Review of Market-Based Balancing

November 2016

GAS INDUSTRY COMPANY LIMITED

Executive Summary

Market-Based Balancing (MBB) was introduced on 1 October 2015. This report provides a preliminary assessment of whether MBB has brought improvements over previous arrangements, and seeks feedback on what further analysis may be justified.

We find that:

Primary balancing has significantly improved

Since the introduction of MBB:

1. Average receipt point (production station) Operational Imbalance (OI) has reduced very slightly.
2. Average delivery point OI has reduced by about half.
3. Average net OI at the bi-directional Frankley Road station has also reduced by about half.
4. Looking behind the delivery point OI improvements to the underlying shipper mismatch positions shows that:
   (a) Most shippers on most pipelines significantly improved their average mismatches; and
   (b) In aggregate, total shipper mismatch has reduced by about half, and the volatility of mismatches has decreased significantly.

Secondary balancing has significantly improved

1. The spread between average balancing gas put and call prices has decreased:
   (a) Average call gas price has decreased by 35%, and
   (b) Average put gas price has increased by 94%.
2. The total volume of balancing gas puts and calls has not significantly changed.
3. The Transmission Service Provider's (TSP) overall trading position has moved from deficit of $1m to a surplus of $0.6m in a 9 months pre- and post-MBB-implementation comparison.
4. The price distribution of balancing gas puts and calls is no longer bi-modal.
5. Usage of the Mokau compressor has dropped by about 67%.

We consider that these benefits are very likely to have resulted from the introduction of daily cash-outs and the additional information made available by the D+1 pilot.

Although the benefits are significant, and expected to be on-going, there may still be scope for further improvement. In particular:

1. We note that First Gas has indicated that it is seeking to make its procurement of balancing gas more efficient.
2. Further consideration should be given to the default rule that applies when there is not sufficient market liquidity to use the market price as the cash-out price. The default rule applied in about 89% of the days in the 2015/16 gas year.
3. While primary balancing has substantially improved (Chapter 3), secondary balancing activity has, counter-intuitively, also increased. In particular, balancing gas put and call activity has

continued at about the same level (Chapter 4), but the introduction of daily cash-outs has added considerably to the secondary balancing activity. At face value, improved primary balancing would be expected to reduce the need for secondary balancing. So there may be scope for further investigation and improvement here.

We seek feedback from stakeholders by Friday, 16 December 2016 on:

1. whether our approach to the analysis is reasonable and, if not, what further analysis is necessary;
2. whether there is merit in extending the analysis so that a full year pre- and post-MBB-implementation analysis can be done; and
3. whether there is merit in asking pipeline users to re-assess the costs of changing their systems and business practices to accommodate MBB (given that some stakeholders believe the original cost estimates used in the cost-benefit-analysis were too low).

Contents

1. Introduction and background

1.1 Purpose of this report

Market-Based Balancing (MBB) was proposed by Maui Development Limited (MDL) in a Maui Pipeline Operating Code (MPOC) Change Request dated 10 October 2014 (MBBCR).

Transmission pipeline balancing had been analysed and debated in the industry since 2005. The history of this work is concisely summarised in Gas Industry Co's *Draft Recommendation on 10 October 2014 MPOC Change Request*.[1] For convenience, we reproduce that history in Appendix A of this document.

The MBB change request followed on from two previous MDL change requests[2] based on a different concept, known as back-to-back balancing (B2B). These earlier change requests had been supported by Gas Industry Co, but never implemented by MDL. MDL had come to the view that MBB would address the balancing issues more effectively than B2B.

On 28 April 2015, Gas Industry Co issued its *Final Recommendation on 10 October 2014 MPOC Change Request*. That final recommendation supported the MBBCR, and MDL introduced MBB on 1 October 2015.

Several submissions on the MBBCR proposed that we should monitor and/or undertake a post-implementation review of MBB. This is consistent with Gas Industry Co's role as 'industry body' under Part 4A of the Gas Act, which is essentially to provide for effective governance of the gas industry and its key market processes.

We considered what information would be necessary for effective monitoring of MBB and set out our views in a paper entitled: *Information Requirements for Monitoring Market-Based Balancing*, November 2015 (the MBB Monitoring Paper). We sent this paper to the parties we were seeking information from and those parties agreed that Gas Industry Co should have access to the information necessary to monitor MBB.[3] This information is progressively being supplied and assessed.

This report provides some preliminary results and seeks feedback on what further analysis may be useful.

1.2 Terminology

A comprehensive glossary of terms is provided at the end of this report. Some of the more common terms are explained here.

Linepack is the amount of gas in a pipeline. It is a function of the pressures along the pipeline. These pressures need to be maintained below a safe operating pressure limit and above the minimum pressure required to maintain a secure supply of gas to consumers.

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1 http://gasindustry.co.nz/dmsdocument/4908

2 The two change requests were the October 2011 B2B Change Request (B2BCR), and the February 2014 B2B Fixup Change Request (B2BFCR).

3 Gas Industry Co requested the information under the terms of its Information Gathering Protocol (see http://tinyurl.com/GIC-IGP).

On the Maui pipeline, pressures rise or fall as parties who inject gas into the pipeline over- or under-inject, and as parties who receive gas from the pipeline under- or over-take relative to their respective **scheduled quantities**. A scheduled quantity is an amount of gas that the **Transmission Service Provider (TSP)** and **Welded Party** agree should pass through a particular **Welded Point** on a day.

The difference between the amount of gas that actually flows through a Welded Point on a day and the scheduled quantity at that point is known as an **operational imbalance**.

The efforts of individual pipeline users (not the TSP) to manage their individual balance positions is known as **primary balancing**.

When primary balancing is not adequate, the TSP will buy and sell gas. This is known as **secondary balancing**. There are two components to such secondary balancing: **cash-outs** and **balancing gas** transactions.

Cash-outs occur when, at the end of a day, an operational imbalance is in excess of an allowed tolerance, and the difference is automatically bought or sold by the TSP. In effect, the TSP is assuming responsibility for the imbalance, allowing the Welded Party to begin each day with an operational imbalance no greater than the allowed tolerance.

Balancing gas transactions occur when the TSP buys or sells gas other than through cash-outs. Such transactions are referred to as **balancing gas calls** and **balancing gas puts**, respectively. These transactions normally take place on a spot gas trading platform.

1.3 Pre-MBB improvements to balancing arrangements

Prior to 2008, the overall balance of the pipeline was essentially maintained by the flexibility of Maui gas production, and was not identified or sold as a separate service. Towards the end of 2008, changes to the Maui gas contracts, MPOC and VTC brought this to an end, allowing the costs associated with secondary balancing to become visible, and to be recovered from pipeline users.

To facilitate secondary balancing, MDL introduced a Balancing Gas Exchange (BGX) in 2009. This was an online platform that displayed pipeline balance conditions and enabled parties physically interconnected to the Maui pipeline to post offers to buy and sell balancing gas.

From that time, transmission system users had an incentive to self-balance and more (but far from perfect) information on which to base their balancing decisions. The result of these changes was that primary balancing improved and secondary balancing activity reduced significantly.

However, there was still scope for further improvement. In particular, the balancing gas procurement platform, the BGX, was only available to welded parties, resulting in a thin market and offering shippers no opportunity to participate. Also, the method of incentivising users to maintain balanced positions (the so called Imbalance Limit Overrun Notice (ILON) process) was inefficient. MBB aimed to resolve those problems.

In anticipation of the introduction of MBB, MDL revised the Balancing Standard Operating Procedure (SOP) on 15 September 2015. This document is a guide to how the TSP should balance the pipeline. In particular, Diagram 7 of the SOP, sets out a decision process the TSP will apply in determining whether to buy or sell balancing gas.

1.4 Introduction of MBB

MDL introduced MBB on 1 October 2015. From that date:

1. all imbalances over a tolerance limit (specified in Schedule 7 of the MPOC) are automatically cashed-out at the end of each day;

2. all balancing gas has been sourced from a trading platform[4] – the emsTradepoint market – a wholly-owned subsidiary of TransPower NZ Limited;
3. all pipeline level information relevant to balancing – including pipeline status, imbalances, balancing gas transactions, and cash-outs – is available on a new information system: the Balancing Gas Information Exchange (BGIX) at bgix.co.nz; and
4. Cash outs at Transmission Pipeline Welded Points (TPWPs), where the Maui and Vector pipelines interconnect, are allocated each day through the Balancing and Peaking Pool (BPP) [5]. This allows shippers to know their shares of any cash-outs and their respective running positions daily.

1.5 Post MBB changes

Subsequent to the introduction of MBB a number of adjustments have been made that may influence balancing outcomes. These adjustments are listed below.

1.5.1 D+1 pilot begins

A D+1 pilot began in December 2015. The D+1 process allocates gas among Vector shippers on the day following gas flow. Gas Industry Co is trialling D+1 allocation as a means of providing more timely information to retailers about their customers' gas usage.

The D+1 allocations are estimates based on considerably less actual metered data than the equivalent initial allocation performed after the end of the consumption month, so they will be less accurate. However, that loss of accuracy may be less important than having more timely information throughout the consumption month to manage balance positions.

If the pilot is successful, Gas Industry Co will look to implement D+1 allocation as part of the Gas (Downstream Reconciliation) Rules 2008. However, this is unlikely to occur before the shape of the First Gas new transmission access arrangements is clear.

We would expect the additional information provided by D+1 would help users to improve their balancing decisions, so improving primary balancing.

1.5.2 ROIL Multiplier changes

A ROIL is a tolerance on OI above which amounts of imbalance will be cashed-out.

The ROIL multiplier is a factor applied to the ROIL to allow a temporary increase (ie an added buffer before a cash-out) for events such as contingencies and maintenance (MPOC s12.18I). It also provided a 'soft landing' for the introduction of daily cash-out. Unless otherwise advised by the TSP, the ROIL Multiplier is:

1. 2 from the outset of MBB on 1 October 2015 till 30 September 2016;
2. 1.5 from 1 October 2016 till 30 March 2017; and
3. 1 from 1 April 2017.

We would expect the reducing ROIL multiplier to increase the incentive for users to balance their positions, so improving primary balancing.

[4] MPOC s3.3 provides that the TSP will buy and sell balancing gas using, in order of preference: a Trading Platform; a Balancing Platform; or, a bi-lateral contract. Where a Trading Platform is essentially an IT platform that offers an anonymous, non-discriminatory service, on publicly available standard terms and conditions that are acceptable to the TSP. To date all balancing gas transactions have been on a Trading Platform.

[5] The BPP is defined under the Vector Transmission Code and is the mechanism used to apportion cash-outs at a TP Welded Point among First Gas (as owner of the old Vector transmission system) and its shippers.

1.5.3 Adjustment Factor changes

An adjustment factor applies to the cash-out price to move it away from the market clearing prices and provides an added incentive to improve primary balancing. Without the adjustment factor cash-out gas would be priced at the prevailing market price leaving pipeline users indifferent as to whether they are cashed-out or not. In effect, it provides a signal that it is not costless to park gas in, or borrow gas from, the pipeline. Unless otherwise advised by the TSP, the Adjustment Factor was:

1. 1% from 1 October 2015 to 31 December 2015; and
2. 3% from 1 January 2016.

We would expect the increasing adjustment factor to increase the incentive for users to balance their positions, so improving primary balancing.

1.5.4 Default Rule changes

Ideally all cash-outs should occur at an efficient market price. However, the MBB arrangements recognise that the market may not always be efficient, and allows for the TSP to define a 'default rule' in such circumstances. MPOC s12.12(f) provides that:

> TSP shall define a default rule for the derivation of the Average Market Price (AMP) for a Day in circumstances where information is not sufficiently available or reliable for that Day; including but not limited to circumstances where:
>
> (i) no eligible Trading Platforms were available on that Day; or
>
> (ii) the volume traded on eligible Trading Platforms both on that Day and on the prior Day for Delivery that Day was (in both cases) less than a specified volume.

MDL's first default rule applied from the beginning of MBB on 1 October 2015. At an industry workshop to review the first month of MBB, held on 5 November 2015, MDL noted that the initial default rule had not operated as expected. In particular, MDL expected that:

1. the market would be liquid, and that the rule would therefore only rarely be triggered – but in practice, the rule had applied in 29 of the previous 35 days;
2. MDL transactions would not dominate the market, so would have little impact on price – but in practice, MDL's transactions had been 35% of traded volume, and had set the price on each of the 6 days when the low volume rule did not apply;
3. The Minimum Trading Volume threshold (MTVmin) would be high enough to avoid gaming – but in practice, MDL saw evidence of intentional imbalances, to take advantage of favourable cash-out prices. It also suspected there had been trading to move the price, followed by intentional imbalance to get the benefit of that price; and
4. the rule would provide a fair value of gas on a day – but in practice, balancing gas was generally bought high and sold low relative to other trades.

To address these problems significant changes to the default rule were made, with the new rule applying from 16 November 2015. The principal changes were:

1. to exclude MDL transactions from the MTV calculation;
2. to increase MTVmin from 5TJ/day to 10TJ/day; and
3. to change the calculation of the AMP from a single formula to different formulas depending on whether MDL had only bought balancing gas, only sold it, both bought and sold it, and where MDL did not take any balancing actions. The new formulae introduced a new concept of 'price proxies'. For example, a put price proxy would be the price of the last balancing gas put made by MDL or, if greater, a weighted average of eligible bids.

As a result of these changes, the cash-out prices became much less predictable, thereby reducing the ability for market participants to game the system. However, MDL and shippers still believed that further improvements were required, and discussed these at a workshop on 18 February 2016. MDL considered that changes were required to:

1. reduce the frequency of days on which the default rule applies;
2. reduce spreads on days when the net pipeline position and balancing action are in the same direction;
3. reduce the average spread between Marginal Buy and Marginal Sell prices;
4. increase the strength of the link between net cash-outs (as best indicator of net market surplus or shortfall) and cash-out prices; and
5. reduce the effect of the net cash out volume on the price adjustment.

To address these on-going problems a new default rule was developed that came into effect on 9 March 2016. The principal changes were:

1. to reduce the trading volume threshold, MTV_{min}, from 10TJ to 5TJ;
2. to base selection of the applicable AMP formula on net cash-out positions rather than what balancing actions had occurred; and
3. to reduce the price proxies.

Generally, we would expect the adjustments to make cash-out prices less extreme. This would reduce the incentive for users to balance their positions, so reducing primary balancing.

2. Expectations of MBB

In this chapter we discuss what results were expected from MBB, and how the data can be analysed to see if the results were delivered or not.

2.1 Expectations of MBB

As described in the MBB Monitoring Paper, Gas Industry Co supported MBB because it thought it would likely:

1. improve the quality of primary balancing;
2. improve the quality of secondary balancing through more efficient balancing gas transactions;
3. improve price signals by directing costs towards pipeline users who make more use of pipeline flexibility; and
4. as a result, in aggregate, deliver more economic benefits than costs.

Below we consider how the data should be analysed to test these assumptions.

2.1.1 Improved primary balancing

The introduction of MBB brought in automatic daily cash-outs of any imbalances over an allowed tolerance. This made primary balancing a daily endeavour, whereas under the previous ILON system, users managed their balance over much longer periods (and were rarely cashed-out).

During consultation on the MBBCR various stakeholders raised doubts about whether MBB would improve primary balancing. Some submitters thought this was unlikely, particularly for shippers who did not know their daily balance positions each day. They suggested that shippers might make less effort to balance their own positions, resulting in MDL needing to buy and sell balancing gas more frequently than it had previously.

The most direct measure of a user's self-balancing is:

1. for a Welded Party, the difference between actual flows and scheduled quantities (Operational Imbalance) at the relevant Welded Point, prior to any cash-outs, and
2. for a downstream shipper (ie a shipper on the Vector pipelines), the difference between its receipts and deliveries (Mismatch) on the relevant pipeline, prior to any cash-out allocations.

We believe this is the most direct way of assessing primary balancing, and we follow that approach in Chapter 3.

However, there are some less direct measures which are worth considering and, for completeness, we discuss these here.

Compare the sum of absolute pre-cash-out Accumulated Excess Operational Imbalances (AEOI)

Rationally, welded parties (and downstream shippers) would only wish to avoid OI that exceeds tolerance, since it is only that quantity that would be cashed-out. So a variation of looking at how OI has changed would be to look at how AEOI has changed, and then to compare the results before and after the introduction of MBB.

However, we think the simple first question to ask is whether or not primary balancing has improved. And the most relevant measure of primary balancing from the pipeline viewpoint is OI. Looking at AEOI clouds that issue since the ILON regime that previously applied was not an automatic daily cash-out regime. So comparing the sum of AEOIs before and after the introduction of MBB would not cast light on either whether primary balancing had improved, or whether welded parties and shippers were making more rational decisions.

A second measure of primary balancing is provided by shipper mismatch. We compare shipper mismatch before and after MBB in order to identify the extent to which shippers have been improving their abilities to self-balance as a result of the incentives provided by MBB and the improved information provided through more timely allocations and BPP information.

Compare the sum of absolute balancing actions plus cash-outs

An even less direct approach would be to measure secondary balancing. This would rely on an assumption that primary and secondary balancing is a zero sum game: the more primary balancing that is done, the less secondary balancing will need to be done. If this were true, then an improvement of primary balancing would show up as a reduction in secondary balancing. We could measure the amount of secondary balancing by aggregating the absolute value of all balancing actions plus cash-outs and comparing the results before and after the introduction of MBB.

However, the assumption that primary and secondary balancing is a zero sum game is doubtful, as explained below.

Automatic cash-out (which MBB introduced) is a form of secondary balancing since it involves the pipeline buying and selling gas. While cash-outs occurred before MBB was introduced they only occurred rarely (at the end of an ILON process). Since there will be some automatic cash-outs that are unnecessary from a purely pipeline balancing point of view[6], we would expect MBB to have caused a step increase in the aggregate amount of primary and secondary balancing.

It may also be significant that the Balancing SOP was changed a few weeks before MBB was introduced. This may have increased or reduced the amount of secondary balancing activity, independently of whether primary balancing had improved or not.

2.1.2 Improve secondary balancing

Among the key reasons for Gas Industry Co's support of MBB were expectations that use of the emsTradepoint market would enable more efficient balancing gas procurement, provide better price signals and allow shippers to hedge their positions (noting that the previous market, the BGX, was inaccessible to most industry participants).

A key question is whether the TSP is able to obtain cheaper call gas and get better prices for put gas. This information is available directly from the balancing gas transaction data. Assuming no other changes (in particular, assuming no macro change in gas supply or demand), a direct comparison of prices before and after 1 October 2015 should be valid.

Some initial results are provided in Chapter 4.

Another aspect is whether the TSP is getting the best possible prices, ie could the put and call prices have been even better. Anecdotally, it is said that balancing gas is generally bought at a premium to average market prices and sold at a discount to average market prices. Chapter 4 includes some comparison of the prices achieved for purchases and sales of balancing gas compared with the prices for non-balancing gas trades.

[6] For example, there may be off-setting positive and negative imbalances at Welded Points that are automatically cashed-out. Also, many daily cash-outs will be for small amounts, not significant to the overall pipeline balance.

Use of the Mokau compressor

MDL proposed that one of the benefits of MBB would be a reduction in the need to use the Mokau compressor station as a means of controlling the Target Taranaki Pressure (TTP). The TTP is expressed as a range of 42-48 bar. Allowing the top end of that range to be exceeded risks one or more producers being 'shut-in'; that is, they are unable to inject their gas into the pipeline. MDL stated that much of the time the Mokau compressor has been used to reduce pressure in the south section of the pipeline rather than being needed to support nominations.

2.1.3 Improved price signals

There are two aspects to this issue:

1. That users are able to gauge the price of cash-outs, and
2. That cash-outs are being directed at the right users.

Pipeline users need good information to make good decisions. Since the introduction of the BGIX, users have had much better information about spot gas prices, and the prices at which balancing gas is bought and sold. However, because of thin trading on the market the default rule has frequently applied. Analysis of figures provided by First Gas showed that in the first 12 months of MBB, the average market price was used on 39 occasions. The balance of the year, over 89% of days, the default rule was in effect. The default rule is complex, so it may be that users often do not have a good handle on what price they are likely to be cashed-out at. Indeed, one shipper has indicated to us that they find it unnecessarily complicated to calculate the default price. One option would be for First Gas to post the inputs and the calculations on the BGIX (given that First Gas needs to perform the calculations in as part of the cash-out process). That would give pipeline users (and their larger customers) the information and, for those that so wished, the ability to check the data.

Whether costs are being directed at the right users (those who were out of balance), is really an inquiry into whether the BPP is operating effectively, rather than about the effectiveness of MBB per-se. In the first instance, users who are allocated balancing costs through the BPP are best placed to answer the question. However, Gas Industry Co is aware that the BPP calculations have frequently produced results that have seen shippers being cashed-out for volumes that exceed the magnitude of their running mismatch. Such a result is counter-intuitive and comes about as a result of volumes of gas that move between the Maui pipeline and the ex-Vector pipelines, and contribute to ROI, that are unrelated to shipper mismatch.

First Gas is undertaking some work with shippers in order to resolve this issue.

2.1.4 Cost Benefit Analysis (CBA)

Gas Industry Co's decision to support MBB was influenced by the cost benefit analysis (CBA) performed by the Covec economic consultancy[7]. We have considered whether it is worth revisiting that analysis with the wisdom of hindsight.

On one hand, a reconstruction of the CBA could identify any flaws in the original reasoning, including where costs and benefits were under- or over-estimated. This could provide some insights into how future CBAs could be improved.

On the other hand, reconstructing the original CBA would be costly and time-consuming, and the result would be of no relevance for decision making (since MBB has already been implemented). The significant costs anticipated by pipeline users, and factored into the CBA, are already sunk.

[7] See Appendix B of Gas Industry Co's April 2015 Final Recommendation on 10 October 2014 MPOC Change Request, available at: http://gasindustry.co.nz/dmsdocument/4908

The significant benefits, from the analysis in this paper, are flowing through. On that basis, we do not think that a reconstruction of the CBA is justified.

However, there could be merit in reviewing specific aspects of the CBA. For example, we are aware of suggestions that the costs to pipeline users of changing their systems and business practices to accommodate MBB[8] were greatly underestimated, and that this needs to be understood and acknowledged. We are not convinced that this would be worthwhile, but as well as seeking feedback on the scope and content of the analysis in this paper, we would also be interested to hear whether industry participants see benefit in re-assessing their incremental costs.

[8] The CBA estimated the aggregate 'user costs', based on estimates from pipeline users, at between $710,000 and $1.21m per annum.

3. Initial results – primary balancing

3.1 Changes in Daily Operational Imbalances (OIs)

Improved primary balancing shows up as lower operational imbalances. By comparing the aggregate of the absolute values of daily OI at each Welded Point (prior to any cash-outs), before and after the introduction of MBB we can determine whether primary balancing has improved or not.

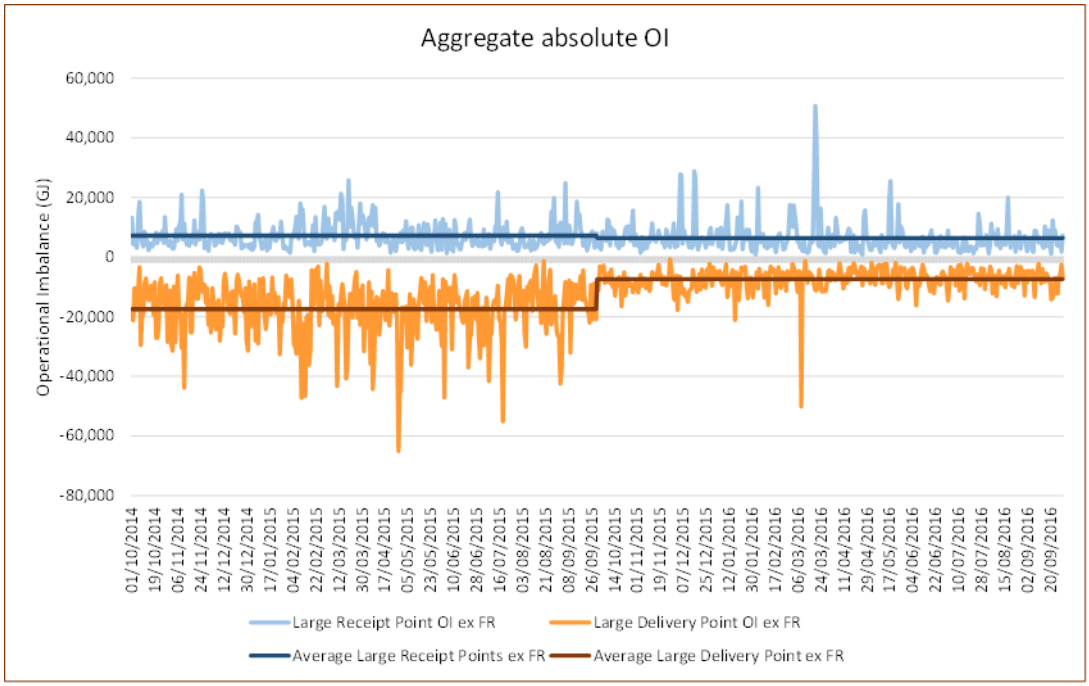

Figure 1 - Aggregate daily operational imbalances

Figure 1 above shows absolute daily OI (before any cash-outs) aggregated across large receipt points and delivery points. The values plotted are 'ex FR', ie excluding the bi-directional TPWP at Frankley Road. The reasons for this are discussed later. As well as the raw data plotted daily, the chart includes averages of the daily data across each of the two gas years. Those averages provide a rough indication of the overall change in management of the Welded Points following the introduction of MBB. To separate the datasets and make them easier to see, the delivery point figures are plotted as negative numbers.

The chart indicates that management of the receipt Welded Points (the light blue trace) has changed very little with the introduction of MBB. That may indicate that the receipt points – each controlled by a single party who has the flow information available to match injections to the scheduled quantity for the day – were already managed to their technical limits, and that the added incentives provided by MBB could do little to improve them. Nevertheless, a slight improvement can be seen as a slight kink in the 'Average Large Receipt Points ex FR' line (dark blue).

The delivery Welded Points exhibit a different pattern. Here the 'Average Large Delivery Points ex FR' line (dark orange) shows that OI at these points has approximately halved since the introduction of MBB. It can also be seen that the volatility of OI (the range of the light orange

trace) has also markedly decreased. We consider that there are two likely causes of these changes. The first is the incentive provided by the mandatory daily cash-outs for excess ROI under MBB; and the second is that within a short period after commencing MBB the downstream shippers began to receive daily allocations for the previous gas day (so-called D+1) as well as information on their respective shares of any cash-outs. That information must have significantly increased their ability to manage their daily positions.

Frankey Road OI

Some explanation of why Frankley Road OI has been excluded from the above analysis is required. Frankley Road is a bi-directional TPWP, so both receipts and deliveries can be nominated there, but only the net OI position is relevant for cash-outs. Rather than confuse the above Receipt and Delivery OI graph, we have plotted the net absolute OI at Frankley Road separately below.

The striking feature of Figure 2 is that, prior to the introduction of MBB, the volatility of OI at Frankley Road was very high. In fact, a glance back to Figure 1 will show that it is considerably higher than the aggregate OI of other receipt and delivery points. However, as with the large delivery points, since the introduction of MBB the volatility of OI has significantly decreased and the average absolute OI at Frankley Road has approximately halved.

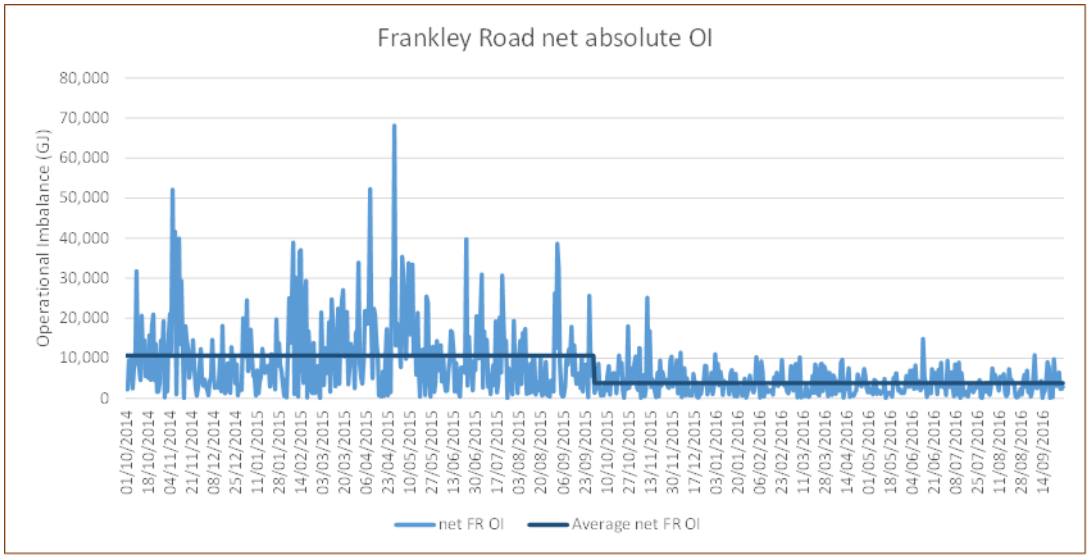

Figure 2 - Frankley Road net absolute OI

3.2 Changes in downstream mismatches

Section 3.1 shows aggregate primary balancing outcomes at each Welded Point. However, for TPWPs, we are also interested to know how downstream shippers (ie shippers on the Vector pipelines) behave. To look at this we have first plotted the ratio of average mismatch to average deliveries for the period 11 months prior to the introduction of MBB (light green bars) and the 11 months after the introduction of MBB (dark green bars).

3.2.1 North Pipeline Mismatches

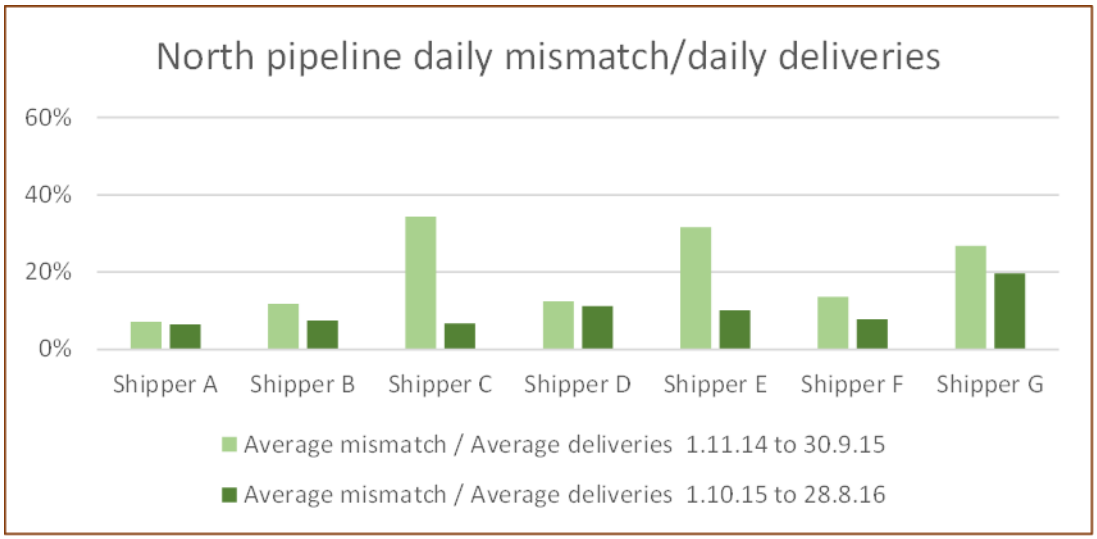

Figure 3 - North pipeline shipper mismatches

For the North pipeline, all shippers had lower average mismatches after the introduction of MBB. The shippers with the highest pre-MBB mismatch percentages showed the greatest improvements. Shippers C and E in particular had very high mismatch pre-MBB (>30% of deliveries) and were more in line with other shippers post-MBB (<10% of deliveries).

Although it is not clear from the graph (because we undertook to anonymise the analysis), we can confirm that generally the shippers with lower mismatch percentages are those who are transporting most gas. This is probably because a higher proportion of their demand is on telemetered time-of-use metering, allowing for more accurate estimation of daily demand.

3.2.2 Bay of Plenty (BOP) pipeline mismatches

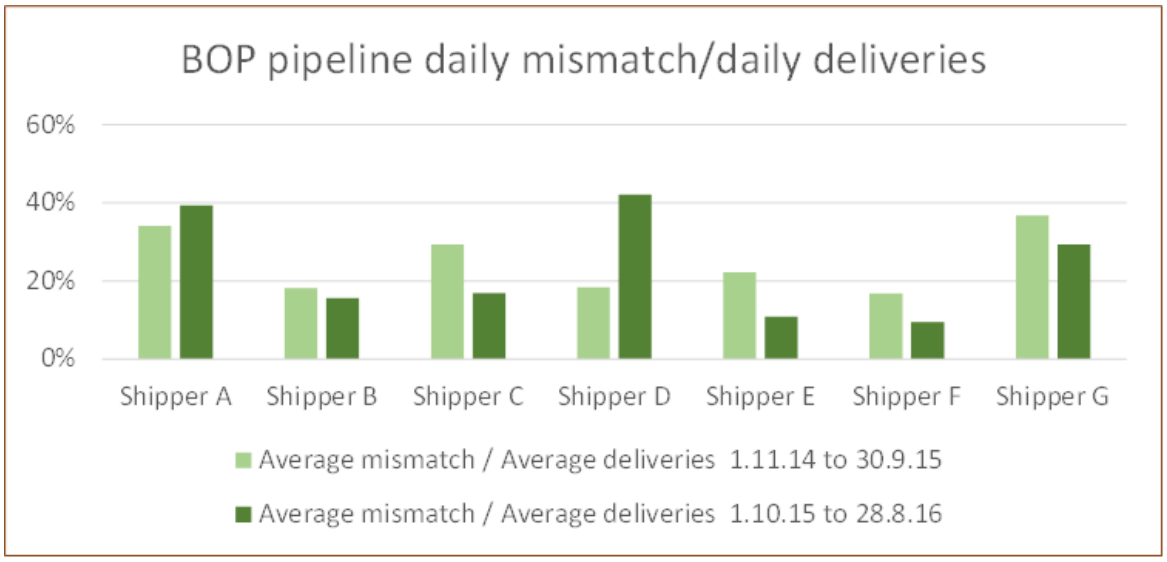

Figure 4 - BOP pipeline shipper mismatches

Generally mismatch percentages in the BOP pipeline are higher than in the North pipeline. We suggest this is probably because a higher proportion of demand in the North pipeline is on telemetered time-of-use metering, allowing for better management of mismatch. Another

difference is that not all shippers on the BOP pipeline have managed to reduce their mismatches since the introduction of MBB. It is probably not possible to say much more about why this might be without revealing the identity of the shippers concerned. However, we believe it is at least partly due to significant changes in demand.

3.2.3 South, Kapuni to Rotowaro, Frankley Road (SKRF) pipeline

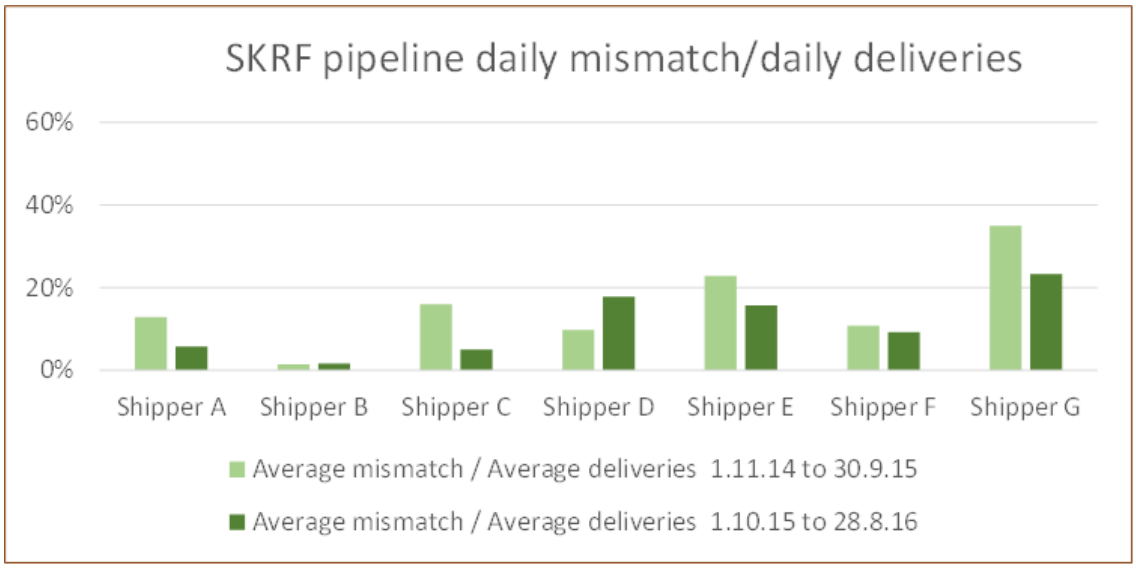

Figure 5 - SKRF pipeline shipper mismatches

The SKRF pipeline is a complex system supplying a very diverse range of end-users. However, in percentage terms, shipper balancing performance on SKRF is more akin to the North pipeline than the BOP pipeline. Also, all but two shippers improved their mismatch percentage positions after the introduction of MBB.

3.2.4 Shipper mismatch aggregated across pools

In order to identify the overall extent to which shippers have changed the management of their mismatch positions we have examined the total downstream mismatch position. As well as showing the overall picture, aggregating the mismatches has the benefit of removing the effect, if any, of one or more shippers moving mismatches between pools using the parking facility that was implicitly available under the ILON-based system that pre-dated MBB.

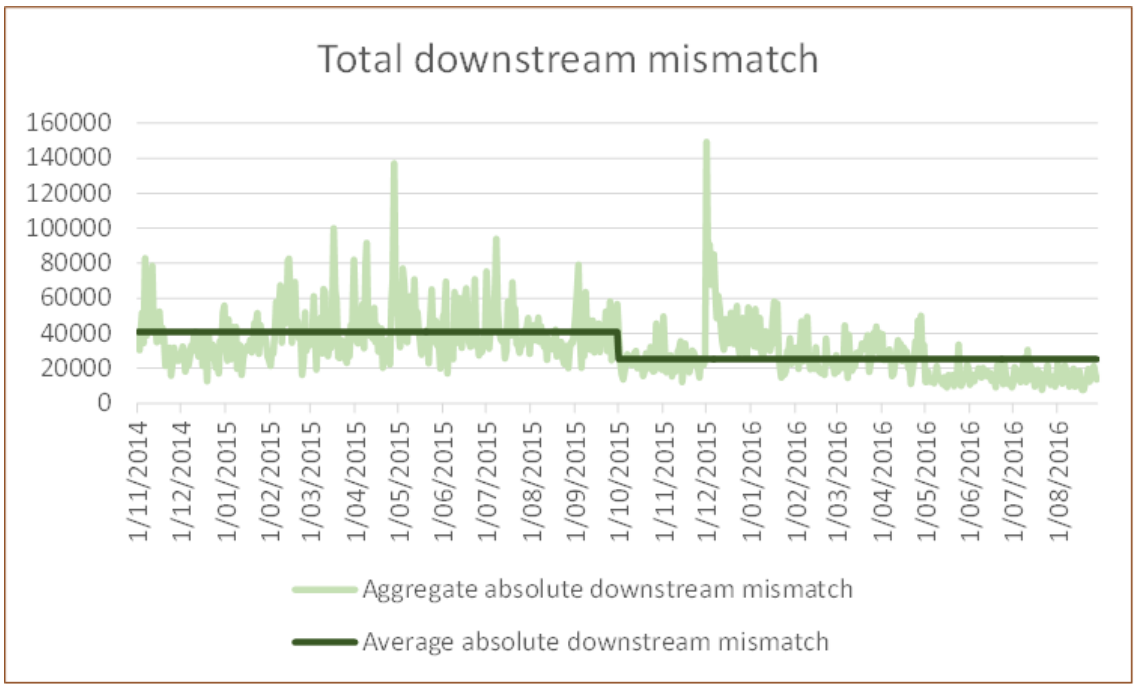

Figure 6 - Total downstream mismatch

The picture makes it clear that, since the introduction of MBB:

1. The average daily mismatch has almost halved.
2. After a rocky initial few months, the mismatches are in a narrower range, particularly from the middle of the 2016 calendar year onwards.

4. Initial results – secondary balancing

4.1 Average Put and Call prices

Figure 7 shows the balancing gas activity before and after the introduction of MBB on 1 October 2015. Individual purchases of balancing gas by the TSP – the balancing gas calls – are shown as blue bars, and sales of balancing gas – the balancing gas puts – as orange bars. The multi-stepped lines are rolling averages (of the last 10 puts or calls). And the darker lines with the single step (on 1 October 2015) are the averages of all the pre- and post-MBB calls (dark blue) and puts (dark orange).

The put prices are shown as negative values to avoid cluttering the diagram.

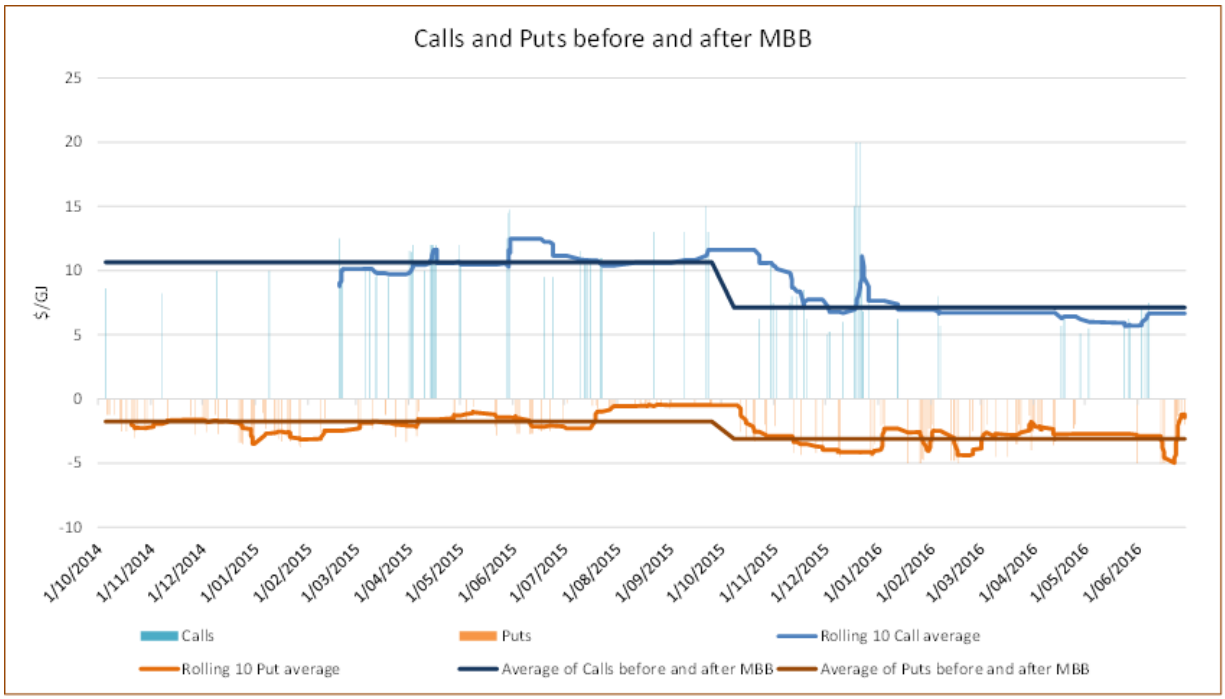

Figure 7 - Balancing Gas Call and Put activity

The standout feature of Figure 7 is that on average, after the introduction of MBB, the TSP is purchasing call gas at lower prices, and selling put gas at higher prices than previously. Since MBB involves prices being referenced to a more liquid market (the emsTradepoint market rather than the BGX), improved prices were anticipated to be one of the main benefits of introducing MBB. The analysis to date supports that view.

4.2 Trends in put and call numbers, volumes (GJ) and values ($)

Figure 8 illustrates the put and call activity pre- and post-MBB. To give a better visual comparison we sum the data backwards and forwards from 1 October 2015. For example, between 1/10/2015 and 1/10/2014 there were 68 calls (extreme left on the dark blue line) with a total volume of 164,500 GJ (extreme left on the light blue line), and between 1/10/2015 and 1/07 2016 there were 60 calls (extreme right on the dark blue line) with a total volume of 125,501 GJ (extreme right on the light blue line).

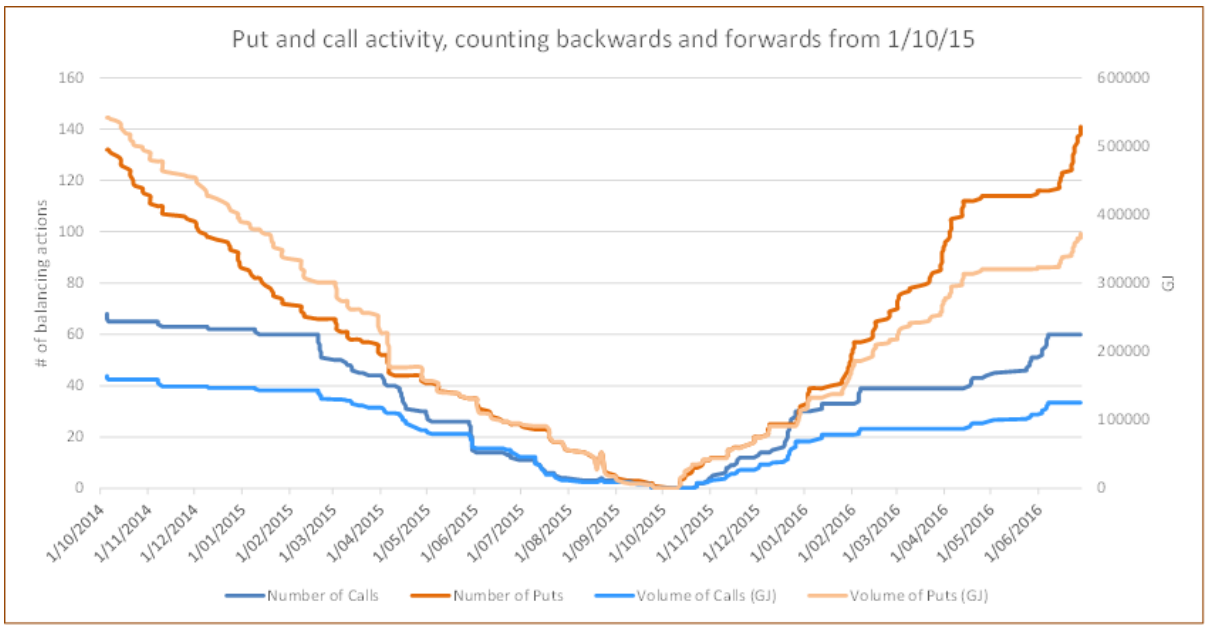

Figure 8 - Balancing Gas Put and Call activity

There are a couple of standout features in Figure 8. First, it is noticeable that there are lengthy periods where the transactions are predominantly calls, and periods where they are predominantly puts. For example, between 1/10/2014 and 1/3/2015 calls were infrequent while puts were very much more frequent. This is also evident in Figure 7, but is perhaps easier to see in Figure 8. This suggests that the overall balance of the pipeline is at times being influenced by systematic over or under supply, and not just by random fluctuations.

Another trend the picture makes clear is that the amount of both put and call activity was greater in the few months after the introduction of MBB – because the slopes of the lines in the few months after the introduction of MBB are generally steeper than the slopes of the lines before the introduction of MBB. It then eased for a few months and picked up again towards the end of the data set.

Although the CBA contributing to Gas Industry Co's support of MBB was not predicated on a reduction in secondary balancing activity, some submitters on the proposal did argue that MBB would result in more secondary balancing[9]. The analysis indicates that, in aggregate, there hasn't been much change in the amount of balancing gas put and call activity. However, as noted in Section 1.2, there are two components to secondary balancing: cash-outs and balancing gas transactions. If we consider both of these transaction types, the amount of secondary balancing activity has increased, but not for the reasons proposed by submitters (since primary balancing has clearly improved). This does beg the question: if primary balancing has improved, why should secondary balancing activity need to increase?

To tease out the data we plot the numbers, volumes (GJ) and values ($) on separate graphs, and show the trendlines.

Figure 9 shows the aggregate number of puts and calls, counting up from 1/10/2014.

[9] For example the Genesis submission on the MBBCR argued that because participants did not have the information or time to correct their positions on the day after gas flow, fewer participant-initiated corrections would occur, leaving MDL to make those corrections. Balancing gas volumes would therefore increase significantly. The Greymouth submission also argued that the quantum of balancing actions would increase. Several other submissions argued that the amount of primary balancing would decrease and, by implication, that secondary balancing would increase.

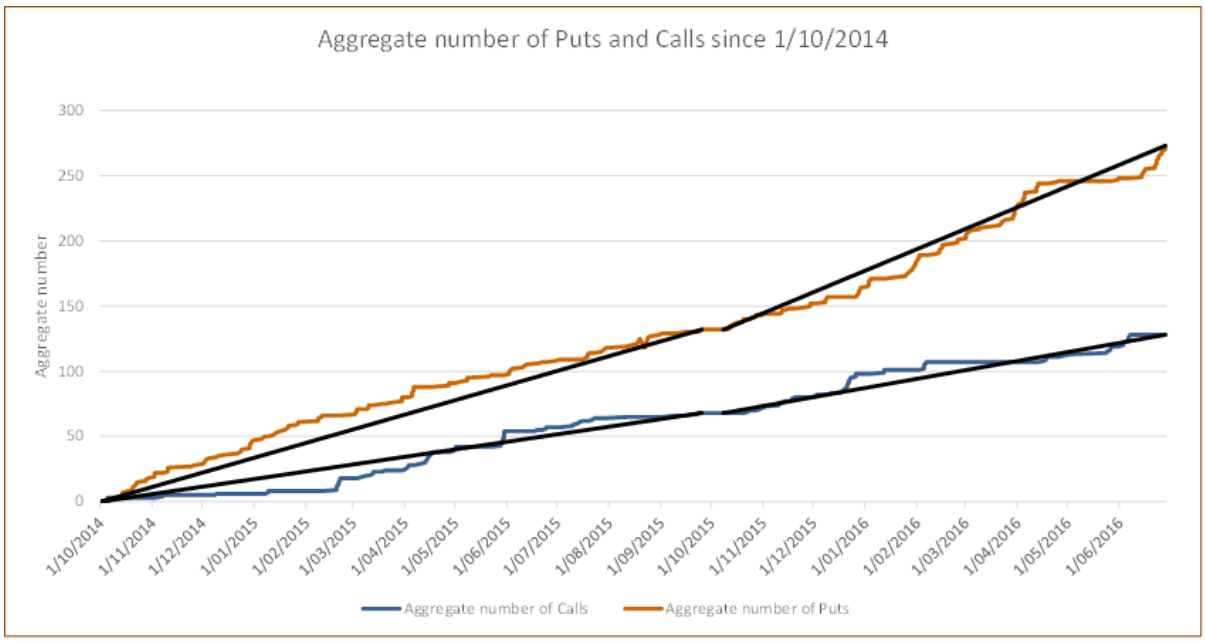

Figure 9 - Aggregate numbers of Balancing Gas Puts and Calls since 1/10/2014

Figure 9 - Aggregate numbers of Balancing Gas Puts and Calls since 1/10/2014confirms that the rate of puts and calls has increased marginally since MBB was introduced (ie somewhat steeper trendlines after 1/10/2014).

Figure 10 - Aggregate volume of Balancing Gas Puts and Calls since 1/10/2014shows the aggregate volume of puts and calls in GJ, counting up from 1/10/2014.

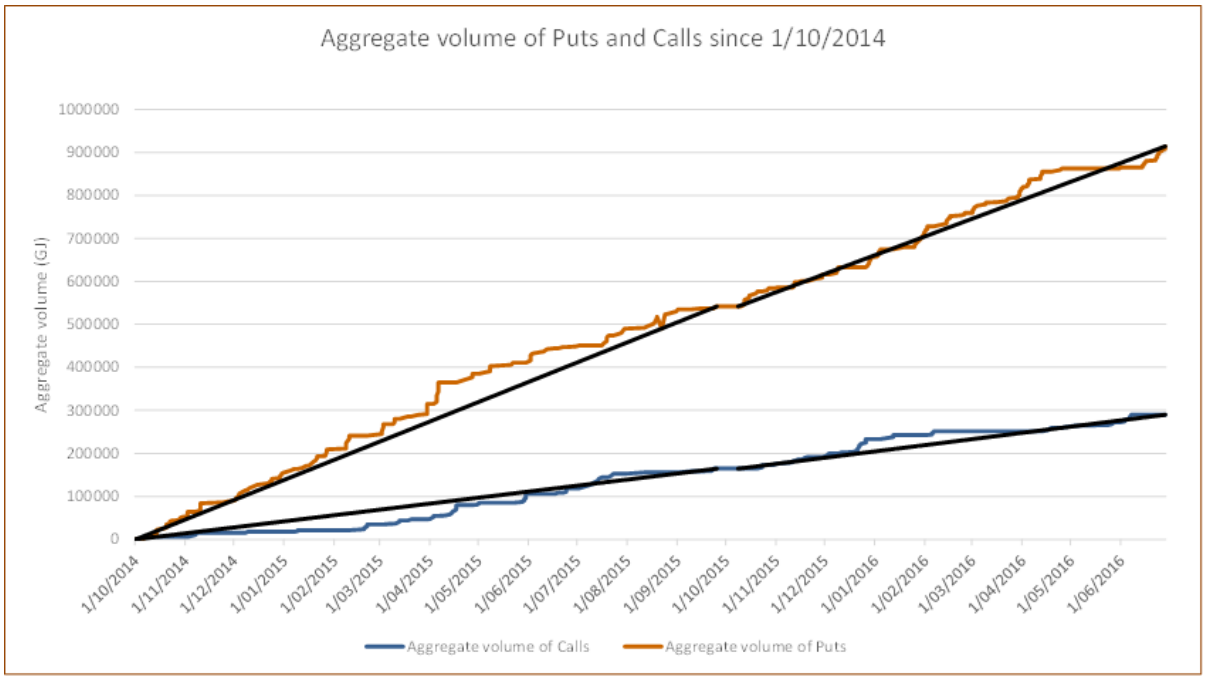

Figure 10 - Aggregate volume of Balancing Gas Puts and Calls since 1/10/2014

Figure 10 confirms that the volume of puts and calls has not materially changed since MBB was introduced (ie no significant change in the slope of the trendlines after 1/10/2014).

Figure 11 shows the aggregate value of puts and calls in dollars, counting up from 1/10/2014.

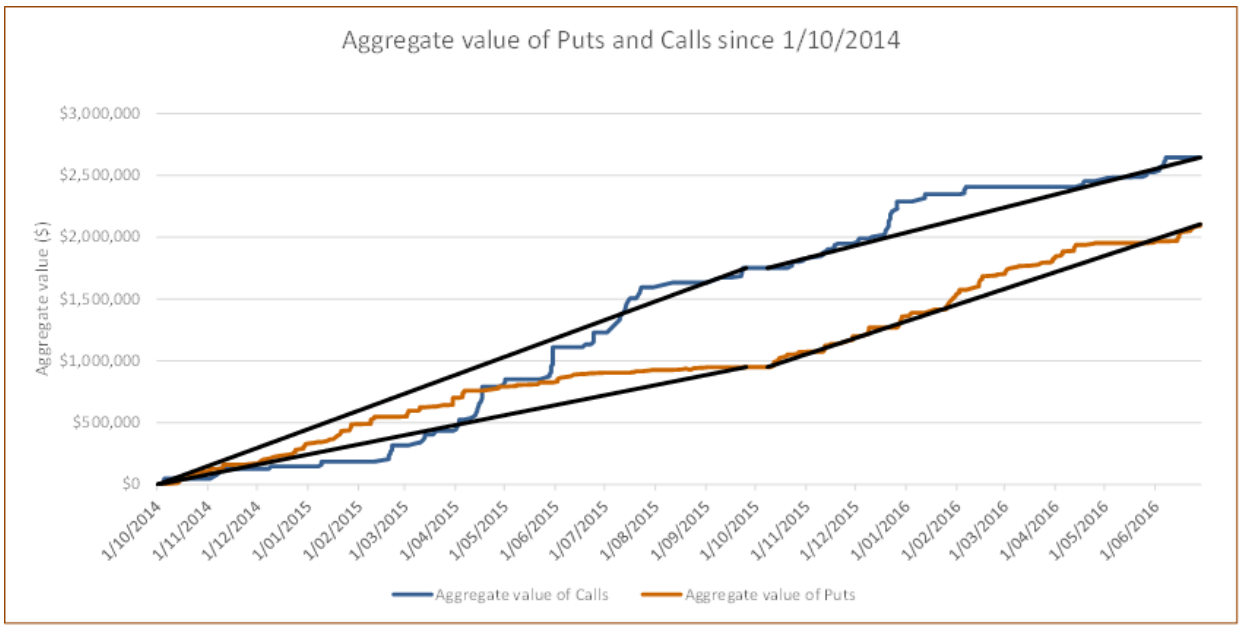

Figure 11 - Aggregate value of Balancing Gas Puts and Calls since 1/10/2014

Figure 11 confirms that the trend is for the value of calls to decrease (ie the cost of the TSP's purchases of balancing gas have decreased), while the value of puts has increased (ie the revenue from the TSP's sales of balancing gas have increased).

4.3 9 months before v 9 months after analysis

The Figure 7 – 11 cover the period 12 months prior and 9 months after the introduction of MBB, and that lopsided period might mis-lead. In Figure 12 we tabulate results for 9 months before and 9 months after the introduction of MBB. This should give a better 'apples to apples' comparison, providing no strong seasonal effects are present.

Figure 12 Summary of Balancing Gas Put and Call activity

	9 months prior to MBB 1/1/15 to 30/9/15 Calls	9months after MBB 1/10/15 to 30/6/15 Calls	9 months prior to MBB 1/1/15 to 30/9/15 Puts	9months after MBB 1/10/15 to 30/6/15 Puts
Number of transactions	62	60	84	141
Transaction value ($)	$ 1,604,185	$ 893,946	$ 620,060	$ 1,154,330
Transaction volume (GJ)	147,000 GJ	125,501 GJ	387,500 GJ	372,500 GJ
Average quantity per trade (GJ)	2,371	2,092	4,613	2,642
Average price ($/GJ)	10.91	7.12	1.60	3.10
Improvement ($/GJ)		3.79		1.50
Improvement %		35%		94%

The tabulation supports the observation made in respect of the earlier graphical analysis. In particular:

1. As anticipated, buying and selling balancing gas on the emsTradepoint has delivered significant benefits over using the BGX. We observed from Figure 7, the average price of call gas decreased and the average price of put gas increased since the introduction of MBB. Figure 12 shows that, comparing 9 months before with 9 months after, on average the call gas was obtained 35% more cheaply on the emsTradepoint market than on the BGX. Similarly, put gas was sold for 94% more.
2. The introduction of MBB has not significantly changed the amount of balancing gas being traded. As shown in the Figure 12 chart, the volume of balancing gas calls and puts is much the same before and after the introduction of MBB. On a 9 month before and after basis, Figure 12 shows that there is actually a slight reduction in the aggregate volume of all trades in the 9 months after the introduction of MBB.[10] However, the data still looks quite volatile, so we should be cautious not to read too much into this.
3. Although the volumes of puts and calls aren't significantly different, the better prices obtained have moved the net pipeline trading position from deficit of $1m[11] in the 9 months prior to a surplus of $0.6[12] in the 9 months after the introduction of MBB.

4.4 Efficiency of balancing gas procurement by the pipeline

One of the expectations of MBB was that the procurement of balancing gas would become more efficient by virtue of sourcing balancing gas from a market that is open to broader participation. That has proven to be the case as Figure 7 shows the narrower spread between put and call prices for balancing gas.

Before MBB was introduced, MDL used the BGX for balancing gas put and call activity. The BGX platform had very limited participation, and that was partly due to the requirement in the BGX rules that a participant needed to be a welded party. That precluded most Maui shippers from participating in the BGX. However, participation rates in the BGX by Welded Parties were also low: a review of the trading activity from the data supplied to Gas Industry Co revealed that there were typically only two parties active on the BGX in the 12 months prior to MBB implementation.

Figure 13 compares the procurement of balancing gas before and after the introduction of MBB and shows a distinct change between the results achieved by the pipeline in moving from the BGX to the emsTradepoint market. Use of the BGX gave rise to a bimodal distribution with the peaks centred around $2.50/GJ for balancing gas puts and $10.50 for balance gas calls. Since balancing gas has been procured using the emsTradepoint market the distribution appears much more unimodal with a mean of around $4.40/GJ. That second distribution appears positively skewed with a couple of significant outliers at $15/GJ and $20/GJ.

[10] Figure 9 shows that in the 9 months prior to MBB 147TJ of call gas was purchased compared to 126TJ in the subsequent 9 months. Similarly, 388TJ of put gas was sold in the 9 months prior, and 373TJ in the 9 months after. So there was about a 9% reduction in the aggregate volume of all secondary balancing action trades.

[11] $0.6m-$1.6m

[12] $1.2m-$0.6m

Figure 13 - Distribution of balancing gas trades pre- and post MBB

Despite the apparent improvement achieved by moving to procure gas from the emsTradepoint market, there is a question as to whether the TSP has managed to achieve results comparable with other parties trading gas on that platform. The distribution of these other trades is shown in Figure 14.

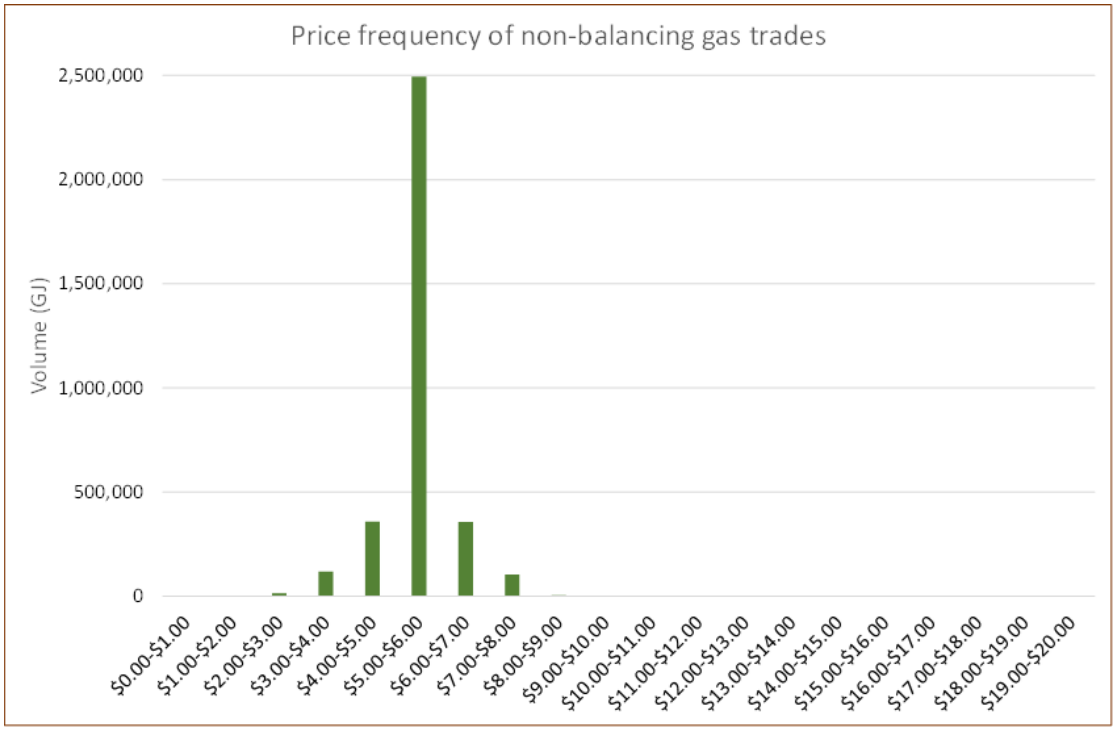

Figure 14 - Distribution of non-balancing gas trades

Figure 14 shows the distribution of all gas trades on the emsTradepoint market ***excluding*** balancing gas transactions. Those trades exhibit a VWAP[13] of $5.58 with a standard deviation of $0.659 and are fairly evenly distributed about the mean. By contrast, the balancing gas trades sourced from emsTradepoint in Figure 13 exhibit a VWAP of $3.10 for put balancing gas and $7.12 for call balancing gas. The standard deviation of the balancing gas trades is $2.775, over four times that of non-balancing gas trades (not surprising given the reasonably systematic spread between the prices achieved for put and call balancing gas).

The results above indicate that the introduction of MBB has not achieved procurement of balancing gas at prices comparable with pricing generally achieved in the market. There could be many underlying reasons for this. It may be that secondary balancing tends to occur when parties in the primary market cannot obtain sufficient balancing gas, so that any such gas only available at a premium. It could also be that the TSP has less choice concerning when it trades and that provides counterparties with opportunities to offer prices that would not be struck by other traders. However, it would also appear that those who are, potentially, affected by the balancing gas prices, ie the shippers and welded parties who are subject to cash-outs, are not necessarily participating in the emsTradepoint market in a way that would hedge their respective positions.

We note that First Gas has indicated that it is seeking to make its procurement of balancing gas more efficient.

4.4.1 Mokau compressor station

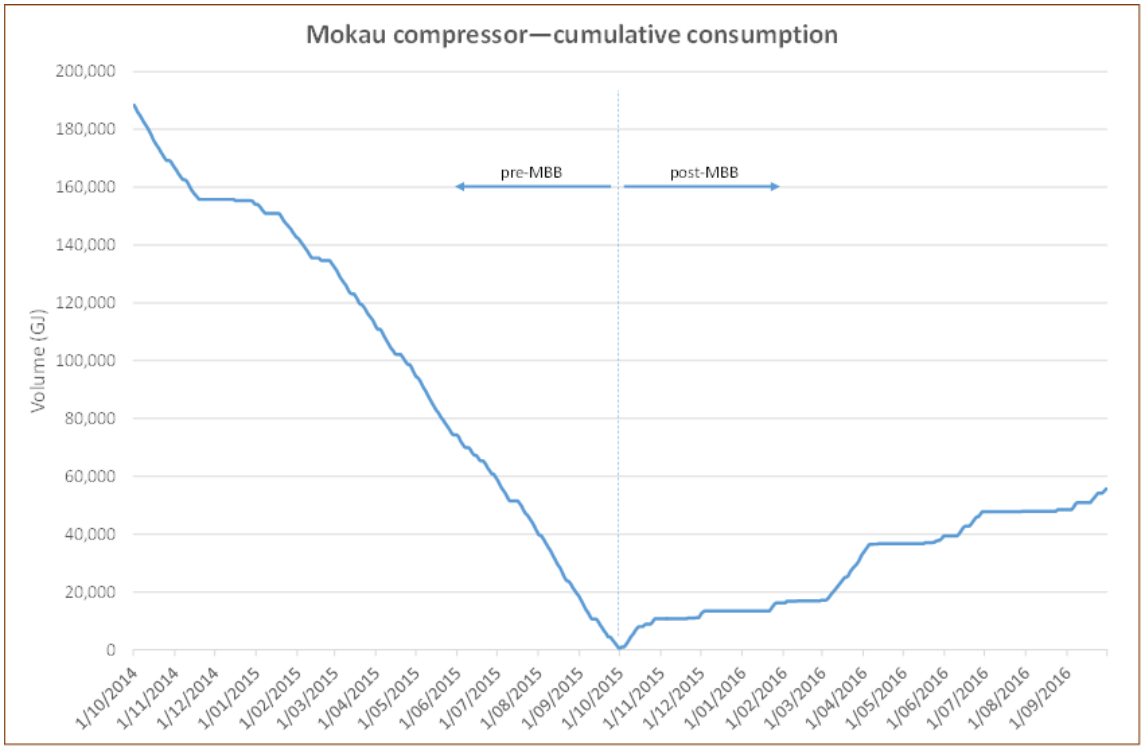

Figure 15 -Comparison of Mokau compressor usage pre- and post-MBB

[13] Volume-weighted average price.

Figure 15 compares the volumes of fuel gas used in the Mokau compressor station in the 12-months prior and 12-months following introduction of MBB. The data is summed backwards (from 30/09/2015) and forwards (from 1/10/2015) so that the cumulative consumption can be easily compared. The chart shows that usage of the Mokau compressor has dropped by about 67% following introduction of MBB. [14]

[14] We considered whether the closure of the Otahuhu and Southdown power stations might have been a factor in this decline, but the TSP has confirmed that the Mokau compressor was very rarely needed for throughput support.

5. Summary of initial results and options for further analysis

Summarising the Chapter 3 and 4 findings:

Primary balancing… significant improvements

Since the introduction of MBB:

1. Average receipt point (production station) OI has reduced very slightly.
2. Average delivery point OI has reduced by about half.
3. Average net OI at the bi-directional Frankley Road station has also reduced by about half.
4. Looking behind the delivery point OI improvements to the underlying shipper mismatch positions shows that:
   (a) Most shippers on most pipelines significantly improved their average mismatches; and
   (b) In aggregate, total shipper mismatch has reduced by about half, and the volatility of mismatches has decreased significantly.

Secondary balancing… significant improvements

1. The spread between average balancing gas put and call prices has decreased:
   (a) Average call gas price has decreased by 35%, and
   (b) Average put gas price has increased by 94%.
2. The total volume of balancing gas puts and calls has not significantly changed.
3. The TSP's overall trading position has moved from deficit of $1m to a surplus of $0.6m in the 9 months pre- and post-MBB comparison.
4. The price distribution of balancing gas puts and calls is no longer bi-modal.
5. Usage of the Mokau compressor has dropped by about 67%.

We consider that these benefits are very likely to have resulted from the introduction of daily cash-outs and the additional information made available by the D+1 pilot.

Although the benefits are significant, and expected to be on-going, there may still be scope for further improvement. In particular:

1. We note that First Gas has indicated that it is seeking to make its procurement of balancing gas more efficient.
2. Further consideration should be given to the default rule that applies when there is not sufficient market liquidity to use the market price as the cash-out price. The default rule applied in about 89% of the days in the 2015/16 gas year.
3. While primary balancing has substantially improved (Chapter 3), secondary balancing activity has, counter-intuitively, also increased. [15] In particular, balancing gas put and call activity has continued at about the same level (Chapter 4), but the introduction of daily cash-outs has added considerably to the secondary balancing activity. At face value, improved primary

[15] At face value, improved primary balancing would be expected to reduce the need for secondary balancing.

balancing would be expected to reduce the need for secondary balancing. So there may be scope for further investigation and improvement here.

The time and analytical effort required to process the date is substantial, but has provided strong and unambiguous results. We question whether further analysis will add much more to our understanding. However, we are keen to hear what further analysis stakeholders consider to be justified. In particular:

1. Do you think our approach to the analysis is reasonable. If not, what further analysis do you think is necessary?
2. Do you consider that there is merit in extending the analysis so that a full year pre- and post-MBB-implementation analysis can be done?
3. Do you consider that there is merit in asking pipeline users to re-assess the costs of changing their systems and business practices to accommodate MBB (given that some stakeholders believe the original cost estimates used in the CBA were too low)?

We request submissions by Friday, 16 December 2016.

Glossary

Note: Definitions obtained from the MPOC are shown in *italics*.

AEOI	'Accumulated Excess Operational Imbalance'. A defined term in the MPOC for amount of OI in excess of tolerance.
balancing	The management of linepack to ensure that it remains within acceptable operational limits.
balancing action	A purchase or sale of Balancing Gas.
Balancing Gas	Defined in the current version of the MPOC as *'… Gas purchased as part of a Balancing Gas Call, or sold as part of a Balancing Gas Put, by TSP'*.
B2B balancing	'Back to back balancing' refers to arrangements that allocate gas transactions taken by the TSP among welded parties with imbalance positions outside tolerance.
BGX	'Balancing Gas Exchange', the original online platform to facilitate the trade of Balancing Gas on the Maui Pipeline.
BGIX	'Balancing Gas Information Exchange', the online platform introduced with MBB to facilitate the operation of the new balancing arrangements.
BPP	'Balancing and Peaking Pool'. A mechanism set out in the VTC to allocate balancing costs among Vector pipeline shippers via a trust account.
cash-out	A forced sale or purchase of gas to or from a welded party by the TSP to resolve an outstanding imbalance position.
CBA	Cost Benefit Analysis.
D+1	D+1 commonly refers to a system for allocating quantities of gas at a shared station among the parties flowing gas through that station, on the day after gas flow.
delivery point	Defined by the MPOC as '*…a Welded Point to which a Shipper nominates to have Gas transported.'*
First Gas	First Gas Limited, the owner of the Maui and Vector transmission pipelines.

GPS	'Government Policy Statement' on Gas Governance (April 2008).
ILON	Defined in the pre-1 October 2015 version of the MPOC as '*…a notice given by MDL to a Welded Party under section 12.10 requiring that Welded Party to reduce its Accumulated Excess Operational Imbalance to zero, and which states the quantity of, and a time period for reducing, that excess.*' The term is no longer used in the MPOC.
imbalance	Generically this means the flows into the pipeline do not match the flows out of the pipeline. This can be 'operational imbalance' in the MPOC which is the difference in scheduled flows and actual flows at an interconnection point. This can also be the difference between shipper receipt and delivery quantities in both the MPOC and VTC (where it is called 'mismatch'). A positive imbalance is one that increases linepack and a negative imbalance is one that decreases linepack.
linepack	Defined by the MPOC as '*…the total quantity of Gas in the Maui Pipeline at any time.'*
MDL	'Maui Development Limited', the previous owner of the Maui pipeline.
MPOC	'Maui Pipeline Operating Code', the current version of which is dated 14 May 2016.
MTV	'Market Traded Volume', a term defined in the balancing default rule as the combined volume (in GJ) of trades in Standard Products conducted on the Trading Platform on Day_n or Day_{n-1} for delivery on Day_n, excluding trades to which MDL is a party. MTV_{min} is a Minimum Market Traded Volume (for a Day), below which the default rule will apply. The value for MTV_{min} is currently 10,000 GJ.
OATIS	'Open Access Transmission Information System' is the IT system used to manage third party access to the transmission pipelines, including providing operational pipeline information, information exchange between the TSP and pipeline users, and public information. The single system has segmented functionality for the Maui pipeline and Vector pipelines.
OI	'Operational Imbalance'. The MPOC defines OI as the difference between the actual quantity of gas that flowed through a Welded Point on a day and the scheduled quantity for that day.
primary balancing	The efforts of individual pipeline users to manage their individual positions; receipt v deliveries in the case of shippers, and physical flows v scheduled quantities in the case of welded parties.
receipt point	Defined by the MPOC as '*…a Welded Point from which a Shipper nominates to have Gas transported.'*

ROI	'Running Operational Imbalance'. A defined term in the MPOC for the aggregate of imbalance at a Welded Point over time and therefore represents the total gas parked or loaned from the pipeline at that point.
ROIL	'Running Operational Imbalance Limit'. A defined term in the MPOC for tolerance of ROI. With the introduction of MBB, ROI over the ROIL tolerance is automatically cashed out at the end of each day.
secondary balancing	Cash-outs and balancing actions taken by the TSP to remove excess operational imbalance and maintain the linepack in the pipeline within acceptable limits.
shipper	A pipeline user that has contracted for the TSP to transport gas (see TSA).
tolerance	An amount of the peak daily flow, as set in Schedule 7 of the MPOC, below which welded parties can operate without consequences.
trading platform	A trading platform is essentially an IT platform that offers an anonymous, non-discriminatory gas trading service, on publicly available standard terms and conditions that are acceptable to the TSP.
TSA	'Transmission Service Agreement'. The contract between a shipper and the TSP to transport gas.
TPWP	'Transmission Pipeline Welded Point'. A point where gas flows to or from the Maui pipeline into another pipeline.
TSP	The 'Transmission Service Provider', now First Gas.
VTC	'Vector Transmission Code'.
welded party	Defined by the MPOC as *'…the person named as a Welded Party in a valid and subsisting ICA.*

Appendix A Copy of s1.3 from Gas Industry Co's Draft Recommendation on 10 October 2014 MPOC Change Request

Background

Balancing arrangements have been under review since the inception of the Maui Pipeline Operating Code in 2005. Transmission Pipeline Balancing has been the subject of extensive industry discussion since then and some improved arrangements have been introduced, notably:

1. In 2007, Vector introduced the Vector Transmission Code (VTC) containing balancing and peaking pool (BPP) arrangements designed to pass balancing costs through to Vector shippers;
2. In 2008 the transitional "legacy gas" provisions of the MPOC were removed, exposing pipeline users to more cost-reflective balancing charges;
3. In 2009, MDL introduced a Balancing Gas Exchange (BGX) – an online platform to facilitate the trading of balancing gas on the Maui pipeline (several BGX upgrades have occurred since then);
4. In 2013 Transpower Limited concluded arrangements with Vector to enable Transpower's emsTradepoint market to provide gas trading services at Frankley Road. The market has operated since then[1]; and
5. MDL has continued to evolve its Balancing Gas standard operating procedure, first made public in 2007.

A fuller overview of these matters can be found at http://gasindustry.co.nz/dmsdocument/4809

Although the shortcomings of the balancing arrangements have been thoroughly analysed and debated, the basic balancing arrangements have not changed. The most recent efforts to reform the arrangements were:

1. In 2009, Gas Industry Co led a comprehensive and concentrated industry initiative known as the Industry Code Development (ICD) process which ultimately failed to agree on how to reform the codes.
2. Also in 2009, Gas Industry Co proposed to introduce regulations to achieve a unified balancing regime over both the Maui and Vector pipelines. After consulting with the Ministry of Economic Development, Gas Industry Co agreed to an industry request to defer that regulatory proposal to give opportunity for the industry to develop a code-based option.
3. On 17 December 2009, MDL submitted an MPOC change request which proposed extensive revisions to the MPOC including balancing improvements (December 2009 Change Request). That change request was finally not supported by Gas Industry Co, partly because the broad range of proposed changes and the overall judgment required of us on this issue.
4. On 13 October 2011 MDL submitted a more focused MPOC change request intended to introduce a B2B balancing arrangement that would target balancing costs to pipeline users responsible for causing those costs. That change request was supported by Gas Industry Co but implementation was delayed to allow Vector time to change its own pipeline operating

[1] Efficient arrangements for the short-term trading of gas as part of an efficient wholesale market is an outcome sought by the GPS.

code (the VTC) in order to address a 'material adverse effect' that Vector considered was created by the B2BCR.

5. Vector subsequently issued a VTC Change Request proposing changes to the VTC that would be needed as a result of the B2BCR. Those changes were not supported by Vector's customers and the Change Request was appealed to Gas Industry Co by Vector in November 2012. That appeal was granted on 3 September 2013, allowing Vector to lift its material adverse effect notice.
6. On 14 February 2014 MDL submitted a further MPOC change request, the B2BFCR. That change request mostly related to arrangements for MDL buying and selling gas to manage the inventory of gas in the pipeline. That change request was supported by Gas Industry Co on 2 May 2014 and it was expected that the B2BCR and B2BFCR would both be implemented.

MDL has not moved to implement the B2BCR and the B2BFCR, and Vector has accordingly not implemented its corresponding VTC Change Request. Instead, MDL has now developed an alternative MBBCR (that will incorporate but adapt the B2BCR and B2BFCR), and it is this change request that is evaluated in this Draft Recommendation. MDL's reasons for doing this are set out in s2.3.4 of the MBBCR. Essentially, the difference in prices between the gas traded on the BGX and on the (generally more liquid) emsTradepoint market make the current arrangements increasingly untenable, but the B2B framework does not give MDL sufficient confidence to buy balancing gas on the emsTradepoint market. In contrast, the MBBCR together with other arrangements agreed between MDL and emsTradepoint would allow for the trading of balancing gas on the more liquid market (or a similar trading platform).

MDL has stated[2] that it will not consent to the B2BCR if Gas Industry Co does not support the MBBCR.

In concluding this background summary, Gas Industry Co believes that, contrary to some comments in submissions, the balancing issues that have been the subject of all this work remain with us. In particular, while residual balancing costs have reduced significantly over recent years, underlying risks and inefficiency remains. Similarly, some submitters have commented that the problem with balancing needs to be defined and clarified. A problem definition is appropriate when Gas Industry Co considers governance arrangements, including possible regulation. Gas Industry Co developed a problem definition when it was considering regulatory options to solve the balancing gas issues. With an industry-led code change process, though, improvements to existing arrangements are developed, which may be quite specific in many circumstances and do not require a problem definition or comprehensive set of solutions to all related issues.

[2] MDL submission paragraphs 13 and 14

Questions

Review of Market-Based Balancing

Submission prepared by: <company name and contact>

QUESTION		COMMENT
1.	Do you think our approach to the analysis is reasonable. If not, what further analysis do you think is necessary?	
2.	Do you consider that there is merit in extending the analysis so that a full year pre- and post-MBB-implementation analysis can be done?	
3.	Do you consider that there is merit in asking pipeline users to re-assess the costs of changing their systems and business practices to accommodate MBB (given that some stakeholders believe the original cost estimates used in the CBA were too low)?	

ABOUT GAS INDUSTRY CO

Gas Industry Co is the gas industry body and co-regulator under the Gas Act. Its role is to:

- develop arrangements, including regulations where appropriate, which improve:
  - the operation of gas markets;
  - access to infrastructure; and
  - consumer outcomes;
- develop these arrangements with the principal objective to ensure that gas is delivered to existing and new customers in a safe, efficient, reliable, fair and environmentally sustainable manner; and
- oversee compliance with, and review such arrangements.

Gas Industry Co is required to have regard to the Government's policy objectives for the gas sector, and to report on the achievement of those objectives and on the state of the New Zealand gas industry.

Gas Industry Co's corporate strategy is to 'optimise the contribution of gas to New Zealand'.

SUBMIT TO:
www.gasindustry.co.nz

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