



**SUBMISSION TO
GAS INDUSTRY COMPANY**

on

Transmission Pipeline Balancing Options

from

MAUI DEVELOPMENT LIMITED

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Submission on GIC Transmission Balancing Options Paper

1. Introduction

Maui Development Limited (**MDL**) welcomes the opportunity to provide comments to the Gas Industry Company (**GIC**) on the Transmission Pipeline Balancing Options Paper dated December 2008 (**Options Paper**). We appreciate the time and effort that the GIC has put into the preparation of the Options Paper.

MDL supports initiatives to improve the balancing arrangements across New Zealand's gas transmission system in a timely manner. However, MDL strongly encourages a genuine and robust review of the existing arrangements, prior to any intervention, in order to ensure any proposed new arrangements are in fact an improvement on those that currently exist.

As is discussed in more detail below, the Maui pipeline balancing arrangements have evolved significantly since the Options Paper was prepared and presented to the Industry. Specifically, this includes the removal of Maui Legacy Provisions and the introduction of new arrangements for the management and use of balancing gas. This means that parts of the information and reasoning upon which the paper's propositions have been derived should be reviewed. MDL believes that while the arrangements now in place for the Maui Pipeline do not go the full distance in meeting GIC and Industry objectives, they go some distance towards doing so. Furthermore they are capable of being extended further to meet these objectives. The steps suggested by MDL for doing so are set out below.

In addition, MDL also observes that the GIC's proposed arrangements give rise to significant issues for MDL (as owner and operator of the Maui Pipeline) and for the community of users of the Maui pipeline. These issues are outlined and discussed in more detail below under the following four main headings:

1. Independent Balancing Agent
2. Pipeline Administration
3. Balancing Markets
4. Balancing Contracts

2. Present context

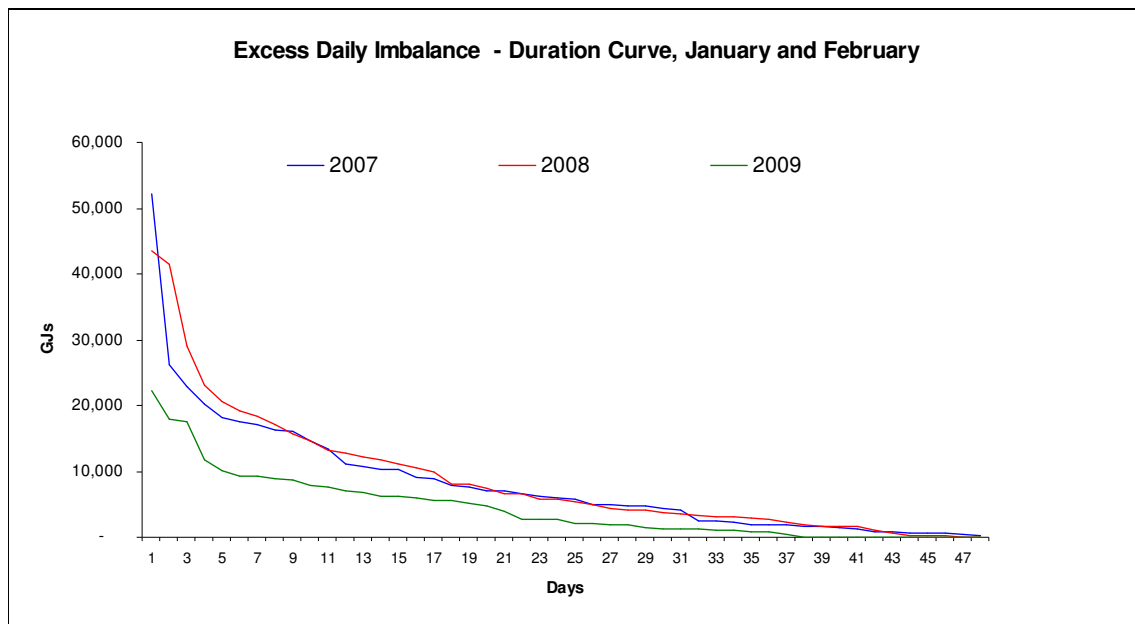
As stated above, there have been some important changes to the Maui Pipeline operating environment since the Options Paper was first published for consultation in December 2008. Most significantly the Maui Legacy Provisions were removed from the MPOC, and in addition to this, new residual balancing arrangements were also introduced to the Maui system at a similar time. These changes are the most significant developments since the inception of the Open Access arrangements in 2005. MDL believes that the potential impacts of these changes should be an important consideration in the analysis and development of options for new balancing arrangements. For context, the impacts of these two changes on current pipeline behaviour are described below.

2.1 Removal of Maui Legacy Provisions

Early indications are that there has been a marked change in the behaviour of Maui Pipeline users since the removal of the Maui Legacy provisions. Whilst there are limited time series data available at present to determine the longer term efficacy of

the new arrangements, recently the observed change in pipeline behaviour appears to have improved.

To illustrate this point more clearly, below illustrates the Excess Daily Imbalance (EDI) as a duration curve so that the months of January and February can be compared across the years 2007, 2008 and 2009¹. The reduction in EDI is significant and at least part of this can be attributed to pipeline users' choosing to avoid ILONs² and cash outs. Where ILONs have been issued in 2009, pipeline users have generally favoured the physical payback option. "Payback" raises some issues of its own with respect to overall pipeline Operational Imbalance, nevertheless the key message here is that given increased incentives to do so, pipeline users are more inclined to operate within the boundaries of the MPOC.



MDL believes that the experience gained so far shows that pipeline users are much more inclined to self-balance to stay within the tolerances set for the pipeline if workable incentives to do so are in place. Even though this lesson seems obvious, there can be opposition when it is applied in the context of designing a balancing system.

2.2 New Maui balancing arrangements

A Revised MDL Balancing Instruction³ and Operating Procedures for Balancing Gas were published on OATIS in early December 2008. The consequence of these revised arrangements is that MDL is now operating Balancing Gas contracts utilising both put and call contracts for Secondary Balancing Gas (SBG)⁴ and Operational Balancing Gas (OBG)⁵. The new arrangements provide considerable flexibility in that they are provided day ahead (as part of the Changed Provisional Cycle and on the

¹ In normal circumstances 365 day data would have been used to illustrate this point more emphatically, however January and February 2009 represent the first months of full EDI data under the new arrangements

² Imbalance Limit Overrun Notices (ILONs) may be sent to a Welded Party if it has an Accumulated Excess Operational Imbalance

³ <https://www.oatis.co.nz/Ngc.Oatis.UI.Web.Internet/Common/Publications.aspx>

⁴ Balancing gas nominated during the CP Cycle or an Intra-day Cycle.

⁵ Balancing gas supplied without a CP or Intra-day Cycle nomination being made first.

day (as part of the Intra Day Cycles). In addition to flexibility, the system established by MDL ensures transparency by publishing the commercial terms sheets on the MDL IX. There is further discussion of these arrangements in the sections that follow.

3. Independent Balancing Agent

3.1 Ownership issues

Pipeline balancing is an integral aspect of the TSO's ability to offer gas transmission services. The setting of pipeline tolerances, the contracts for supplying Balancing Gas, the allowable limits for line pack variation and policies for administering cash outs, OFO's, contingency measures and other pipeline operational tools all affect pipeline capacity and ultimately the tariffs that are charged. These arrangements, as expressed in the MPOC, are the culmination of extensive industry consultation. In more recent times the MPOC has been modified to reflect significant changes in the Industry contractual structure (i.e., the removal of the legacy provisions) and measures have also been taken to assist the development of efficient balancing arrangements.

3.2 Overall impact of Independent Balancing Agent Proposals

The Balancing Agent's actions affect the pipeline's ability to transmit gas. Given this, pipeline balancing can affect the costs recovered and the return collected by the owners through the tariffs. It is not completely clear quite how far the Options Paper goes in recommending transfer of control of the day to day Maui Pipeline management functions from MDL, but the functions the Options Paper proposes for removal from MDL's control seem to include:

- Daily pipeline balancing.
- Purchase of, and responsibility for, pipeline line pack.
- Setting of pipeline balancing operational procedures, including defining the Contingency Volume.
- Pipeline balancing contracts.
- Setting of ILON procedures.
- Setting of pipeline tolerances⁶.

Quite apart from the questions of how these arrangements are to be funded and the identity of the potential "neutral" parties envisaged to manage the balancing function, there will be substantial questions of liability. The daily operation of the pipeline is affected by the factors listed above, but they also have an effect on pipeline capacity, pipeline safety and the ability to complete transmission contracts. MDL wonders how an agency set up under the control of the GIC, (which is the preferred option), will be able to contract to accept the liability involved and fit with the GIC's regulatory function. Furthermore, would the proposed agency be able to indemnify MDL for any costs or damages incurred if its balancing role was not performed to an adequate standard?

The following sections examine the arguments put forward for an independent Balancing Agent covering both the Maui and Vector pipelines in more detail. We make particular reference to the current situation with the Maui Pipeline.

⁶ GIC Balancing Options Paper, Section 3.1 p.11.

3.3 Independent management of balancing

The Options Paper asserts that pipeline balancing is the business of the community of users and is therefore best managed collectively⁷ although the day to day management would be indirect. MDL believes that this view of the situation is incomplete. While pipeline users have the primary interest and responsibility for balancing their own positions, and therefore the pipeline as a whole, TSO's also require the efficient and safe operation of their pipelines and the residual balancing function is a part of this responsibility.

MDL also takes issue with the view that responsibility for pipeline operations could be handed back and forth between an independent Balancing Agent and the TSO depending on the whether the commercial, (or independent Balancing Agent's), procedures are working at the time⁸. This requires both organisations to retain staff capable of managing their respective functions as transfers of responsibility would occur at short notice. It would also place a break in the line of responsibility for pipeline management at a time when quick decisions normally have to be made. MDL does not consider an arrangement of this type would be practicable.

In summary, MDL is strongly of the view that arguments based on the assumption that pipeline balancing can somehow be separated from the other tasks governing the physical security of the Maui pipeline⁹ are incorrect and dangerous.

3.4 Independence, Transparency and Neutrality

Balancing operations have to take account of the interests and responsibilities of both pipeline owners and pipeline users. Nevertheless, MDL has recognised the need for, and implemented:

- Independence and ring-fencing of the Commercial Operator's functions from other parts of MDL's business, including contracting an unrelated third party as Balancing Agent;
- Specific requirements to act in a non-discriminatory manner;
- Specific requirements to minimise balancing costs;
- Transparency of operation.

The first three of these arrangements are either part of the MPOC or are contained in posted operational procedures which have been in place for years. Transparency of MDL's balancing operations is implemented through the information available on OATIS and more specifically through MDL's web-site, which is currently undergoing further upgrading to improve the information supplied. MDL does not see how arguments¹⁰ implying a theoretical deficiency in these areas by MDL can be used to justify an independent Balancing Agent.

Mentions of principal-agent problems in this context require careful definition of who the principal and agent are. Currently the Maui Pipeline Commercial Operator is an agent of the pipeline owner, (MDL), but is required to act in a way that is independent of MDL's commercial concerns except those related to the safe, economic and efficient operation of the pipeline. Input from pipeline users is actively sought and taken into account. As noted above, MDL does not agree with the view that pipeline users are the only persons for whom the residual pipeline balancing function is carried

⁷ GIC Balancing Options Paper, Section 4.2 p.16.

⁸ GIC Balancing Options Paper, Section 4.2 p.16.

⁹ GIC Balancing Options Paper, Section 4.2 p.17.

¹⁰ GIC Balancing Options Paper, Section 5.2 p.20.

out as pipeline owners have an even larger stake in the process. By excluding direct pipeline owner participation, the creation of an independent Balancing Agent will close one gap in the principal-agent relationships at the expense of creating another even larger one.

3.5 Two Balancing Agents versus one

The Options Paper presents arguments in favour of having one Balancing Agent for both pipelines instead of two operating independently¹¹. Two different Balancing Agents competing for the same sources of balancing gas might indeed create problems if this situation ever arose. However, in its last submission on this topic, MDL showed that the majority of the imbalance occurring on the Maui Pipeline had its origin at points outside the Maui Pipeline and the effects of these external imbalances were transmitted into the Maui Pipeline environment through the TP Welded Party's Welded Points. As a result Maui Pipeline Operators had in practice become responsible for balancing both systems - on the assumption that the costs of doing so can be fully recovered. In effect, day to day balancing for the pipelines attached to these Welded Points has already been informally outsourced to MDL and there appears to be little immediate prospect of this situation changing. Effectively there is one Balancing Agent now.

3.6 Asset Sovereignty

There is also the issue of the TSO's sovereignty over the operation of its own asset. As a matter of principle, this should not be infringed without compelling reasons. The GIC Options Paper notes that Vector has indicated an unwillingness to continue in the role of Balancing Agent¹². MDL does not share this view in relation to operation of its own pipeline and it does not believe that Vector's views on operating its own assets can be cited to support removal of the balancing function from MDL in relation to MDL's assets. MDL has considered possible measures by which it could help to remove the great majority of the imbalance occurring on Vector pipelines which is subsequently transmitted to the Maui Pipeline. These are set out in Section 4.4. The implementation of these measures would however require substantial changes in the pipeline arrangements and operating codes for the pipelines affected.

3.7 ERGEG Principles

The ERGEG principles assume that a TSO will be responsible for balancing its own pipeline. We have examined the papers leading up to the formulation of the ERGEG principles to see whether the principle of independent Balancing Agents was ever seriously considered, but can find no reference to the idea. This is not surprising in view of the points made above.

The ERGEG principles are a well-established set of guidelines for administering interconnected gas pipelines. MDL believes that any case to depart from them should be supported by unassailable logic and that this has not been forthcoming.

3.8 Dangers of Regulation

MDL is also concerned that since the GIC's proposal appears to envisage a Balancing Agent governed by regulation, the final outcome will be a system that is inflexible, costly to administer and costly and difficult to change. In particular, because such a system appears to require some duplication of existing roles the cost benefit analysis

¹¹ GIC Balancing Options Paper, Section 5.2 p.20

¹² GIC Balancing Options Paper, Section 5.2 p.20

presented in the paper requires substantial reworking. Any new calculations should be open to Industry scrutiny.

4. Pipeline Administration

4.1 Balancing at least cost

An analysis of the forces that determine balancing costs is critical when determining balancing policy. The Options Paper draws attention to a purported conflict between TSO's and pipeline users regarding balancing rules¹³. In essence its argument is that TSO's prefer stricter pipeline tolerance and balancing rules while pipeline users prefer rules to be more relaxed. The implied conclusion is that TSO's are wrong, in part because they have no financial incentive to reduce balancing costs and because they wish to hold excessive levels of pipeline flexibility.

MDL believes this argument is over-simplified and leads to a mistaken conclusion. The problems involved in setting pipeline tolerances are discussed in more detail below, but the effects of strict or relaxed balancing rules and the associated costs can best be described as a set of trade-offs:

- The lowest cost balancing is obtained when a TSO uses balancing gas sparingly, or not at all and relies upon curtailment actions to balance the pipeline. In this extreme case low balancing cost is obtained at the expense of an increased possibility of interruptions to transmission which will tend to affect both the users causing the pipeline imbalance that led to the curtailment and other users as well. The resulting costs to pipeline users have to be offset against the saving in balancing gas costs.
- Relaxed tolerances do not lead to lower balancing costs. As pipeline tolerances are increased pipeline users are able to move further out of balance with no penalty being imposed on them. This generally requires the pipeline operator to call on more balancing gas. A secondary effect is that the cost of balancing gas required for imbalances within tolerance cannot be recovered and this leads to the illusion that the additional flexibility has been gained at no cost. In fact the extra costs have been socialised. If tolerances are relaxed too far, the overall cost of balancing will increase.
- In general, flexibility given to pipeline users comes at a cost. Good economic housekeeping dictates that the cost should be passed on to the user requiring the flexibility so that informed decisions can be made about whether the cost is best borne or whether action should be taken to reduce the flexibility requirement. Failure to follow this principle results in cross-subsidisation by other pipeline users.

Lowest cost residual balancing will result if pipeline users are properly incentivised to self balance. If pipeline tolerances are properly set, the consolidated pipeline imbalance can be kept within the range used for normal pipeline operational flexibility. The operational flexibility available can be as low as plus or minus 20 TJ under summer conditions. To achieve this with the Maui Pipeline, current Welded Point tolerances would have to be greatly reduced and a very strict balancing regime adhered to by pipeline users. This is completely contrary to the conclusion implied in the Options Paper. Imbalance outside the range of normal pipeline flexibility has to be compensated for by using balancing gas or curtailment until the pipeline is restored to its normal operating range.

¹³ GIC Balancing Options Paper, Section 1.2 p.3.

4.2 Setting Tolerances

It is important to understand the process that must be followed when pipeline tolerances are set for the Maui Pipeline. The first step requires the successive allocation of pipeline line pack for three purposes:

- *Flowing line pack*, which is the amount of line pack required in the pipeline to allow Nominated Quantities to be transported. This will vary as the required nominations through the pipeline vary. If line pack drops below this level, the quantities nominated will not be transported.
- *Emergency line pack*, which is a quantity of line pack allocated to provide time for the Critical Contingency Operator (CCO) to balance the pipeline using the allocation methods available under the Gas Governance (Critical Contingency Management) Regulations 2008. It will take time for the CCO's directives to become effective, and this allocation of line pack is set to provide the required breathing space. It should be noted, however, that under the Critical Contingency Regulations the point at which the CCO becomes responsible for the operation is not a specific line pack value but a gas pressure threshold at Rotowaro.
- *Contingency line pack*, which is a quantity of line pack allocated to provide warning time before the onset of a Critical Contingency. It also provides time for the balancing measures available under the MPOC, such as curtailment, to take effect. The Maui Pipeline is currently balanced to keep the Contingency line pack allocation intact although the MPOC does contemplate circumstances where some of this line pack might be used by pipeline users. MDL is currently reviewing this aspect of line pack management, exploring whether balancing costs can be reduced by regularly using the Contingency Volume (i.e., releasing it to Shippers and Welded Parties) instead of purchasing Balancing Gas.

The operation of the Maui Pipeline is also constrained by the maximum and minimum Taranaki Target Pressure requirements set out in the MPOC, the maximum pressure ratings of laterals, and the ratings of various equipment owned by pipeline users and connected to the pipeline. In particular, excessive pressure at the southern end of the Maui Pipeline can constrain the ability of gas producers to inject gas into the pipeline for delivery to other points.

After the line pack allocations and associated technical constraints have been taken into account, an estimate can be made of the line pack limits between which the pipeline should operate. These will vary with flow conditions in the pipeline and also depend on the operation of the Mokau compressors, which are normally turned off when loads are low. Currently balancing operations are designed to keep pipeline line pack within these limits and, given the lead and lag times involved, Balancing Gas use is normally to be scheduled before pipeline line pack exceeds them. MDL is currently reviewing this method of balancing.

“Free” balancing is available only if the pipeline stays within line pack limits that do not require the pipeline operator to use Balancing Gas. Imbalance that occurs from day to day is cumulative, which means that even small imbalances that would not require balancing on their own, can accumulate to a point where Balancing Gas is required.

If set too wide, pipeline tolerances encourage pipeline imbalance because flexibility given to pipeline users allows increased imbalance that appears to be free of charge. Furthermore the cost of the Balancing Gas needed to compensate for operational imbalance incurred within tolerances cannot be directly recovered and will become a socialised charge on all users.

MDL has started to review tolerances provided to Maui Pipeline users. The review will commence by examining the line pack allocations for emergency and contingency use and then progress to setting the requirements and limits for balancing actions and examining the rationale and size of pipeline tolerance allocations. It is anticipated that there will be opportunity for consultation at different stages of the review. There are also questions that will be posed as part of any review, which will include:

- The trade-offs to be made in setting the emergency and contingency line pack allocations. More pipeline flexibility may be available if an increased risk of high and low pressure events can be accepted. Assessment of these risks is a necessary part of the evaluation.
- The trade-off between the size of tolerances and socialised Balancing Gas costs. It is expected that tolerances will have to be much smaller than at present to substantially eliminate socialised Balancing Gas costs.

MDL notes that the GIC wishes to conduct its own review of pipeline tolerances. There seems little point in doubling up on the initial work and consultation required for this work stream and MDL is happy to involve the GIC in the consultation process and share the data collected, without affecting the GIC's right to draw its own conclusions.

4.3 The Mass Market Allocation Problem

MDL appreciates the work the GIC and others have put into resolving this problem. However it is noted that the need for an adequate solution to this problem has been apparent since Open Access began in 2005 and that there has been little progress to date in addressing it.

A significant problem is that the mass market providers that wish to draw on flexibility ultimately provided by the Maui Pipeline system have been unable to agree on an undisputed method for allocating the costs of the flexibility required among themselves, and have shown even less willingness to pay the charges that have been assessed. These disagreements on cost allocation have led to commercial disputes that have affected the commercial interests of other parties, including MDL.

Because mass market providers draw their gas from pipelines owned by Vector, MDL has no direct contractual arrangement with them. Charges for pipeline imbalances created in the Vector pipeline system and transmitted to the Maui Pipeline system through the Welded Points that connect both systems are assessed against Vector, as the Welded Party, and allocated to Vector pipeline users according to procedures set out in Vector's pipeline operating code. In many cases these charges have been continually disputed or simply not paid. This gives rise to the following issues:

1. The day to day flexibility required by mass market providers and supplied by the Maui Pipeline comes at a cost and there is simply no justification for any scheme that attempts to allocate these costs explicitly, or by default, to other Maui Pipeline users. This is consistent with the causer pays principle. It is pointless to insist on a causer pays principle if the causers can avoid paying.
2. If pipelines connected to the Maui Pipeline are not required to carry out their own residual balancing, then clear, unambiguous and enforceable methods for collecting balancing costs incurred on their behalf by the Maui Pipeline need to be put in place rapidly. MDL invites the GIC to consider regulation in this area if a suitable industry agreement cannot be achieved. It is untenable that pipeline owners should be expected to continue to pay for and provide residual balancing gas services when payment for them is routinely evaded.

MDL notes the difficulty that mass market providers are said to have in predicting their gas usage. However this is no excuse for them to offload the balancing cost consequences of their situation onto others. It should be up to mass market providers to decide whether they wish to pay the cost of installing better tools to predict their gas requirements on a daily basis or whether it is preferable for them to bear the costs involved. Arrangements for allowing mass market providers to participate in a Maui Pipeline balancing market may help, and MDL is prepared to assist with these to the extent that it can, but they will be pointless if a speedy and effective system for allocating and recovering balancing costs from the parties causing the imbalance is not put in place.

4.4 Additional Options for Managing Pipeline Imbalance

Much of the operational imbalance passed on to the Maui Pipeline system by TP Welded Parties appears to occur from a limited number of sources in two areas:

- In the Vector system immediately to the south of the Frankley Road Welded Point, where relatively large receipt and delivery points are located
- In the Vector system to the north of the Rotowaro Welded Point, where there are large delivery points.

MDL believes there would be considerable advantage to be gained if gas receipt and delivery points in these areas could be managed as if they were Welded Points forming part of the Maui pipeline or by using a similar system requiring daily gas nominations.

While the contractual difficulties associated with doing this should not be underestimated, there would be substantial advantages:

- The major interconnected receipt and delivery points would be subject to a single nomination and balancing regime covering a substantial portion of the total gas supply and demand.
- Pipeline operating decisions would be based on much better information.
- Balancing gas supplies for the whole system could be purchased from all the Welded Points part of this regime.

MDL would be prepared to take this concept further if there was sufficient agreement to do so. Amendments to the MPOC would be required.

5. Balancing Contracts and Balancing Markets

5.1 The Nature of a Balancing Gas Market

Balancing markets exist to supply balancing gas. In any evaluation of balancing contracts or balancing markets consideration must be given to the nature of the commodity being traded. In MDL's experience an arrangement to supply balancing gas must incorporate at least:

- The quantity of balancing gas to be supplied.
- The time frame for the supply. (Time frames for balancing gas supply are typically short and may be based on a particular nomination cycle or be a requirement to supply at any time, given notice).

- The notice required for supply to commence.
- Reasonable certainty that when a supplier is requested to supply balancing gas that it will in fact be available.
- Available means to verify performance of the contract.

If balancing gas is to be traded, the contracts must, at the very least, meet these requirements. When the Balancing Agent makes a decision to purchase or sell balancing gas the contracts resulting in the least cost which are available within the time required will be activated.

5.2 Hedging Balancing Gas Contracts

In order to hedge a balancing contract, the company wishing to do so must offer balancing gas to the balancing market. This means that it must either have the ability to honour the requirements set out in the previous section itself, or have a contract with another supplier or consumer willing to do so. It is obvious that if a pipeline user is seeking to hedge its own position, a balancing gas contract for the amount of the hedge must be available for the Balancing Agent to draw on at the time the Balancing Agent requests balancing gas. This may require contracts for hedging purposes to be continuously available or available at very short notice, (e.g. for each nomination cycle). In any case, the Balancing Agent will accept the offer of gas that results in the least cost for the pipeline.

For the Maui Pipeline, decisions as to whether balancing action is required are taken several times a day on a 24 hour/7 day week basis. Notification periods to balancing gas providers are typically short, except when day ahead balancing is practicable. There may be little room for a pipeline user to decide that it might be in an imbalance situation and then to take action to hedge its position on a balancing gas market – the decision by the Balancing Agent as to whether balancing is required, and the activation of a balancing contract may well have been taken before a user could assess requirements and offer a hedging contract to the market.

In a practical sense, we think a balancing gas market will consist of offers to supply or consume balancing gas that will have prices that vary with the timing and/or notice given for the balancing gas. If a pipeline user can provide balancing gas at a competitive price then it will probably wish to do so irrespective of whether it is off-setting its own position on the day. Users without direct access to balancing gas capacity are unlikely to get better terms than would be offered into a market. Nevertheless the opportunity for pipeline users to offer balancing gas contracts to the Maui Pipeline Balancing Agent will still exist.

There is further discussion about the form of balancing contracts in the next section.

5.3 Balancing Gas Procurement

The Options Paper contrasts two approaches to balancing gas procurement:

- A portfolio of contracts; and
- A spot market.

MDL's approach to date has been to seek a portfolio of balancing contracts although it has never ruled out the eventual use of a balancing spot market. As MDL and

balancing gas providers have gained more experience in operating balancing arrangements, balancing gas contract arrangements have become more flexible to the point where the current arrangements are moving in the direction of an on the day market differentiated in price by supply timing and notice requirements. For instance:

- While Balancing Gas providers are asked to forecast availability of Balancing Gas up to a week ahead, they are able to change their forecast without penalty up to the day before the gas is to be made available. Balancing Gas providers may negotiate multiple contracts and adjust forecasts for each one.
- Balancing Gas terms are transparent and standardised. Terms sheets are posted.
- Prices are now adjusted regularly by Balancing Gas providers, (but not yet daily).
- Contracts are available to all Balancing Gas providers capable of meeting the requirements for the supply or consumption of balancing gas. (Specific quantity and price, timing, notice period, certainty and ability to verify).
- MDL prepares a Balancing Gas price “stack” showing the prices and quantities of Balancing Gas available at each nomination cycle each day. Note that the prices and availability of Balancing Gas are not the same for each ID Cycle.

MDL intends to add further flexibility by reviewing contract terms, and allowing Balancing Gas providers to directly initiate and modify contracts through a web-site. Further information on balancing actions will also be provided.

In summary MDL believes that the contrast between its current portfolio contract regime and a spot market is not as stark as presented in the Options Paper. If it continues to be developed, as intended, the current system should provide for market needs at minimal cost, while not locking up capacity or leading to high fixed charges. It does give balancing gas providers the ability to vary offers and prices regularly.

MDL has no objection to the concept of a daily spot market for balancing gas. However for a separate spot market to be considered as a full replacement for the current contractual arrangements it will have to demonstrate sufficient liquidity to supply balancing gas needs at very short notice.

5.4 Supply of Balancing Gas through TP Welded Party’s Welded Points

MDL has been asked to accept contracts for the supply of Balancing Gas at the TP Welded Party’s Welded Points. These requests have been declined so far for the following reasons:

- These requests, in essence, request MDL to pay for a balancing service that will be delivered into or from another pipeline which is connected to the Maui Pipeline. At first sight it would appear more efficient for balancing gas originating outside the Maui Pipeline to be applied to reduce imbalances in the pipeline it is delivered to.
- MDL has no access to information about gas flows for parties connected to other pipelines.
- MDL therefore has no way of ascertaining whether the service to be paid for has in fact been delivered, as the sole information available is Operational Imbalance of the TP Welded Party at the relevant Welded Point, which will most likely be dominated by the imbalances caused by other parties using the

connected pipeline. There is a strong possibility that any payment for balancing services delivered in this way could be disputed.

This decision will be reviewed if these problems can be overcome in a way that substantially reduces the risk for MDL as an RPO. The changes outlined in Section 4.4 are one way of achieving this.

6. Balancing Mechanism

6.1 User Behaviour

In the period since 12 December 2008, it has been clearly demonstrated that the prospect of financial penalties through the operation of the Incentives Pool and cash outs following the issue of ILON notices has substantially altered behaviour by pipeline users. Much more attention is now paid to avoiding cash outs and Incentives Pool Debits.

Not surprisingly, pipeline users continue to make full use of the tolerances and ILON payback periods available to them, as they are entitled to do.

6.2 Balancing System Design

MDL does not dispute the need for residual pipeline balancing, nor does it seek to eliminate the need for balancing by imposing heavy penalties, (even if this were to be possible). The MPOC requires that the Balancing Agent make neither a profit nor a loss from balancing operations over a period of time and while the nature of balancing operations may make it impossible to achieve this objective exactly to the last cent, any revision of the balancing mechanism must take this provision into account. MDL believes that if all Balancing Gas it uses is to be charged for, then under the current MPOC provisions a substantial portion of Balancing Gas costs will not be recovered through imbalance cash out, the operation of the Incentives Pool or Balancing Gas Put sales.

In designing a future balancing mechanism, it needs to be clearly understood that for the Maui Pipeline, decisions as to whether to use or alter the flow of Balancing Gas are reviewed several times a day as pipeline conditions change. If possible, balancing decisions are made at a time when nominations for the next ID Cycle are known, but changes in pipeline conditions may mean that this will not always be the case. Balancing decisions may have to be made outside the context of the ID nomination cycles. If flows into or out of the pipeline are not in balance, pipeline operators may not know whether pipeline users intend to correct the situation at a later nomination cycle. Similarly flows to correct earlier imbalances resulting from ILONs may be expected, but cannot be guaranteed.

6.3 ERGEG Principles

MDL supports a balancing system design that follows ERGEG principles.

6.4 Design Options

The Options Paper expresses a preference for an on the day balancing market without going into detail about the specific mechanism to be adopted. In the past, MDL has expressed a preference for the adoption of a daily cash out mechanism, and it seems that any proposals for a spot balancing gas market will not work unless a mechanism of this type is adopted. The details of the mechanism to be adopted will depend on the degree of emphasis given to each of these factors:

- A requirement to reduce socialised balancing gas costs by attributing balancing gas costs to the causer as far as possible.
- Reducing balancing gas costs as much as possible.
- A requirement to match balancing gas costs with balancing gas income.
- Making the best use of the inherent pipeline flexibility available.
- Clarity and simplicity.

These factors all have to be taken into account in the final design. The trade-off between tolerances and the reduction of socialised balancing gas costs has been discussed above as has pipeline flexibility and the role it might play. The cost and income matching problem is often dealt with by assuming back to back balancing cash outs, but these have problems of their own which are discussed in the next section.

6.5 Back to Back Cash Out

As generally expressed, the principle of back to back cash out assumes that the cost of balancing gas supplied on a day can be matched by charges for balancing gas made to the Welded Points creating the imbalance. However in practice this is a result that can be very difficult to achieve. Balancing decisions for the pipeline are not made by looking at individual imbalance positions but by looking at the situation of the pipeline as a whole. With daily balancing the situation can be even more complex if tolerances have been allocated to individual users as the pipeline can get out of balance and require balancing gas even though users have remained within their daily tolerance limits.

It is tempting to seek to recover all balancing gas costs for a day from Welded Points outside tolerance on the same day. However because balancing gas use on a day can differ substantially from the amount of imbalance on the same day, such models have to deal with the possibility that:

- There may be no imbalance outside tolerance on the day, but balancing gas has been used.
- There may be imbalance outside tolerance, but no balancing gas has been used.
- A small quantity of balancing gas used on a day when there was a lot of imbalance outside tolerance could lead to a cash out price per GJ that is less than the market price.
- And small imbalances outside tolerance on days when large quantities of balancing gas are used could lead to very high per GJ cash out prices.

These problems are reduced in scope but not eliminated if individual Welded Point tolerances are not allocated.

6.6 Repayment of Imbalances

When an ILON notice is issued to a Maui Welded Party, the MPOC currently allows time for the Welded Party to repay the imbalance without further penalty before action

is taken to cash their position out. Currently most parties issued an ILON notice take advantage of the opportunity to do so. There are a number of consequences that arise from this repayment facility:

- Balancing gas may be purchased to compensate for the original imbalance with further balancing, (in the opposite direction), required to re-balance the pipeline when the gas is repaid.
- Repayment of pipeline imbalances can help stabilise the pipeline, provided that the imbalances being repaid are repaid quickly and are relatively small in relation to the overall pipeline line pack flexibility available without balancing gas intervention. If this is not the case, then they lead to further destabilisation in the manner noted in the previous paragraph.
- Unfortunately operating history has shown that re-balancing actions that exceed the ability of the pipeline to absorb them are relatively common. This effect is compounded because pipeline operators are unable to count on gas subject to an ILON being returned within a specific time period, or at all.

Because balancing actions on the Maui Pipeline normally take place within a time frame of hours, rather than days the ILON repayment provisions currently provided for in the MPOC tend to increase rather than decrease balancing costs when large imbalances occur. This leads to a strong preference for mechanisms based on daily cash out.

6.7 Conclusion

MDL does not believe that a balancing mechanism can be devised that will completely meet all the requirements set out in Section 4.4 simultaneously. Any system adopted will inevitably involve some degree of compromise.

MDL is equally concerned that any new balancing mechanism (or market mechanism) adopted has to be practicable in terms of its operational requirements. A proposed daily cash out mechanism must be examined by subjecting it to detailed analysis, including running it using actual pipeline data and checking for inappropriate incentives, and gaming opportunities that might be to the advantage of any party.

7. The Way Forward

7.1 Summary of MDL Views

There are a number of issues raised in the Options Paper. MDL's views on the most important of these can be summarised as follows:

- On the proposal for an ***Independent Balancing Agent***, we note that an adequate system of pipeline balancing is needed for the operation of a transmission pipeline. The performance of this function is not just the business of pipeline users but is also the business of the pipeline owner. In the case of the Maui Pipeline it is doubtful whether the balancing function can be separated easily from other operational and safety aspects of pipeline administration. The current MDL arrangements for pipeline balancing already provide for independence from the pipeline owner, non-discrimination between users and the requirement to minimise balancing costs.
- On ***Pipeline Tolerances*** MDL acknowledges the need for a review of the existing tolerances, has commenced the process and is prepared to work with the GIC in reaching a conclusion. MDL notes that relaxed tolerances can lead

to higher balancing costs and believes the most efficient position will be achieved following a substantial reduction in tolerances.

- On the **Mass Market Allocation** problems identified in the Options Paper, MDL calls for the application of the “causer pays” principle in allocating balancing costs. Flexibility to depart from the quantity of gas nominated for a day creates balancing costs and it is reasonable to expect the parties requiring the flexibility to pay for it. MDL also calls for the introduction of clear and enforceable methods for collecting balancing costs from those incurring them. Continued evasion of balancing gas costs makes the adoption of a “causer pays” principle pointless and is unsustainable.
- On **Balancing Gas Contracts**, MDL notes the conditions that have to be fulfilled to successfully provide balancing gas. It will be open to parties connected to the Maui Pipeline to hedge their exposure to balancing gas costs by offering balancing gas contracts. Considerable progress has already been made in offering flexible balancing gas contracts and arrangements are in hand to increase the flexibility offered to balancing gas providers by providing greater information on balancing activities. However MDL still faces obstacles in allocating balancing contracts to suppliers not directly connected to the Maui Pipeline. Further work to resolve this problem is needed.
- On the **Design of Balancing Gas Systems**, MDL believes that ERGEG principles should be followed. Nevertheless there may be difficulties in reconciling:
 - Reduction or elimination of socialised balancing gas costs.
 - Reduction of balancing gas costs.
 - Allocation of pipeline tolerances.
 - Making the best use of the inherent pipeline flexibility.
 - Matching balancing gas costs with balancing gas income.
- The difficulties inherent in the design of back to back balancing systems and those caused by systems that allow repayment of imbalances over a period also have to be addressed.

7.2 Work Required

MDL believes that there are a number of tasks to be accomplished in a review of Maui Pipeline balancing systems. In the short term these are:

- Completion of the review of tolerances on the Maui Pipeline system. As noted above, work in this area has already started. The first stage is a review of the Emergency and Contingency volumes, which is to be followed by an estimation of the pipeline flexibility available without routine Balancing Gas support. This will also result in a review of the Maui Balancing SOP's to achieve the best balance between use of balancing gas and the risk of high or low pressure events. The tolerances review will also provide the basis for any decisions on the allocation of tolerances to individual Welded Points. MDL will be working with the GIC to avoid duplication of effort.
- Further work on improving the flexibility of balancing contracts entered into by MDL and improvement of the information available on balancing transactions. This will involve enhancement of the MDL balancing web-site and revision of the current Master Agreements.
- The proposed web-site will also make Maui Pipeline balancing operations much more transparent to pipeline users.

- The current balancing operations have revealed that a number of relatively minor MPOC changes are necessary. These will be circulated shortly as part of the normal consultation process.

7.3 Longer Term Work Programme

MDL believes that many of the objectives considered important in recent discussions about the Maui Pipeline balancing system are unlikely to be achieved without substantial changes to the current MPOC provisions. In particular, the objectives requiring these changes are:

- Attribution of balancing costs to the causer.
- Substantial reductions in socialised balancing costs.
- Matching income from balancing charges to balancing costs.
- Efficient use of balancing gas.

MDL agrees that these objectives point to the introduction of a balancing system that requires on the day cash out. The GIC's preference for a balancing system requiring on the day cash out may well arise from a similar point of view.

There are a number of possible variants for balancing systems of this type, each with their own advantages and disadvantages. MDL believes that the point has been reached where it should consult with the GIC to identify the best option and then draft and submit for consultation the MPOC changes necessary to implement it.

However some time will be needed to develop and implement the solution eventually agreed. The basic steps are:

- Agree on and specify the balancing system to be used.
- Draft the MPOC changes necessary to implement it.
- The Section 29 MPOC Change process needed to bring the changes into effect.
- The OATIS changes required. (These generally require extensive testing).

The last two of these steps could overlap to some extent but the time, effort and expense involved should be estimated at an early stage. A project of this nature would be expected to take up to a year – assuming no hold-ups. Consideration will need to be given to interim solutions that could return some benefit in a shorter time.

However the balancing system is not the only area in which work will be required. At the same time:

- Work needs to be completed for a revised allocation of tolerances for the Maui Pipeline. Both MDL and the GIC will be involved in this area. If Welded Point tolerances are to be significantly tightened, MDL envisages that changes should be made in stages, rather than all at once.
- The provisions for allocating and collecting Balancing Gas charges from pipeline users outside the Maui Pipeline system, need to be upgraded. MDL suggests that regulation in this area may need to be considered. The emphasis given to this area arises from MDL's view that there is no point in having a system for allocating Balancing Gas charges if the charges cannot be collected.

Finally MDL emphasises that it is prepared work with the GIC and consult with the Industry to implement these changes in a cooperative and transparent manner.

Question	Comments
<p>Q1. Do you consider that the objectives identified in Section 2 are appropriate for the analysis of balancing options? If not, what other objectives would you propose?</p>	<p>MDL agrees that promotion of service standards as an objective is appropriate, and that this is largely reliant on the balancing regime design.</p> <p>MDL also agrees that “efficiency” and cost minimisation are appropriate objectives. However MDL is highly dubious that the key mechanism proposed (the independent Balancing Agent) will have effect to this objective. In MDLs view, the concept of an independent Balancing Agent has serious flaws and carries with it a high level of risk and uncertainty to the pipeline systems as a whole. Based on this, an additional important objective should be security of supply. MDLs views on this are discussed more fully in Section 3 of our submission.</p>
<p>Q2. Do you agree that it is necessary to review tolerances as described in Section 3.1?</p>	<p>MDL has already commenced reviewing the tolerances provided to its pipeline users. On this basis there seems little point in the GIC replicating this work. MDL has made it clear in this submission that it is happy to involve the GIC in the consultation process and share data without affecting GIC’s right to draw its own conclusions. Tolerances are discussed in more detail in Section 4.2 of this submission.</p>
<p>Q3. Do agree that it is necessary to consider MPOC changes as described in Section 3.2?</p>	<p>As discussed in Section 2.1 of this submission, recent changes to the Maui Pipeline operating environment have meant that pipeline users are now more incentivised (e.g. Put Balancing Gas Options) to manage their positions during periods of over pressure. Furthermore Section 6.5 of MDL’s submission highlights our belief that the effects of back to back cash outs have to be carefully examined before a decision is made to implement them. MDL agrees that the seven day period of notice for setting Mismatch Prices should be reduced.</p>
<p>Q4. Do you agree that the primary balancing obligation should remain with pipeline users?</p>	<p>MDL agrees that the primary balancing obligation should remain with pipeline users.</p>
<p>Q5. Do you agree that there should be a single independent Balancing Agent?</p>	<p>MDL does not agree that there should be an independent Balancing Agent. In MDLs view the proposal for an independent Balancing Agent has a number of risks and uncertainties and that this option has not been analysed sufficiently. The independent Balancing Agent Option is discussed more fully in Section 3 of this submission.</p>
<p>Q6. Do you agree with the section 7.1 preliminary assessment of balancing procurement options?</p>	<p>AS noted in Section 5.3 of its submission, MDL believes that this section doesn’t reflect the recently revised Maui Pipeline Balancing instructions or current Maui Pipeline balancing gas procurement practices. If extended as intended, MDL believes its current procurement methods may well meet market needs.</p>
<p>Q7. Do you agree with the section 7.2 preliminary assessment of daily allocation options?</p>	<p>MDL has no views on the best daily allocation system to adopt. However it is firmly of the view balancing costs should be allocated to causers and that the systems for payment of balancing costs should be speedy and effective.</p>
<p>Q8. Do you agree with the section 7.3 preliminary assessment of the extended nominations options?</p>	<p>MDLs view is that there are limited benefits to the extended nominations arrangement proposed in the Options Paper. However, in the interests of progress a useful interim step could include extending the Maui nominations regime to large industrial users on the Vector system as suggested in Section 4.4. This could be a cheaper and more achievable over a shorter period, and given that industrial gas users account for some 90 per cent of observed demand, this could have a significantly positive impact on the existing balancing regime.</p>

	MDL agrees that further analysis of an extended nominations approach is warranted, and MDL is happy to work with the GIC to better understand the available options.
Q9. Do you agree with the hybrid approach proposed?	MDL supports elements of the hybrid approach but not the proposal for a single independent Balancing Agent (see Section 3 for reasons). MDL has set out a list of tasks that it believes should be tackled in Sections 7.2 and 7.3 of its submission.
Q10. Do you agree with the proposed work programme?	MDL would prefer not to see regulation of the Balancing Agent function. However many of the tasks proposed by the GIC are in accord with MDL's views, which are set out in Sections 7.2 and 7.3.