The costs of implementing MBB

1. Introduction

Market Based Balancing (MBB) was introduced to the transmission system in 1 October 2015 in an effort to improve the balance of gas entering and leaving the transmission pipelines each day. The new arrangements also introduced additional costs. In particular, gas shippers incurred one-off and ongoing incremental costs in adapting their businesses to the new regime. This report summarises feedback obtained from gas shippers on the amount of those costs and considers what lessons can be drawn from that.

2. Purpose

Gas Industry Co supported the Maui Pipeline Operating Code Change Request that proposed introducing MBB (MBBCR). In part that decision was based on a favourable Cost Benefit Analysis (CBA), including an estimate of the costs market participants would incur to accommodate MBB. Some stakeholders think the actual costs they incurred were significantly more than those estimates. While some of those costs are now 'sunk', and therefore not relevant to any future decisions, others are ongoing. Nonetheless, we considered that reviewing the costs might help inform future CBAs. For example, if we found that the CBA had missed or misunderstood the costs of shippers implementing MBB, we would be wary of that in future CBAs.

3. Information collected

We asked shippers what incremental costs they incurred for additional systems and/or people to manage the introduction and on-going operation of MBB. To preserve privacy, in this report we refer to the shippers who responded (and not all shippers did respond) as shippers A to F.

Shipper A

This shipper considered that by 'bolting on' updates to its existing systems and using in-house resources for its IT development it was able to keep the one-off implementation costs low.

Table 1 Shipper A Costs

Description	One-off cost	On-going incremental costs/annum
Systems development etc	$90,000	
Additional cost of collecting data and managing daily balance position etc		$70,000

Shipper B

This shipper noted that the one-off costs included training for its staff and customers.

Table 2 Shipper B Costs

Description	One-off cost	On-going incremental costs/annum
Systems development etc	$37,500	
Additional cost of collecting data and managing daily balance position etc		$46,800

Shipper C

This shipper noted that, in addition to the costs it reported, there would also be a cost involved in balancing its position to inaccurate D+1 allocations[1], but that there is not yet sufficient information from the D+1 allocations to quantify that cost.

Table 3 Shipper C Costs

Description	One-off cost	On-going incremental costs/annum
Systems development etc	$20,000	
Additional cost of collecting data and managing daily balance position etc		$50,000

Shipper D

This shipper considered that prior to the introduction of MBB it already had a very robust model in place for managing its balance position. To date it has held off making significant IT improvements because of the uncertain future of MBB.

Table 4 Shipper D Costs

Description	One-off cost	On-going incremental costs/annum
Systems development etc	$50,000	
Additional cost of collecting data and managing daily balance position etc		$50,000 - $100,000

Shipper E

This shipper commented that it was already incentivised to balance its position prior to the introduction of MBB. Although MBB increased its cash-out volumes, it was able to manage this with existing resources. The systems development work was therefore more about training and familiarisation (for example using the BGIX rather than OATIS to monitor operational imbalance).

[1] D+1 is a system designed to give gas shippers estimated allocations of their deliveries at 'shared gas gates' on the day after gas flow. It was introduced on a trial basis one month after the introduction of MBB. It will not be known how closely these estimates approximate the 'final' allocations until those final allocation are determined (in accordance with the Gas (Downstream Reconciliation) Rules 2008.

Table 5 Shipper E Costs

Description	One-off cost	On-going incremental costs/annum
Systems development etc	$50,000	
Additional cost of collecting data and managing daily balance position etc		$0

Shipper F

This shipper reported that most of the one-off cost was to establish and formalise the daily cash-out process, and integrate it into existing IT systems. MBB effectively meant that it required an additional employee, and the estimated cost of this includes the associated overhead.

Table 6 Shipper F Costs

Description	One-off cost	On-going incremental costs/annum
Systems development etc	$14,000	
Additional cost of collecting data and managing daily balance position etc		$141,000

4. Summary and Conclusions

The costs are summarised in Table 7.

Table 7 Summary of shipper costs

	One-off cost	On-going incremental costs/annum
Shipper A	$90,000	$70,000
Shipper B	$37,500	$46,800
Shipper C	$20,000	$50,000
Shipper D	$50,000	$50,000 - $100,000
Shipper E	$50,000	$0
Shipper F	$14,000	$141,000
Average	**$43,583**	**$63,800**

From the above, the one-off costs to shippers of implementing MBB ranged from $14k to $90k, averaging $44k, and the on-going incremental costs ranged from $0 to $141k/annum, averaging $64k.

How do these costs compare to estimates included in the CBA? As the MBBCR progressed, the economic consultant, Covec Ltd (Covec), and Gas Industry Co encouraged stakeholders to

provide cost estimates at workshops, meetings and in their MBBCR submissions. Stakeholders were also encouraged to critique drafts of the CBA as it took shape. This was noted in the Draft Recommendation on the MBBCR (Draft Recommendation):

> Building on feedback received at the 5 November 2014 workshop (discussed in Section 1.4 above) and subsequent submissions and cross-submissions on the MBBCR, Covec has completed a Cost-Benefit Analysis which is presented in Appendix B… The Cost-Benefit Analysis is based on Covec's investigations, analysis of the MBBCR and on submissions received to date. We asked Covec to make it clear what further information would help it to finalise its analysis for the purposes of Gas Industry Co's Final Recommendation. We invite stakeholders to consider Covec's Cost-Benefit Analysis and to include in their submissions on this Draft Recommendation any critiques of the analysis and any additional costs or benefits that they believe are relevant.
>
> s1.6 of Draft Recommendation

And in the draft CBA attached to the Draft Recommendation, Covec noted that:

> There is relatively little information in submissions on the transaction costs pipeline users expect to incur under MBB, with more focus on estimates of cash-out costs to shippers. Nova has however estimated that it would incur between $50,000 and $100,000 extra cost per annum to manage its affairs under MBB. As explained above, we consider this would be an investment for Nova or any other party and that they would expect to receive a benefit at least as large as the outlay.
>
> s2.3.4 of CBA, Appendix B, Draft Recommendation

Very little new information came to light in submissions, although Genesis Energy submitted its estimated costs totalling one-off cost of $200k and ongoing cost of $247k per annum.

Early versions of the CBA did not include any allowance for shipper costs, arguing that shippers would only incur such costs if it was profitable to do so. However, Covec later accepted Nova's argument that such costs should be recognised, explaining that:

> A number of submissions objected to this treatment, arguing that even though these actions may be undertaken with a view to increasing profit, they also reflect costs that would not be incurred under the status quo. Nova in particular argued that the offsetting benefit expected from these outlays "is not recoverable by shippers, excepting reducing their daily cash-out costs. That does not represent a saving for the industry however; as any savings made merely reduce the contra-credit on the following year's shipping charges."
>
> In what follows, this argument is accepted…
>
> S3.1.4 of CBA, Appendix B, Final Recommendation

While these quotes are a helpful reminder of the context, the purpose of this report is not to argue the pros and cons of including any particular costs, but to consider if the costs that eventuated were markedly different to those that were estimated, and what lessons may be learned from that. Our conclusions are that:

1. **The CBA estimates of shipper costs seem to have been of the right order**
   The cost estimates used in the CBA (as originally proposed by Nova) look to have been 'in the right ball park'.
2. **Each shipper appears to have faced significantly different costs**
   At the time MBB was introduced, each shipper had a different capability for estimating and managing its balance position, depending on the importance it put on maintaining balance. A

feature of MBB was the automatic daily cash-out of imbalance positions at market prices[2], which should have increased the incentives for shippers to maintain balance. However, it was up to each individual shipper to assess how it would respond to that incentive. For example, Shipper E commented that different circumstances around the timing of contracts etc could determine whether or not a shipper needed to invest in an additional trading role (an incremental on-going cost of about $100k/annum) at the time MBB was introduced. With hindsight, it seems obvious that (depending on their starting positions and how much effort the shipper wished to put into avoiding cash-outs) each shipper would incur significantly different costs, as has now been reported.

3. **Market participants are not necessarily be willing/able to provide the best cost estimates**
   As noted above, in the case of MBB, cost estimates from shippers were difficult to obtain. There could be many reasons for this. Shippers may have been reluctant to give information about their cost structure that could be of use to competitors. Or they may have found it difficult to anticipate the impact of MBB and how their company would respond[3]. Or they may have thought that their estimates would be considered to be biased, depending on their wish for MBB to proceed on not. Covec no doubt weighed these factors in mind before deciding what costs to include in its CBA.
4. **On-going incremental costs substantially outweigh one-off costs**
   In the case of MBB, it appears that the on-going costs are more substantial than the sunk costs. This suggests that there is still "money on the table" if a lower cost alternative to MBB can be identified.

Considerations for future CBAs

While we should be cautious of reading too much into the results, they do suggest that, when assessing the costs and benefits of a change:

1. We should consider whether the change will impact market participants to different extents.
2. While cost estimates need to be debated openly, individual market participant cost estimates could be provided in confidence where issues such as those discussed in item 3 above are anticipated.
3. We should be cautious about relying entirely on market participant estimates of the costs, and look for an independent assessment where practical.

We thank shippers A to F for responding to our request for the information necessary to compile this report. While we are not formally consulting on our findings, we would welcome any feedback of the report.

Prepared by: Ian Wilson
Senior Technical Adviser - Infrastructure
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[2] MDL expected that cash-outs would occur mostly at market prices. However, in practice, because of thin trading the cash-out prices have mostly been determined by a default rule.

[3] For example, Contact Energy noted in its 24 November 2014 submission on the MBBCR that it was difficult to estimate these costs until they knew what information changes would occur. And, indeed, it was only after MBB was introduced that the D+1 trial began to provide shippers with additional information.

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'.