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Dear Ian

MPOC CHANGE REQUEST OCTOBER 2014

Transpower New Zealand Limited, trading as emsTradepoint ("**emsTradepoint**") welcomes the opportunity to provide a submission to the Gas Industry Company ("**GIC**") on the Maui Pipeline Operating Code Change Request dated 10 October 2014 (Market-based Balancing), ("**MBB CR**") and the '*Daily Cash Outs on the Maui Pipeline: Outline of a Cost-Benefit Analysis*' (the "**CBA Paper**").

In summary, emsTradepoint supports the MBB CR, and views it as a fair and reasonable redesign of the balancing regime. The key benefits of the MBB CR can be summarised by;

- (a) the removal of cross-industry subsidisation by unbundling transportation and flexibility;
- (b) an equitable and cost-reflective pricing mechanism; and
- (c) a more stable and reliable transmission service.

1. REMOVAL OF CROSS-INDUSTRY SUBSIDISATION BY UNBUNDLING TRANSPORTATION AND FLEXIBILITY

Unbundling flexibility

The cost for covering the 48 hours of post-gas day (72 hours including day of delivery) flexibility provided by the Imbalance Limit Overrun Notice ("**ILON**") process in the current Maui Pipeline Operating Code ("**MPOC**") is bundled indiscriminately within the transmission tariff. This results in considerable cross-subsidisation of costs caused by users who have variable demand profiles onto those users that have predictable and flat profiles.

The MBB CR adopts a daily cash-out model that aligns the flexibility service with the commodity delivery period (24 hours) and, as a result, disallows inter-day flexibility in excess of tolerance. Line pack will still cover intra-day volume swings – flexibility within each 24-hour period – and, together with an allowable inter-day tolerance, provide a baseline flexibility service that the pipeline continues to offer as part of the transmission tariff. Beyond the tolerance, however, pipeline users will lose or gain title at a price reflective of the fair market value of that gas. This revised model places the cost of flexibility in the hands of those who use it rather than those who do not.

The integrity of a Gas Day is established

Gas is defined as a daily product in that the delivery period is 24 hours. This is true of the MPOC and all Gas Supply Agreements in New Zealand. However, where the allowed flexibility to actually deliver gas is different the underlying characteristic of the product changes, and the true value of the commodity and the cost of the transmission service become distorted.

The distortion of the commodity value arises due to production and consumption not necessarily aligning with the transaction delivery period. For example, if gas is priced high on a day due to, say, an unplanned production outage, a party could simply short the pipeline (taking gas without good title) instead of paying that high price, and rectify its position in the market the day after when the outage has passed and prices have reduced. Such a value misrepresentation undermines every market where that commodity is employed.

By unbundling inter-day flexibility, the MBB CR aligns the relationship between the transmission service and the commodity delivery period. This allows gas (as a commodity) and transmission (as a service) to be priced fairly and efficiently, and without distortion.

2. EQUITABLE AND COST-REFLECTIVE CASH OUT MECHANISM

In summary of this section, it must be considered equitable that;

- (a) a party that has taken gas without title is required to purchase that gas at the end of the delivery period; and
- (b) a party that has failed to take gas to which it has good title is required to sell that gas at the end of the delivery period,

noting that such transactions will be priced against the average spot price for that delivery period.

MBB CR cash-outs must be considered as neutral

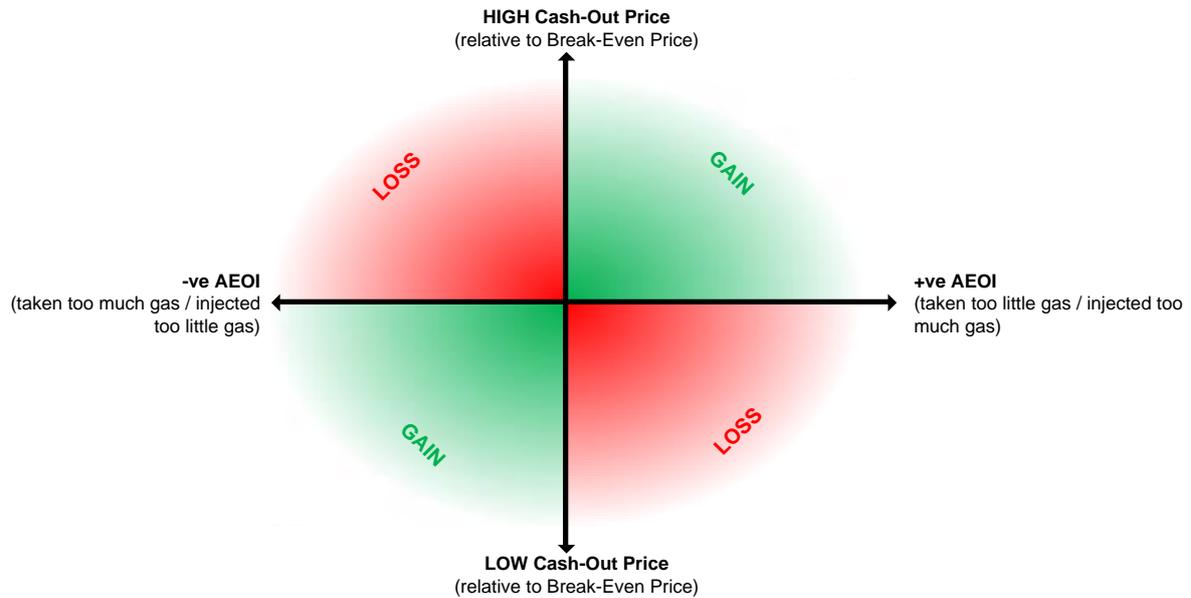
Under the MBB CR, the price being paid (either by MDL or by the party being cashed-out) would be benchmarked against the volume weighted average price of the short-term market¹ for gas delivered in the same delivery period as the cash-out quantity.

Any under- or over-recovery of cost due to the 0-10% price adjustment will be applied to the gas tariff in the following year.

During the industry workshop and MDL pre-consultation of the MBB CR there were a number of comments that suggested that the MBB CR cash-out prices would “*come at a cost against contracts*”. However, this position is subjective as it would depend on where the three variables (contract price / cash-out price / AEOI position) fall on the respective day.

¹ Marginal Buy/Sell Prices are the volume weighted average price of all trades made for delivery on a day where the trades are executed on that day or the day prior, plus/minus and adjustment of 0-10% as published by MDL. If any balancing action takes place on that day (for delivery that day) at a less economical price than the market average plus the adjustment, this will set the Marginal Buy/Sell Price.

Figure 2: MBB CR Price Risk Matrix²



As demonstrated by the risk matrix above, the MBB CR can result in both gains and losses in equal measure. Viewed objectively, the MBB CR cash-out mechanism must therefore be considered a costless exercise to industry.

No implicit requirement to invest

Some parties have commented that they would “*bear additional operational and capital costs*”. However, there is nothing explicit within the MBB CR that requires investment or additional operations.

A party may choose to invest in improved information or resource, but, in doing so, that party is also acknowledging that such investment has been deferred to date due to subsidy. Essentially, the case for investment has been distorted by the subsidy effect of the current flexibility arrangements and, once amended, the case for investment may return.

Quality of information

Another theme of commentary from some parties has been that the lack of ‘real-time’ information and non-Time of Use (“**non-TOU**”) reconciliation being a barrier to the MBB CR. Some parties have even gone as far as commenting that the MBB CR can only be implemented once all meters in New Zealand are upgraded to smart-meters³.

emsTradepoint submits that no overseas jurisdiction is able to provide complete information on real-time physical positions, and it is entirely standard for any organisation with a gas book to manage their position and accept the risk inherent within that activity.

² ‘Break-Even Price’ in the matrix relates to a party’s contract price, or the price of gas that would otherwise be available to avoid cash-out

³ A smart meter is usually an electronic device that records consumption of energy in intervals of an hour or less and communicates that information at least daily back to the utility for monitoring and billing purposes.

Figures 3 and 4 on the following page show the demand via the Rotowaro Welded Point, both as a total and broken down to show non-TOU demand.

Figure 3: Seasonal demand for delivery via the Rotowaro Welded Point

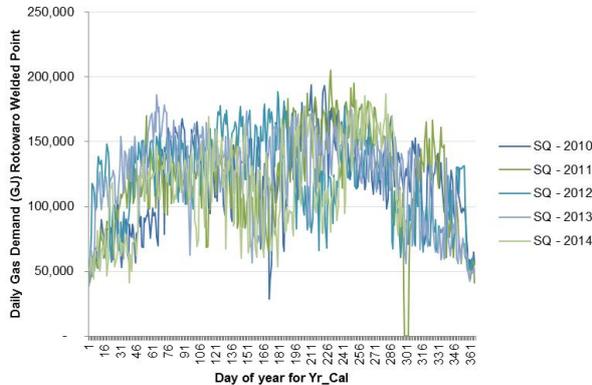
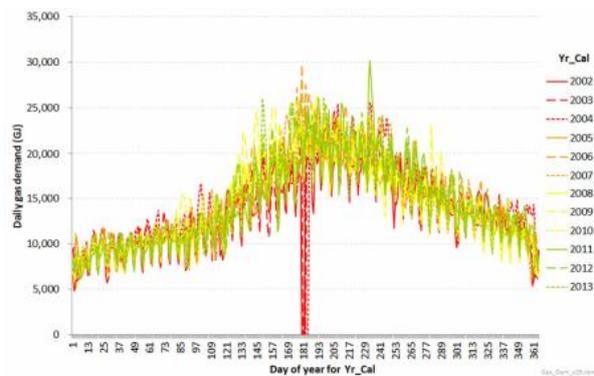


Figure 4: Seasonal demand for non-ToU volume on the Vector North transmission system



Source: OATIS MQSQ Reports / Long term gas supply and demand scenarios - a Concept Consulting paper delivered to the GIC in September 2014

Non-TOU demand constitutes c.10% of total demand through Rotowaro. Non-TOU is also relatively predictable (seasonably). As such, non-TOU cannot create significant or unmanageable risk when viewed in the overall context of demand.

It's also worth noting that observed Daily Operational Imbalance (“DOI”) at Rotowaro is often larger than the total non-TOU demand. This indicates that the primary cause of imbalance and balancing lies with sites that do not suffer from poor data quality. Although this data relates to demand north of Rotowaro, an assumption could be made that this is true of all demand.

Further improvements

emsTradepoint view the MBB CR as the foundation piece for efficient balancing, but supports additional code changes that could improve a party’s ability to manage its own position. Suggestions have included a review of the timing of intra-day nomination cycles and changing the start/end point of the gas day. These considerations could equally apply under the status quo, however, and it is simply the lack of appropriate incentive to remain in balance within the delivery period that has rendered them stagnant.

Vector’s ‘Pipeline Management’ work stream will hopefully drive continuous improvement in this area and the increase in tolerances under the soft landing, proposed by MDL upon implementation of the MBB CR, provides some time for industry enhancement.

3. A MORE STABLE AND RELIABLE TRANSMISSION SERVICE

Short-Term: Fewer corrective actions and improved price

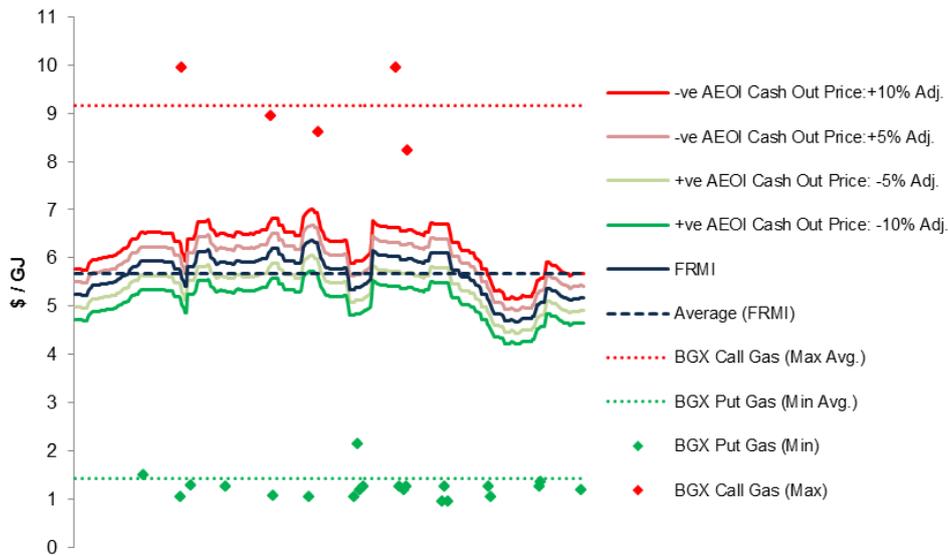
Returning imbalance positions to within tolerances on a daily basis will greatly reduce the frequency of true balancing actions⁴ currently caused by stressed pipeline positions built up over a number of days. Transparency of gas price, particularly in the spot market, is the truest indicator of the balance

⁴ A balancing gas transaction on the same day as delivery.

between supply and demand, and industry participants with spare capacity will see a price signal to make that capacity available.

Where an action is required, however, it is likely to be executed at a much tighter spread than the c.\$7.50 spread currently seen on the Balancing Gas Exchange (“BGX”). The emsTradepoint Monthly index (“FRMI”) can be used as a proxy for market volume weighted average price. The range of cash-out prices seen in the last year, +/- the 0-10% adjustment falls well inside any price seen on the BGX.

Figure 5: Cash-Out Price Range based on emsTradepoint (FRMI) vs. BGX



Source: BGX (www.bgx.co.nz), emsTradepoint (www.emsTradepoint.co.nz)

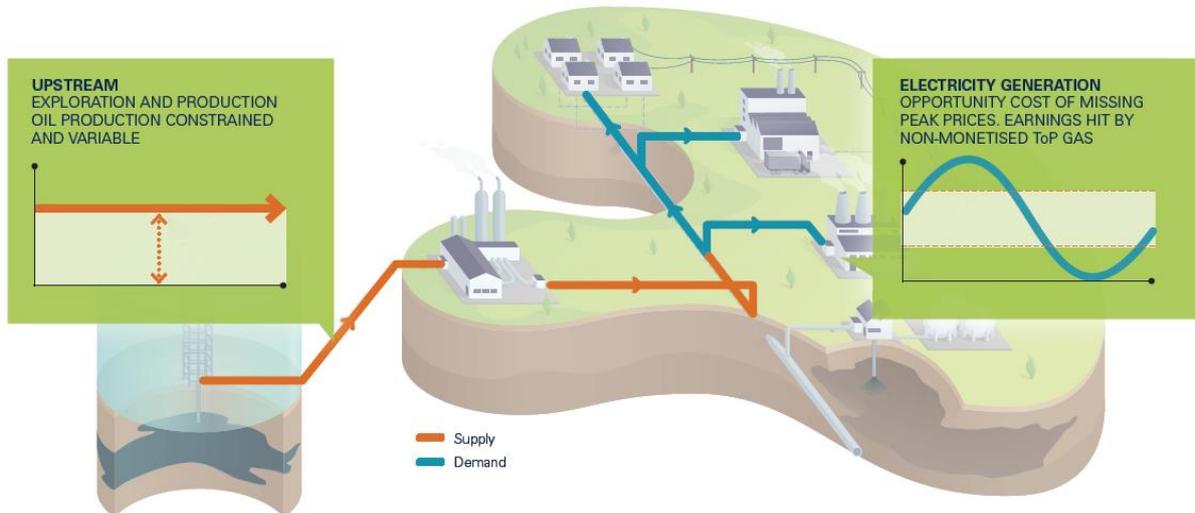
MDL has foregone c.\$882k of put gas revenue and incurred c.\$260k of additional call gas costs against the alternative of utilising the emsTradepoint market since it was established in late 2013. This has resulted in a net \$1.14 million negative impact on tariff against the counterfactual of using the spot market.

Mid- to Long-Term: Price signal delivers efficient investment

The GIC must take a long-term view when evaluating the MBB CR. Clearing the path to a fully functioning and liquid market will create clear price signalling to inform the investment decisions that have the highest economic value to the industry; be that infrastructure (such as additional pipelines and storage facilities), or changes in contracting structures. This cannot and will not happen while the underlying price of gas is distorted in the way it currently is.

Figure 6 below illustrates the current market failure, where producers are required to provide contractual flexibility due to the lack of swing alternatives.

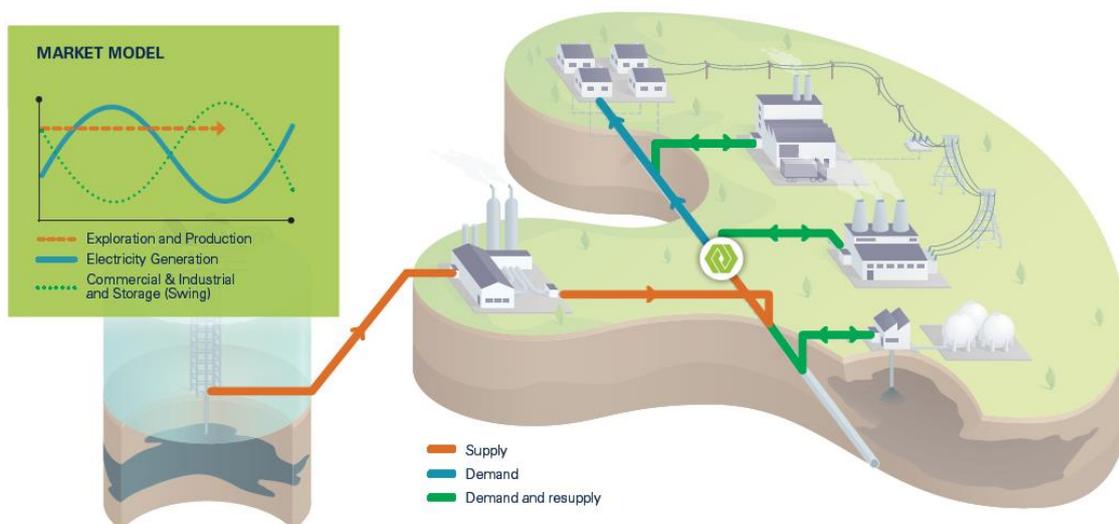
Figure 6: Status Quo



The provision of contractual flexibility is not the most efficient operating mode for gas producers and comes at a cost that will ultimately be passed on to consumers. In a world where production stations could flow at a more optimal high and flat production schedule, operating costs would reduce, condensate revenue would increase and the overall price of gas offered to the market would reduce.

Gas demand doesn't have a naturally flat profile; TOU and non-TOU demand has distinct intra-day, weekday/weekend and seasonal profiles; and electricity generation demand will correlate to electricity load. The price signals arising out of the MBB CR will allow proper assessment of investment opportunities that benefit from the disconnect between supply and demand. This is particularly important with respect to informing investment in small (intra-day swing), medium (inter-day/week swing) and large (seasonal swing) gas storage facilities.

Figure 7: Market-Based Model (MBB CR)



The benefits of efficiently signalling investment into demand swing management include:

- (a) lower wholesale gas price as producers reduce headline gas price;
- (b) competitive flexibility services being attracted to the market; and
- (c) increased security of supply as supply diversity increases.

These longer-term benefits will dwarf any short-term impacts in transitioning to the market model proposed in the MBB CR. Transparent gas pricing should also be considered as a significant benefit to the electricity industry, both in terms of marginal pricing and investment signals. This is likely to become more important as thermal electricity generation further converts closed cycle plant to more flexible open cycle plant.

Cost to Causer

The graphs below analyse DOI to illustrate flexibility usage on a historical and user-category basis.

Figure 8: Net Daily Operational Imbalance of all Welded Points

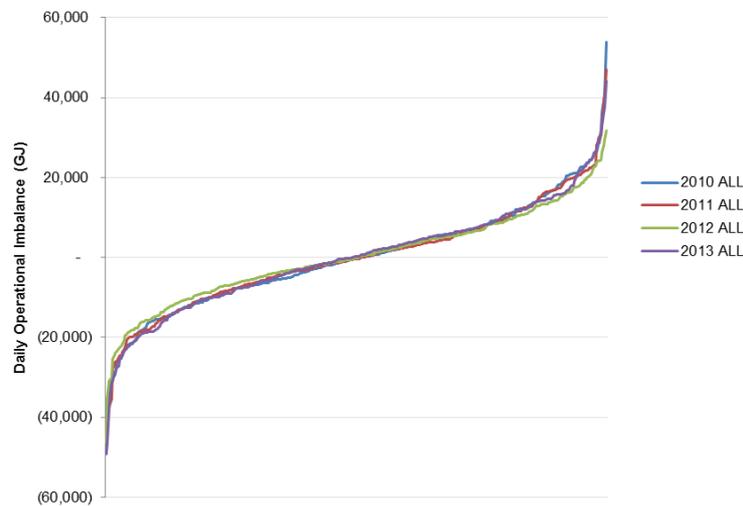
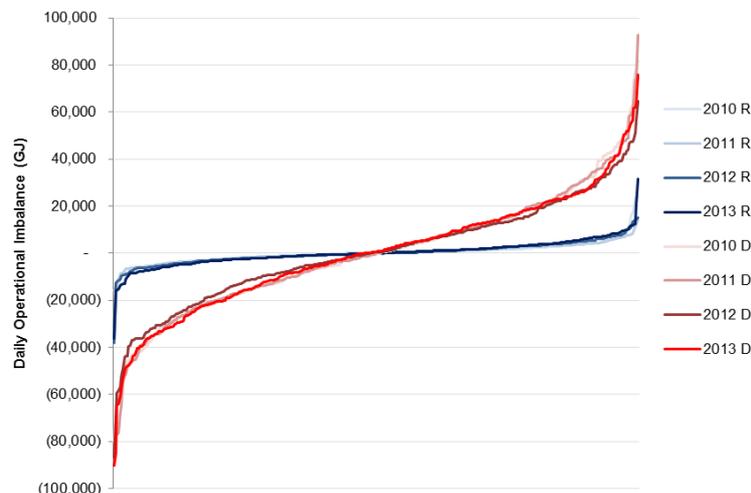


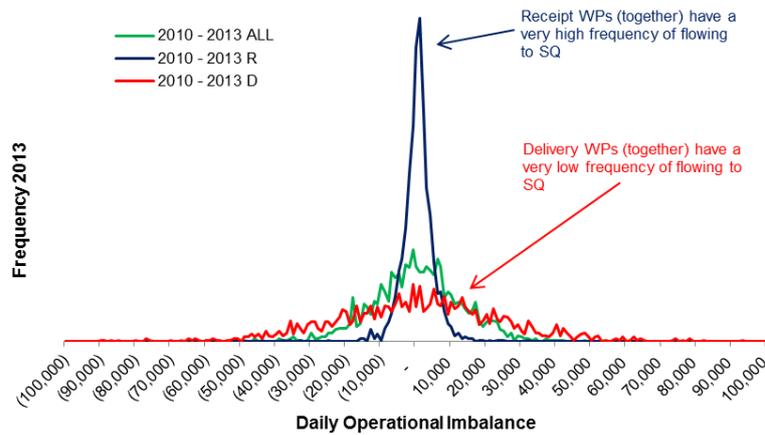
Figure 8 illustrates that imbalance behaviour is relatively unchanged year-on-year since the GIC’s last problem definition in 2010.

Figure 9: Net Daily Operational Imbalance: Receipt versus Delivery Welded Points



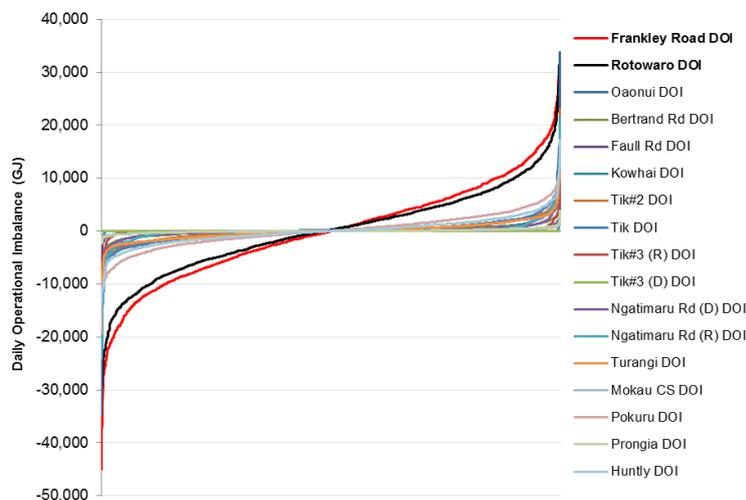
When splitting out DOI into two user groups, Receipt and Delivery Welded Points, it is clear that Receipt Welded Points flow to Scheduled Quantity far more consistently than Delivery Welded Points. Put simply, this reflects that, as a group, Receipt Welded Points subsidise Delivery Welded Points' usage of pipeline flexibility. This can also be clearly illustrated in the following graph.

Figure 10: Net Daily Operational Imbalance: All / Receipt / Delivery Welded Points



Drilling down further, the following graph shows DOI at an individual Welded Point level.

Figure 11: Net Daily Operational Imbalance: Individual Welded Points



The upshot of this analysis is that, on a daily basis, the Transmission Pipeline Welded Points Rotowaro and Frankley Road are the absolute largest users of pipeline flexibility. The cost of this activity is, however, subsidised by the remaining Delivery Welded Points and all Receipt Welded Points.

4. COMMENTS ON THE CBA PAPER

emsTradepoint challenges the validity of using an industry-wide CBA test to inform the MBB CR decision. Where the problem is one of socialisation of costs and inequitable subsidy, the whole cannot override the parts.

For example, it cannot be found to be acceptable that Party A should bear \$400k in additional costs that are not attributable to that party simply because the result is Parties B, C and D save a combined \$500k.

The only appropriate CBA test, in our view, is one that considers whether the affected parties (those who currently pay the subsidy) would bear less or more cost against the counterfactual.

Direct responses to specific points from the CBA Paper can be found in Appendix A.

Summary

There are a number of inefficiencies and inequities within New Zealand's gas industry that have been highlighted within this submission. These include; poor cost-to-causer arrangements, inefficient and unnecessary cross-industry subsidy, lack of appropriate investment signals and illiquid market conditions.

The MBB CR sets out a sensible and fair foundation that will resolve these issues and allow the industry to progress. emsTradepoint has designed a full service market to enable these types of arrangements and we hope to see these arrangements implemented without delay.

If you would like to discuss any of these matters further, please contact me on (04) 590 6843.

Yours sincerely



James Whistler
emsTradepoint

APPENDIX A: COMMENTS ON CBA PAPER

Page #	CBA Comment	emsTradepoint Response
4	<i>“Which version(s) of the MPOC should be used as the counterfactual?”</i>	<ul style="list-style-type: none"> The status quo is the only version that should be considered. There is nothing to indicate that B2B will be implemented.
5	<i>“Spare pipeline capacity has the economic characteristics of a common pool resource”</i>	<ul style="list-style-type: none"> Ownership of line pack is firmly that of the TSO and the Maui Mining Companies. Transmission and flexibility services are bundled into the gas tariff, indicating common use of the flexibility resource. Flexibility for parties with volatile inter-day demand profiles is subsidised by parties with flat or predictable profiles. Investment signals to competitive providers of flexibility (markets, storage facilities, contracts) are severely inhibited.
5	<i>“The case for being more stringent depends on pipeline congestion”</i>	<ul style="list-style-type: none"> Disagree, the non-competitive element of services provided should be separated from the competitive; i.e. flexibility and transmission should be unbundled.
6	<i>“The status quo does not have a clear or efficient price for storage”</i>	<ul style="list-style-type: none"> Agreed. This is a crucial shortcoming.
8	<i>“Shippers do not have complete information on their physical positions on any given gas day”</i>	<ul style="list-style-type: none"> This is true in all gas markets in the world. Indeed, it is true of all <i>markets</i> in the world. Forecasting demand is a standard activity in all regions. To the extent that Shippers are unable to manage their positions, the asset manager cashes out at fair market value. D+1 does not directly assist the ability to manage intra-day positions.
8	<i>“End User contracts may change, Shippers bearing extra financial risk”</i>	<ul style="list-style-type: none"> There is no additional financial risk as MBB CR cash-out prices must be seen as neutral. Unbundling of flexibility and removing cross-subsidy should be seen as neutral. Parties that require additional flexibility may have to adjust their approach to contracting to source the optimum flexibility provider. Gas tariff should be reduced for all parties.

9	<i>“Participants as a whole gain a benefit from not being obliged to manage their positions”</i>	<ul style="list-style-type: none"> • The industry as a whole pays for an individual participant’s ability to gain – this is not a universal or even weighted benefit. • The status quo does oblige Shippers to manage their positions but lacks appropriate incentive.
9	<i>“Costs from not pricing storage”</i>	<ul style="list-style-type: none"> • Agreed; inhibited investment signals and allocative inefficiency.
9	<i>“Inefficient market price on BGX”</i>	<ul style="list-style-type: none"> • Agreed, see Figure 5.
11	<i>“One-off system upgrade costs”</i>	<ul style="list-style-type: none"> • There is no implicit investment required. • If an investment is required, it is only because that investment has been deferred due to subsidy. • If an investment is required, the CBA should only consider a timing factor – the investment would be required under any change to balancing regulation, this may happen 1 year on.