippers to offer the smaller quantities of gas that they might have available. The buy-side price structure was also simplified to SAP + X across all of the buy contracts at the various possible locations.

Under the Balancing Regulation, it is necessary to avoid balancing gas contracts causing capacity to be with-held from the market. Therefore, rather than trying to specify how capacity charges might be built into a price structure for balancing gas, the NI TSOs considered that the SAP+X structure offered the best way to give Shippers freedom to price their bids to cover their costs as they wished.

Rules were drawn up, and included in the Network Codes and the tender, for calling off balancing gas, in anticipation of moving towards the NI TSOs selecting from a larger number of contracts with varying prices.

10.4 Outcome of 2016 Tender

The changes attracted very little interest, as reported in the First Update Report on Interim Measures. The tender documentation was seen as too complex. Shippers were unwilling to deal with the administration and also to risk the possibility of capacity overrun charges for what was seen as very little likely benefit. There was also concern that there could be differences in the gas price between the time of a transaction and the SAP price at the end of the day, which presented a price risk on the buy side.

It was necessary to roll over the buy contract and one of the sell contracts for a further year. One new sell contract was awarded, and once again this took the combined form (i.e. including a requirement for a Moffat turn-down).

10.5 Changes for 2017

The TSOs then re-designed the tender for GY 2017, with a view to focussing on encouraging Shippers to participate, since clearly this first step was needed before addressing concerns about competition and minimising costs.

The contract locations were simplified to remove the combined sell structure, and instead sell contracts would be delivered solely at the NI BP. On the buy-side, pass-through of the costs of purchasing the gas at the GB NBP and transporting it to Northern Ireland, was restored to eliminate the price risk arising from the timing of contract execution. The contract also allowed Shippers to be exempt from capacity overrun charges, should their capacity holding be insufficient to cover the capacity needed to deliver balancing gas.

10.6 Outcome of 2017 Tender

This format did attract some interest and a small number of Shippers submitted bids. However, feedback indicated that most Shippers were concerned that, without a management fee, the value available in providing balancing gas would not cover their set-up and operational costs. It was also observed that 2017 was an exceptionally busy year for the industry with the implementation of GMO NI, the new NI Network Gas Transmission Code and the new Delphi system.

One new 'non-locational' sell contract was successfully awarded, but once again it was necessary to roll over the buy side contract.

10.7 Changes for 2018

For GY 2018, the TSOs introduced a pass-through of all capacity charges for the buy contract. For both buy and sell side contracts, a Shipper-specified annual management fee and a further opportunity to include a Shipper-specified margin per transaction were offered as part of the tender structure. The opportunity for bidders to discount their fees where contracts for multiple Lots were awarded was also provided.

The delivery locations available were restructured to encourage buy-side participation via the South North, since developing operational resilience which is supported by flows from South North is seen as a long-term operational priority.

The EU capacity and nominations rules particularly for interconnection points between adjacent networks (introduced in October 2015) were designed to encourage Shippers to trade at hubs rather than at the interconnection points. Since South North IP is effectively a new interconnection point when capacity is allocated at the point, it will all be bundled and it is not be feasible for the TSOs to take delivery of balancing gas at the interconnection point.

As a consequence, it is now appropriate for the NI BP to be used as the main transaction point for delivery of balancing gas, even though the TSOs still wish to procure contracts with specific locations via which they require physical delivery.

This was achieved by offering two buy contract options with the NI BP as a transaction point, but with delivery via a specified route (either i.e. either Moffat IP or South North IP).

The NI TSOs also considered that it was beneficial to continue to offer a contract for a non-NI Shipper at Moffat (since there is still legacy unbundled capacity available on the GB-side at Moffat). The NI TSOs also provided information to the GB Shipper forum to ensure that GB Shippers were aware of the opportunity to participate in the tender process, in an effort to stimulate interest and potentially competition in provision of services.

10.8 Outcome for 2018

The tender for GY 2018 was notably more successful. Seven Shippers submitted a total of 14 bids for the individual Lots and 4 new contracts were awarded, one for each available Lot.

Essentially, the price structure now being supported by Shippers is a complete pass-through of the variable costs of the gas and its' transportation, with an annual management fee, paid monthly, which is received by the Shipper regardless of whether balancing actions are required. Bidding Shippers appeared to be willing to be competitive particularly in respect of transaction fees.

In such a small market, the standing management fee (plus removal of NBP price risk) clearly provides an effective incentive to participate, where other attempts to encourage participation and competition have been unsuccessful to date.

11. Interim Measures - Balancing Services Assessment under Article 8

11.1 Compliance Requirements

Article 8 of the Balancing Regulation sets out various requirements which apply to the use of Balancing Services. Since the NI TSOs are using Balancing Services as Interim Measures, the NI TSOs view of the extent to which they are also compliant with Article 8 is set out in this section 11.

The particular requirements of Article 8 are outlined first, followed by an assessment of compliance against each set of requirements

Article 8 specifies that Balancing Services may be used in the absence of liquidity of trade in short-term standardised commodity products, and/or where specific contractual products are required to enable the network to stay within its operational limits (for example, contractual products relating to gas quality).

Under Article 8, Balancing Services must be procured in a market-based manner through a transparent and non-discriminatory public tender, or through an alternative transparent and non-discriminatory procedure to be approved by the National Regulatory Authority (NRA). Contracts should be for one year only, unless otherwise authorised by the NRA.

The use of Balancing Services must be reviewed annually in order to assess whether available short-term standardised commodity products would better meet the balancing requirements and whether the use of balancing services could therefore be reduced for the following year. TSOs must also publish annual information concerning the balancing services procured and the related costs incurred.

In addition, under Article 8 (2), TSOs must consider a list of specific issues when procuring Balancing Services. These are set out in section 11.3 below.

11.2 Compliance with the general requirements of Article 8

The following table summarises current Northern Ireland compliance with the primary requirements of Article 8.

Article 8 Requirement	2018 Compliance
Art 8 (1): Balancing Services must be used only in the absence of liquid market in short-term standardised products	Yes, there are no short-term standardised commodity products, so their use is acceptable
Art 8 (1): And/or specific products are required to keep network within operational limits	Locational products are required, and are provided for, via specific locational contracts
Art 8 (3): Procured via a public tender process, appropriately advertised and the results published	Yes, the procurement process is a public tender, advertised in OJEU, and the results are published
Art 8 (5): Annual Contracts	Yes, the contracts are annual
Annual Review of the use of Balancing Services	Provided in sections 4 – 7 of this report
Art 8 (6): Consider whether requirement for Balancing Services can be reduced if short-term products become available	Not applicable as no short-term products
Art 8 (7): Annual Information on services procured and costs incurred to be published	Provided in sections 4 – 7 of this report

Table 7: Compliance with Article 8 General Requirements

NB: Art 8 (4) provides for approval of an alternative procurement procedure and is not relevant because Art 8 (3) applies

11.3 Procurement Considerations in Article 8 (2)

The following table summarises how the required considerations in Article 8 (2) have been taken into account when procuring balancing services, to date:

	Article 8 (2) Requirement **The TSO shall consider at least the following when procuring balancing services:**	**2018 Compliance Status**
(a)	*how balancing services will keep the transmission network within its operational limits*	The NI TSOs have always used balancing gas contracts for residual balancing, and their operational experience and expertise is utilised each year in assessing the particular requirements which need to be tendered for
(b)	*the response time of the balancing services compared to the response times of any available short-term standardised products*	There are no available short-term products, but the NI TSOs consider the likely speed of response of balancing gas contracts when determining their daily volume requirement for the tender
(c)	*the estimated costs of the procurement and use of balancing services compared to the estimated cost of use of any available short-term standardised products*	There are no available short-term products with which to compare. Costs and use of the balancing services are provided in sections 4 - 7 of this report
(d)	*the area at which the gas needs to be delivered*	The NI TSOs have developed the tender to address locational requirements. For GY18 this comprises 2 specific buy contracts for delivery via Moffat and for delivery via South North respectively. There are no location-specific sell requirements
(e)	*the TSOs gas quality requirements*	There are no particular gas quality requirements that cause issues in relation to balancing gas in the NI Network at present
(f)	*to what extent the procurement and use of balancing services may affect the liquidity of the short-term wholesale gas market.*	There is no short-term wholesale market in Northern Ireland, but as described in section 10 the balancing services tender has been developed over the past three years with the following aims: i) initially to encourage Shippers to have confidence in the NI BP as a transaction point, ii) to try and encourage competition in the provision of balancing services, and iii) to try and encourage participation in the provision of balancing services which might in theory then eventually lead to parties being willing to offer spot gas on a trading platform The future potential for interaction between balancing services and the development of trade on a trading platform is considered in section 12.2 and Shipper views are sought in the consultation questions in section 20

Table 8: Compliance with Article 8 Procurement Considerations

11.4 Conclusions on Balancing Services under Article 8

Balancing services are permitted under Article 8, and the NI TSOs consider that the current arrangements are compliant with the relevant requirements as set out above.

It should be noted that the provisions of the Interim Measures Articles in chapter X of the Balancing Regulation, (Article 48 in particular) are that Balancing Services can only be used on an enduring basis when the other options set out under Interim Measures have been considered and/or shown to be ineffective, and with the approval of the NRA.

12. Proposals for Balancing Gas Tender 2019

12.1 Balancing Gas Services Proposals

Given the relative success of this year's tender, the NI TSOs currently plan to use the same broad format for GY 2019, which will be tendered early next summer 2019. This approach is intended to continue to encourage participation in the tender process.

It is anticipated that contracts will be available for 4 Lots, as follows:

- Lot 1A: NI BP Primary Buy for delivery via Moffat IP
- Lot 1B: Locational (Moffat) Primary Buy for a non-NI Shipper
- Lot 2: NI BP Secondary Buy for delivery via South North IP
- Lot 3: Non-locational Balancing Sell Contract

It is anticipated that the same total daily quantities of balancing gas of 8,667,000kWh will be tendered for, and that the minimum quantity that the tendering party needs to be capable of delivering on a day would again be 3,000,000kWh for a sell and 5,000,000kWh for a buy.

For each contract, interested parties will be able to include in their bid:

- a management fee and
- a transaction fee,

and they will be invited to specify the amounts by which they will discount their fees if they are awarded more than one contract.

The NI TSOs are also considering adding a restriction which would mean that Lot 1B would only be available to parties which are not also NI Shippers. They also intend to review the tender documentation with a view to clarifying and shortening it to the extent possible.

Shippers views are invited on these proposals. Please see the consultation questions in section 20.

12.2 Potential interactions between Balancing Services and a Trading Platform Trial

This document also contains a consultation on a possible trial of a trading platform (see section 17). For the avoidance of doubt, the NI TSOs do not currently propose to make any changes to the tender process or to the Lots available in the event that a trial proceeds.

This is because it would not be operationally feasible to move directly to an unproven arrangement which was unsupported by balancing gas contracts. In any event, it would be operationally vital that any new mechanism for sourcing balancing gas runs alongside balancing contracts for a period, before it would be feasible to consider reducing or amending the tendered requirement.

If a trial were to proceed, it may be appropriate to add provisions to the NI Network Gas Transmission Code (and potentially to the terms of the balancing contracts) to make it explicit that the NI TSOs may also procure gas on a day via a trading platform where one is available. This activity would currently be covered under section 9.2.7 of the NI Network Gas Transmission Code which states that the NI TSOs may procure and use balancing gas by means other than the tender, but which does not refer to a trading platform or otherwise specify what 'means other than a tender' might be.

In particular, section 9.3.2 of the Code specifies that gas provided via any 'other means' should be ranked below that provided by a balancing contract when the NI TSOs choose which balancing 'tool' to call on. It may be appropriate to consider whether this should be amended to reflect selection on

overall price order, for example, or to prioritise use of products offered on the trading platform over balancing gas contracts.

Under the existing structure for balancing gas contracts, the price of buying gas via balancing services contracts would always be a pass-through of the actual costs of the gas on the day and the transport costs. This would mean that bids on a trading platform would have to be below cost in order to compete in a ranked order with the price of buying balancing gas via balancing gas contracts. The appropriate treatment of fees for balancing services contracts would need to be included within this consideration.

Therefore, as part of the preparation for any trial, the NI TSOs would consider what additional provisions and procedures may be required and propose Code Modifications accordingly. Any such proposals would be subject to consultation and approval as normal.

Further, more detailed, consideration would need to be given to the potential for price and operational interactions between gas being offered/provided via a trading platform and gas being sourced via balancing gas contracts awarded through the tender process, before the precise arrangements were decided upon. Nonetheless Shippers are welcome to submit any views they may have on this issue at this time, in response to this consultation.

It should be noted that the NI TSOs anticipate that a decision would be made on whether to proceed with a trial before the publication of the tender for GY19.

D: FORWARDS PROGRAMME FOR BALANCING REGIME DEVELOPMENT

13. Introduction to the Forwards Programme

13.1 Balancing Regulation Requirement on steps to reduce/remove Interim Measures

Article 46 of the Balancing Regulation requires that TSOs consider and report each year on their current view of the steps that will be taken to reduce reliance on, or remove, Interim Measures, including the criteria for making those steps and an assessment of the related timing.

The NI TSOs have developed a Forwards Programme to address possible improvements which could support development of the balancing regime and help to move forward with market development, ultimately with a view to exiting from Interim Measures. The current Forwards Programme comprises the following elements:

- Tolerance Review
- Review of NDM Forecasting Accuracy
- Cost Benefit Analysis on Information Provision

These elements all cover aspects of the Balancing Regulation which are required to be kept under regular review and reported on, as well as providing the opportunity to evaluate the scope for reducing reliance on, or removing, Interim Measures. Each of these is outlined in the following sections 14, 15 and 16 respectively.

The timeline below shows the planned timescales for the Forwards Programme.

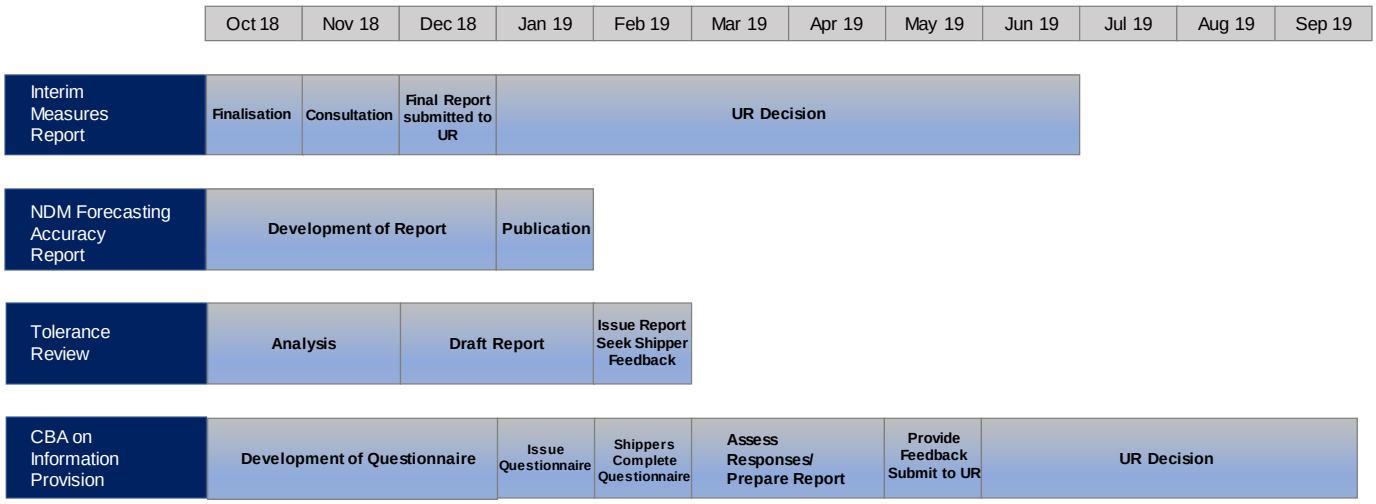

Fig 15: Forwards Programme of Work Schedule

As the first step in this programme, the NI TSOs are consulting in this document on a possible trial of a trading platform. Section 17 sets out the details of this possible trial and sets out the potential work programme which would follow if a decision was made by the Utility Regulator to proceed with a trial. It also includes consideration of the steps which would be needed for a trading platform to provide the route to exiting Interim Measures, and the criteria for making those steps, for consultation. Section 18 briefly considers what other routes might be available, should a trial of a trading platform not proceed, or in the event that a trading platform was not sufficiently effective to provide for exiting Interim Measures.

14. Introduction to the Tolerance Review

The TSOs are required under the Balancing Regulation to keep imbalance tolerances under review. Article 50 of the Balancing Regulation specifies, amongst other things, that tolerances may be used where Shippers do not have access to short-term markets with sufficient liquidity, and that they are to be used only for the minimum duration required, and only to the extent necessary, i.e. that they should only be large enough to provide necessary relief from imbalance risk, and not be so large that they provide a disincentive for Shippers to balance their own portfolio, and hence drive up residual balancing costs unnecessarily for all Shippers.

The Tolerance Review will therefore look at the scope and potential for reducing tolerances, including

- Consideration of factors which suggest reducing tolerances immediately
- Consideration of factors which suggest retaining tolerances
- Consideration of the criteria which should apply when considering whether to reduce tolerances in future
- Consideration of whether the derivation of tolerances should be amended, for example to include an element associated with NDM forecast deviation

In order to provide an initial indication of the potential impacts of reducing or even removing tolerances, the chart below shows what Shipper's balancing performance for Gas Year 17 (2017-2018) would have been, in terms of the number of days that their ITQ would have been exceeded, if their tolerances had been reduced by 25%, 50%, 75% and 100% (i.e. removed completely) relative to their current tolerance level.

The data shown has been anonymised to avoid identifying individual Shippers, but it shows the results for all those Shippers who have exceeded their current tolerance during 2017.

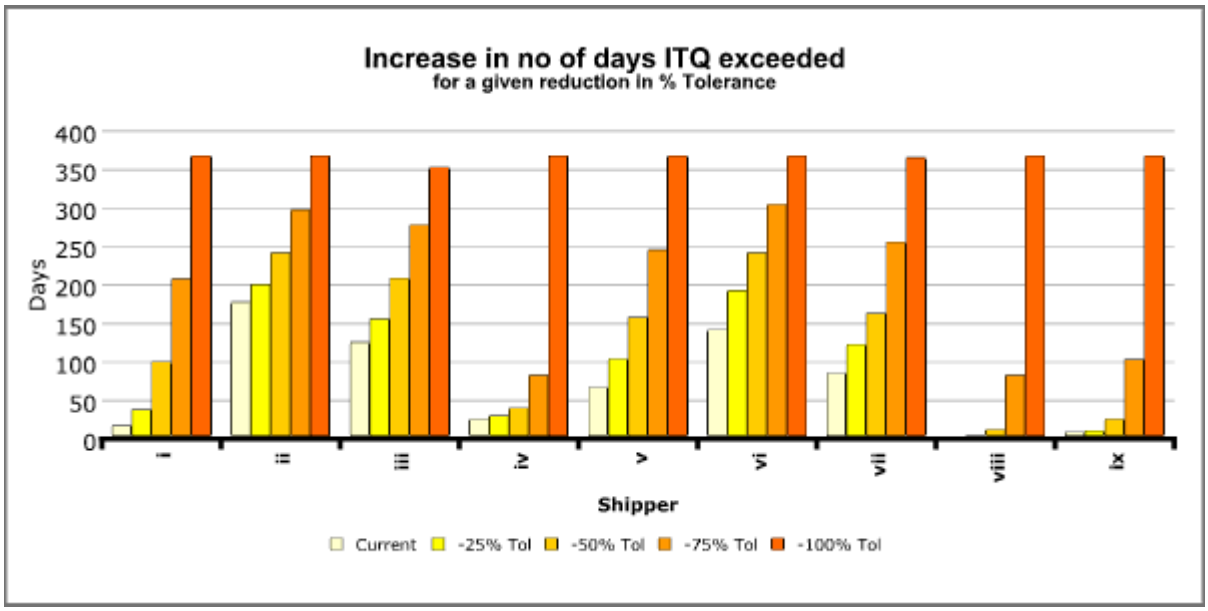

Fig 16: Indicative increase in the number of days Shippers would have exceeded their tolerance in 2017, if tolerance levels had been reduced or removed.
Please note that the labelling of Shippers i, ii, iii, etc does not correlate with Shippers 1 to 11 shown in the earlier charts in this report.

This illustrates the potential for different relative effects for different Shippers, particularly for the smaller reductions in tolerance level. Clearly a complete removal of tolerance would leave Shippers out of balance nearly every day, but for example, a reduction in the tolerance by 25% would have different effects for different Shippers.

The following chart shows what the costs associated with imbalances outside tolerance would have been, hypothetically, had the tolerances been reduced as described above, but balancing performance and gas prices remained as they were.

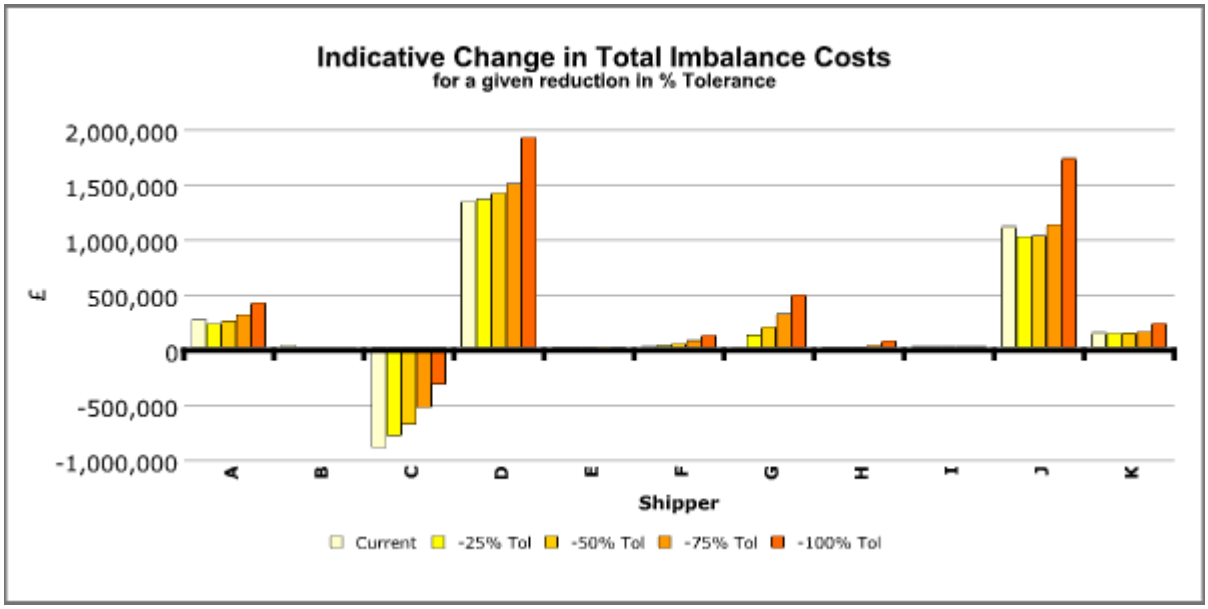

Fig 17: Indicative change in total Imbalance costs for 2017 if tolerance levels has been reduced or removed
Please note that the results have been re-sequenced so that Shipper A, B, C etc does not correlate with Shipper i, ii, iii etc in the previous chart.

For most Shippers, complete removal of tolerances during 2017-2018 would have resulted in something between a 40% to 65% increase in costs, and for some the increase would have been well over 500% and in some cases even more than that.

Please note that this data is only shown as an indication of the potential scale of the impact of reducing tolerances on Shipper costs.

This indicative analysis is clearly unrealistic since it could be reasonably assumed that if tolerances were to be reduced, this would be on the basis that Shippers were expected to be able to improve their performance, and hence they could be reasonably expected to do so and avoid the full extent of the increases in costs indicated by this analysis.

The purpose of this analysis is to indicate that any removal of tolerances could clearly have a significant impact on Shippers, and the NI TSOs will therefore proceed with caution in considering the application and calculation of tolerances and other factors which may affect balancing performance, and in making any recommendations for change.

Shippers will have the opportunity to provide comments on the findings of the Tolerance Review when it is published in Spring next year.

15. Introduction to the NDM Forecasting Accuracy Report

Article 42 of the Balancing Regulation requires that a report on the accuracy of the forecast of a network user's non-daily metered (NDM) off-takes shall be published by the Forecasting Party at least every two years.

The Forecasting Party processes were implemented for the first time in October 2017 and hence a report on accuracy is due by the Autumn of 2019.

The Forecasting Party processes set out in the Balancing Regulation require that NDM forecasts prepared by the Distribution Network Operators (DNOs), in respect of the loads connected to their networks, are submitted to the Forecasting Party (PTL) who combines them with other forecast information and provides them to Shippers via Delphi (under the GMO NI agreement). Shippers still receive their NDM forecasts direct from the DNOs as well.

The report is being prepared by GMO NI for PTL, in co-operation with the DNOs.

It is anticipated that the findings will add information to the longer-term question of whether/when tolerances could be reduced, or whether they could or should be calculated so as to include an element associated with deviation in the NDM forecast.

16. Introduction to the Cost Benefit Analysis on Information Provision

Article 38 of the Balancing Regulation recognises that the information that Shippers receive from network operators can have a direct bearing on their ability to balance their portfolios. It therefore requires a cost benefit analysis on increasing information provision to Shippers to be completed.

The information concerned comprises NDM forecast information, daily metered quantities and entry and exit allocations.

In line with requirements of Article 38, the Cost Benefit Analysis will assess the costs and benefits of

- increasing the frequency of information provision
- reducing the related timelines for provision
- improving accuracy of information

It should also identify the breakdown of costs and benefits amongst the categories of affected parties. The report will then be submitted to the Utility Regulator who may decide whether relevant changes are required.

The TSOs plan to publish a questionnaire to Shippers in Spring 2019 and report on their findings in the Summer 2019 as shown on the schedule in section 13.

17. Consultation on a Trading Platform Trial

17.1 Introduction

Following the commencement of a trading platform in the Republic of Ireland (ROI), the platform operator Energy Broking Ireland (EBI) expressed willingness to offer a trial of a trading platform in Northern Ireland.

The possibility of a trial is clearly something which is worth consideration in Northern Ireland, given the requirements of the Balancing Regulation which requires TSOs to seek to foster the development of such a market, and ideally to use it for residual balancing.

It is also the case that, following the successful launch of a platform in ROI, Shippers may consider that they would value a trading platform in Northern Ireland, regardless of whether or not it would be used by the TSOs for residual balancing.

The NI TSOs have therefore made an initial exploration of the possibility and are seeking in this document to consult with Shippers to ascertain their views on whether to go ahead with a trial at this time. Further information about the approach and costs of a trial is therefore set out below for Shippers to consider, and some specific consultation questions are in section 20 although all views and comments are welcome.

Once Shippers views have been received and considered, the NI TSOs will update this report with the findings of the consultation, and any further development of their own views, for submission to the Utility Regulator.

17.2 Aims

The NI TSOs consider that the aims of a trial would be:

a) to provide evidence of the appetite amongst Shippers for short-term gas commodity trading;

b) to provide an indication of the potential level of liquidity that could be achievable;

c) hence to provide an indication of the extent to which using such a platform could feed into any enduring solution for residual balancing;

d) to provide the opportunity for more parties to contribute towards offering balancing gas and hence improve operational resilience;

e) to enable a cost benefit analysis to be carried out to compare the use of Balancing Services with the use of short-term commodity trading, to identify any savings for Shippers/Consumers; and

f) to demonstrate the steps the NI TSOs are taking to try and foster market development and to promote competition in accordance with their gas conveyance licences and the requirements of the Balancing Regulation.

17.3 What would a trial provide for Shippers?

Under a trial of a trading platform, participating Shippers would be provided access to a Northern Ireland trading platform screen. Shippers would be able to see all the offers/bids for trades on the screen and the associated prices of those bids/offers.

In order to actually trade using the platform, Shippers would need to sign up to standard bilateral terms and conditions with the parties with whom they wish to be able to trade and notify EBI of their arrangements. This process would be done separately offline. The Shippers concerned would then be given 'execution access' to their trading partners trades, meaning that they would be able to execute trades posted by those partners via the screen.

Shippers may sign bi-lateral contracts with as many trading partners as they wish.

The form of the NI BP standard bi-lateral contract would need to be developed and agreed by GMO NI and Shippers together. Typically, Shippers may choose to include their own additional terms with their trading partners.

Essentially, a trial of a trading platform would provide Shippers with the same functionality and capability to trade as a full implementation.

EBI has proposed that it could offer reduced fees for Shippers who are already users of the ROI platform for a trial period.

17.4 TSO participation on the Trading Platform

EBI has suggested that for the platform to be successful it would need the NI TSOs to commit to carrying out at least a proportion of residual balancing using the platform, since this could potentially encourage Shippers to participate.

In order for the NI TSOs to participate they would need to:

- Pay for access to the screen;
- Support industry development of NI BP standard bi-lateral contracts;
- Prepare and sign bi-lateral contracts with Shippers willing to provide balancing gas via the platform;
- Set up their control room operations, procedures and systems for executing trades alongside the existing processes for calling off balancing gas contracts; and
- Set up the necessary arrangements and procedures via GMO NI for the back office activity.

For the NI TSOs to proceed, further work is needed to flesh out these requirements and address the detailed operational issues including the segregation of duties and governance arrangements. It is anticipated that an interim (manual) systems solution could be adopted for a trial period.

Once it had been developed in conjunction with Shippers, the NI TSOs would expect to use the form of the NI BP standard bi-lateral contract without permitting any Shipper-specific terms, to avoid discrimination.

As described in section 12.2, it is likely that some modifications to the NI Network Gas Transmission Code would also be needed, in particular the rules for calling off gas from either balancing contracts or from the platform.

A detailed costing would also be required to be approved before the NI TSOs could proceed. A mobilisation phase would therefore be needed to develop and implement the detailed arrangements.

The NI TSOs views on their participation and on the possibility of a trial are provided in section 17.8.

17.5 Development Steps to an enduring implementation of a Trading Platform

Following this consultation, should there be a decision to proceed with a trial, there would then need to be further work in order to set up and run the trial, obtain feedback, and if it proved successful, for the implementation of an enduring solution. In particular, a procurement process would be needed to select the provider of an enduring platform solution.

The following diagram summarises the NI TSOs view of the development steps required:

Indicative Timescales	Development Steps	
Nov/Dec 18	Shipper Engagement & Feedback	Via this consultation
Jan 19	Decision Point 1 ★	Decision to proceed to detailed proposals
Early 19	Detailed Proposal Drafting	NI TSOs develop detailed operational proposals and costings
Spring 19	Decision Point 2 ★	Decision to proceed to a trial
Q3 19	Trial Mobilisation Phase	NI TSOs and Shippers prepare and implement trial arrangements – develop NI BP Standard T&Cs, sign individual bi-lateral contracts, set up fee payments, systems etc
Oct 19 - Sept 20	Trading Platform Trial Period	Minimum 12 months period of trial
Q3 20	Trial Review and Feedback	Seeking Shipper views at various times including potentially before the end of 12 months
Q3 20	Decision Point 3 ★	Decision to proceed to an enduring platform, including CBA
Q4 20	Enduring Platform Procurement	Procurement process for enduring platform
2021	Enduring Platform Mobilisation	NI TSOs and Shippers develop and build enduring systems solutions, prepare for enduring implementation
2021	Enduring Platform Go Live	

Fig 18: Development Steps and decision points in a possible trial and potential implementation of a Trading Platform

17.6 Indicative Costs

At this stage the NI TSOs have not prepared detailed costings, since as described above, further work is required to determine the costs of its participation. However, the main cost components have been identified as follows:

Trial Mobilisation

- NI BP standard terms and conditions development
- Bi-lateral contracts preparation
- Trial IT readiness
- Preparing NI TSO arrangements and inter-TSO contracts for front office /back office services

Trial

- Trial Platform Costs per user
    - EBI has indicated that reduced fees would be available for a trial for existing users of the ROI platform
- NI TSOs operations costs

Enduring Arrangement

- Procurement costs
- Full IT implementation
- Ongoing costs for an enduring service
    - NI TSOs operations costs
    - Shipper charges, likely comprising transaction fees and a monthly fee for access to the screen

The fees which have been outlined by EBI are in line with the transaction fees currently applying in the ROI, and EBI has indicated that it would waive the monthly screen access fee during a trial, for those Shippers who are signed up for access to the ROI platform.

The fees for an enduring arrangement would depend on the outcome of the procurement process.

The NI TSOs propose that mobilisation costs (other than GMO NI staff costs) associated with a trial and, if a decision was made to proceed, of procurement and mobilisation of an enduring arrangement would be met from the price control allowances of GMO NI.

For both a trial and for any enduring arrangement, the NI TSO ongoing costs associated with operating the arrangements, i.e. internal service costs, and the transaction and platform access costs, would be recovered through the disbursement arrangements.

17.7 Trading Platform as a potential route to exit from Interim Measures?

If a trading platform was to provide a means of exiting from Interim Measures, it would be also be necessary to:

- Remove Imbalance tolerances
- Use prices on the platform to determine the Imbalance charge
- Use the platform as the sole source of balancing gas

The following diagram summarises the steps that would be required to reach a situation where the use of the trading platform and the associated arrangements for balancing would be fully compliant with the Balancing Regulation and hence provide the route for exit from Interim Measures

Platform as an exit from Interim Measures

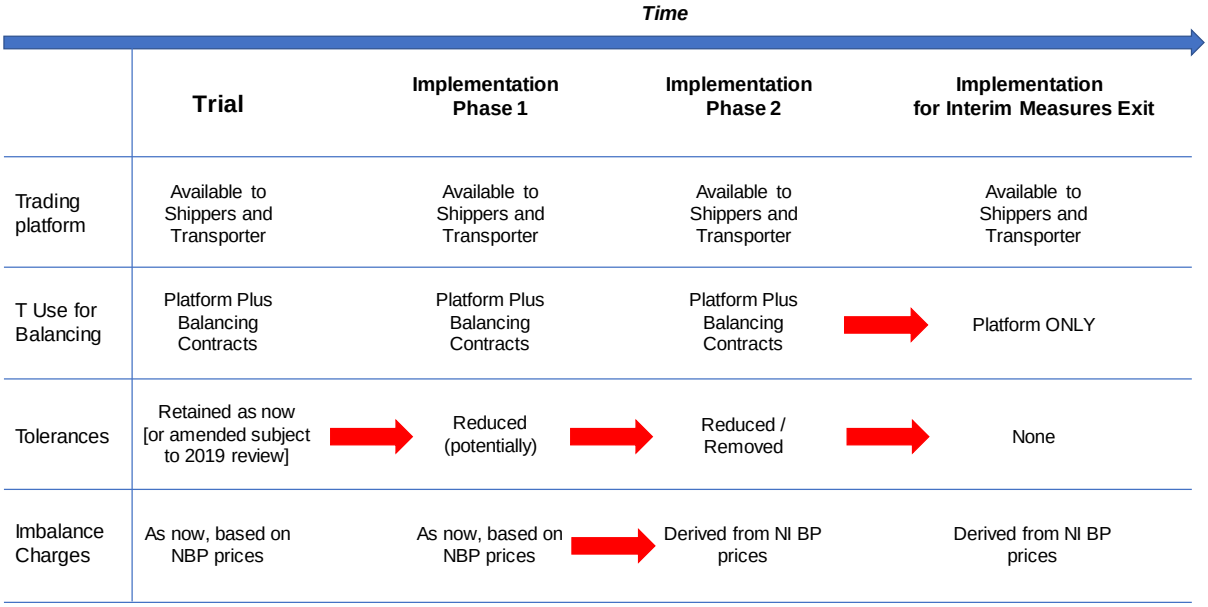

Fig 19: Steps required to move out of Interim Measures using a Trading Platform

For it to be feasible for a trading platform to provide an exit from Interim Measures, it would be necessary to take the steps in red in the diagram above. These could be taken at different times or together – the diagram (and description of implementation phases) are provided only to distinguish the steps needed.

Criteria for making steps to remove or reduce reliance on Interim Measures, in the context of a Trading Platform

The Balancing Regulation stipulates that consideration should be given to the criteria for taking steps to reduce reliance on Interim Measures. The NI TSOs outline below some possible criteria for taking the steps in red in Figure 19. It should be noted that this is for consideration and discussion purposes only, given that it has not yet been decided whether or not to proceed with a trial.

Criteria for reduction in /removal of Tolerances

The NI TSOs consider that the question of removal of tolerances will be considered in the Tolerance Review and may be revisited in future annual Interim Measures/Balancing Regulation compliance reports. At this time, relevant criteria for consideration could include:

- Has the impact of demand forecast error been considered and addressed where appropriate?
- Do Shippers have sufficient, timely information concerning demand forecasts?
- Is there a reasonable expectation that Shippers are capable of improving their balancing performance?
- Has sufficient notice been given?
  and
- In respect of complete removal of tolerances, do Shippers have reliable access to short-term standardised products in a liquid market?

Criteria for reducing reliance on Balancing Contracts

Relevant criteria for sole reliance on the trading platform (other than for location-specific requirements) could include:

- Has it been proven effective operationally, in terms of delivering the required physical change on the network?
- Are there sufficient parties making spot gas available on a daily basis to enable it to be a reliable source?
- Would utilisation of the trading platform result in lower balancing costs overall?

Criteria for moving to platform-generated Imbalance Prices

Relevant criteria for the use of platform-generated prices for Imbalance price-setting could include:

- Is there sufficient liquidity? This could be assessed in a number of ways, including in terms of the number of participants, or in terms of price stability – for example, do prices change when a balancing action is taken or anticipated?
- Is spot gas being offered daily (for Shippers to use for their own balancing)?
- Is there some evidence of independent price formation (i.e. are prices ever different from NBP prices plus the costs of transportation to NI?)

17.8 NI TSOs Initial Views on a Trial of a Trading Platform

As outlined in sections 17.4 and 17.6, the effort (and hence costs) to implement a trial is nearly as much as would be needed for a full implementation.

The differences would be that for a trial, an interim IT solution could be used, and for a full implementation, it would be necessary to run a procurement process to competitively appoint the platform provider.

The NI TSOs take the view that it would be essential to maintain the existing structure of balancing contracts alongside the trading platform to ensure operational reliability, for at least a number of years.

The NI TSOs initial views are therefore as follows:

- it is possible that a trading platform could provide an opportunity for more Shippers to participate in the provision of balancing gas;
- it is likely that it would require the NI TSOs to commit to using it for balancing to enable it to be viable, but this is subject to receiving Shippers' views;
- there is no reason why it should not prove to be operationally reliable for balancing, but this would need to be demonstrated before any reduction in the provision of balancing contracts could be proposed;
- it is unlikely that a trading platform will provide substantial liquidity in such a small market, and this may limit the scope for ultimate removal of tolerances and exit from Interim Measures under a trading platform solution;
- it could potentially provide an effective mechanism for the delivery of spot gas to Northern Ireland, provided there are willing parties with the necessary scale and contractual flexibility, primarily in the GB market, to deliver it to the NI market;

- it is not clear whether prices that could be achieved on the trading platform would represent an improvement on GB prices, particularly if liquidity is low;
- the current structure of balancing gas buy contracts means that the gas costs on a day and transport costs are effectively pass-through, so depending on the treatment of fees and NI TSO mobilisation and operating costs, prices available on the platform would have to be below cost to represent an overall cost saving for balancing gas purposes;
- from the TSO perspective, the key question is therefore whether the costs associated with the TSOs mobilising for, and using it for balancing gas would provide a reduction for Shippers in balancing costs overall;
- it may be that the existing arrangements, using balancing contracts, already represents the best achievable value for residual balancing in Northern Ireland;
- given that the costs and effort to develop arrangements for a trial would be very nearly the full cost and effort for a full implementation, a good degree of confidence in the industry benefits would be desirable in order to support a decision to proceed; and
- it is therefore vital to understand whether Shippers see scope for value in a trading platform, either with or without residual balancing by the NI TSOs, and would be keen to use it, given that ultimately the costs of the NI TSOs using it for residual balancing will be passed on.

The NI TSOs will review these initial views and, if required, update this section following responses from Shippers prior to submission to the Utility Regulator.

18. Consideration of other potential routes out of Interim Measures

18.1 Introduction to Alternative Routes

Given the possibility that, in such a small market as Northern Ireland, a trading platform may not ever be capable of providing a route for exiting from Interim Measures, it is appropriate to consider what the alternative routes may be. The Balancing Regulation provides three possible alternatives, with the final one being the 'last resort' should the others not be viable.

It is anticipated that these options will be reviewed again in the next Interim Measures Update report, should it prove appropriate following this year's developments.

18.2 Balancing Platform

Article 47 of the Balancing Regulation envisages a balancing platform being used where a short-term wholesale gas market is anticipated to have insufficient liquidity to be a reliable source of balancing gas. A balancing platform is an arrangement like a trading platform but where the TSO must be party to every trade. In theory this would support liquidity on the platform.

Availability of gas on a balancing platform would still depend on there being Shippers with sufficient supply contract flexibility to offer balancing gas on a 'spot' basis, as and when it was required on a day. As observed in section 5.3, of the 11 parties currently shipping gas in Northern Ireland, a significant number have consumer portfolios with small levels of demand and may not have the scale themselves to be trading at the GB NBP.

With limited liquidity, a balancing platform arrangement is unlikely to yield competitive prices (and hence more cost efficient balancing), than Balancing Services. It is also likely that there would be significant costs associated with setting up and running such a platform

It is possible under the Balancing Regulation to have joint balancing platforms with an adjacent balancing zone, if they have similar needs. In the case of Northern Ireland, both adjacent balancing zones have full trading platforms, so a joint balancing platform is not possible.

Should a trading platform trial go ahead and ultimately prove successful in at least extending the options for residual balancing, but perhaps still lack proper liquidity, then a balancing platform arrangement is unlikely to be capable of improving on that situation as it will also lack liquidity. The NI TSOs are therefore proposing that the question of whether a trading platform trial should proceed should be addressed first and the possibility of a balancing platform can be reviewed in future if need be.

18.3 'TSO-trades-in-an-Adjacent-Balancing-Zone'

The Balancing Regulation contemplates a further alternative mechanism for residual balancing: the possibility of a TSO seeking regulatory approval for it acting in an adjacent market to buy/sell balancing gas and paying for transportation to/from its own balancing zone (Article 9 (3)). This is known as the 'TSO-trades-in-an-Adjacent-Balancing-Zone' approach.

The Balancing Regulation requires that the costs of such activity must be reconsidered annually by the TSO and the regulator. This may offer an alternative way forward to a Balancing Platform but would similarly need to be explored before any decision was taken.

Issues include:

- How TSOs might be licenced in an adjacent zone, since it would be necessary for the TSO to transact directly at the adjacent trading point and ship the gas to Northern Ireland
- The availability of the necessary skills and resources needed for a TSO to undertake trading activity (which are not currently part of the required skill set/resource base for the NI TSOs)
- How to ensure trading decisions and decisions about balancing the network for operational safety reasons remain appropriately separated within a TSOs organisation (e.g. the processes required around the control room operations)
- The costs associated with the TSOs' provision of this arrangement (including the staff and operations/systems required to carry out trading)
- Costs of membership of the OCM
- How to achieve an operationally reliable transition to the new arrangements

The NI TSOs are currently of the view that it is unlikely that the 'TSO-trades-in-an-Adjacent-Balancing-Zone' approach would be more cost effective than the current Balancing Services approach.

18.4 Approval to continue rely on Balancing Services

Where, due to insufficient interconnection capacity, a balancing platform cannot increase the liquidity of the short-term wholesale market, Article 48 of the Balancing Regulation permits that the use of Balancing Services is an acceptable alternative, subject to the approval of the NRA.

Where such an alternative is used, the Balancing Regulation stipulates that the terms and conditions of the subsequent contractual arrangements as well as the applicable prices and durations must be specified.

Article 8 sets out the specific requirements which Balancing Services must adhere to, including annual reporting. These have been reviewed in section 11 of this document in respect of the current balancing contracts for 2018-2019.

Approved reliance on Balancing Services may thus be the final option, should the other possible permitted routes to exiting Interim Measures prove infeasible or unsuccessful.

SECTION E: CONSULTATION ARRANGEMENTS

19. Proposals for Consultation

In summary, the NI TSOs are proposing the following for the year 2018 - 2019:

1. Continued use of Balancing Services under Interim Measures, including Shipper tolerances and administered prices
As described in this report, it is not possible to move away from this arrangement at present, although other options for residual balancing will continue to be explored as required by the Balancing Regulation.

2. Use of the same Tender Process and contract structure for Balancing Services.
The tender for Balancing Services for 2019-2020 is expected, subject to Shipper feedback to this report, to retain the same structure as has been used for this year. The NI TSOs are considering adding a condition that Lot 1B (Moffat buy for a non-NI Shipper) may only be awarded to a party which is not also an NI Shipper, subject to this consultation.

This arrangement for tendering for Balancing Services will be kept under review by the NI TSOs prior to next year's tender. If amendments are subsequently identified that would improve the process and/or reduce the costs, then these will be made, with the approval of the Utility Regulator.

Should a trading platform trial proceed, the NI TSOs anticipate proposing related changes (as described in section 12.2) to the NI Network Gas Transmission Code for consultation.

3. The Forwards Programme of Work
The NI TSOs have set out a Forwards Programme of work aimed at evaluating the scope for reducing reliance on, and ultimately exiting from Interim Measures, comprising:

- Tolerance Review
- NDM Forecasting Accuracy Report
- Cost Benefit Analysis on Information Provision

Each of these will be reported on/consulted on separately during the year, and where considered necessary, changes will be implemented accordingly.

The conclusions from all of these will be drawn together in the next Interim Measures Update report, which will once again consider the overall direction of the Northern Ireland Balancing arrangements.

4. Trading Platform Trial
As described in section 17, Shippers views are sought on the proposals to hold a trial of a trading platform. Detailed questions are provided in section 20.

5. Ongoing monitoring of market developments
As is required by the Balancing Regulation, the NI TSOs will continue to monitor market developments through the year and changes to the arrangements will be made within the year if required, subject to regulatory approval.

20. Consultation Questions

In order to provide a structured framework for collating views and responses, the NI TSOs invite Shippers and other interested parties to consider the topics covered in this document and answer the questions posed below.

Further views can be provided as a supplement to the answers to the questions. Responses need not follow this format, however, and interested parties are welcome to submit their views in whatever form they wish.

Responses (or parts thereof) may be marked confidential and will be treated accordingly by the NI TSOs.

The NI TSOs would particularly welcome responses to the following questions:

1. The continued use of Balancing Services and the annual Tender process

1.1. Do you have any views or comments on Shipper and residual balancing performance, or the development of the market, as described in sections A and B of this document?

1.2. Would you be interested in participating in the tender for Balancing Gas Contracts (regardless of a possible trial of a trading platform) next year?

1.3. Are there any refinements to the tender process / contractual arrangements that would encourage you to participate?

1.4. Do you have any other views or comments on the ongoing use of balancing contracts?

1.5. Do you have any views or comments on the proposal to continue with Interim Measures for 2018-2019, including:
   a. application of tolerances, and
   b. use of administered imbalance prices?

1.6. Do you have any views on the potential for interactions between balancing contracts and a trading platform trial, as outlined in section 12.2, or otherwise?

2. Forwards Programme of Work

2.1. Do you have any comments on the proposed Forwards Programme, comprising the Tolerance Review, NDM Forecasting Accuracy Report and the Cost Benefit Analysis on Information Provision?

3. Trading Platform Trial

General Views

3.1. Would you support a trading platform trial?

3.2. Would you be likely to use a trading platform for your own trading purposes?

3.3. What, if any, potential risks do you see with the trial of a trading platform?

3.4. What would be the benefits of a trial?

3.5. Are there any wider issues which you think might assist with the success or otherwise of a trading platform trial?

Use of a Trading Platform by the NI TSOs for residual balancing

3.6. Would you be prepared to/capable of enter(ing) into a standard bi-lateral trading contract in order to provide balancing gas on a day to the Transporter via the trading platform?
   a. What factors would influence your decision?
   b. Would you need to procure additional contractual flexibility to do so?

3.7. Do you think that the Transporter should use a trading platform for balancing, either:
   a. during a trial;
   b. on an enduring basis, should it be feasible?

3.8. Is it essential for the trading platform to be used for balancing for you to consider a trial worthwhile, or would you expect to use it anyway?

Moving to a Trading Platform for enduring balancing arrangements (as an exit route from Interim Measures), should a trial proceed and prove successful

3.9. Do you think it could be feasible in future to move to the NI TSOs using a trading platform for enduring residual balancing arrangements? What, if any, issues do you foresee?

3.10. Do you have any views on the relevant criteria and/or timescales for:
   a. moving to sole use of the trading platform for residual balancing purposes?
   b. removing Shipper tolerances on an enduring basis?
   c. moving to using an NI-derived Imbalance price on an enduring basis?

21. How to Respond

Parties wishing to respond to this document are requested to provide their views on or by 7th December 2018. Responses may be made in writing or by email. Written responses should be provided to:

Stephen English
Stephen.English@gmo-ni.com
GMO NI
4th Floor
The Arena Building
85 Ormeau Road
Belfast
BT7 1SH

Appendix 1: Interim Measures Update Report Requirements

Article 46 of the Balancing Regulation sets out the requirements that an annual report on Interim Measures should meet, as follows:

(a) *a description of the state of development and the liquidity of the wholesale gas market at the time of preparing the report, including, where available to the TSO, inter alia:*
- *(i) the number of transactions concluded at the virtual trading point, and the number of transactions in general*
- *(ii) the bid/offer spreads and the volumes of bids/offers*
- *(iii) the number of participants having access to the short-term wholesale gas market*
- *(iv) the number of participants having been active on the short-term wholesale gas market during a given period*

(b) *the interim measures to be applied*

(c) *the reasons for the application of interim measures:*
- *(i) an explanation of why they are needed, due to the state of development of the short-term wholesale gas market;*
- *(ii) an assessment of how they will increase the liquidity of the short-term wholesale gas market*

(d) *an identification of steps that will be taken to remove interim measures, including criteria for making those steps and an assessment of the related timing.*

In addition, the Balancing Regulation states that TSOs are required to consult with stakeholders on the proposed report and then submit it to the NRA for approval. In making its decision (which it must do within six months of receipt of the complete report) the NRA is required to assess its effect on balancing regimes' harmonisation, facilitation of market integration, ensuring non-discrimination, effective competition and the efficient functioning of the gas market.

Appendix 2: List of Tables and Figures