



Submission by Genesis Power Limited

Trading as Genesis Energy

ON

Transmission Pipeline Balancing

Issues Paper

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Contents

1.	Introduction	3
2.	Overview	3
3.	Comments on the Analysis	4
4.	Developing a Tractable Set of Regulatory Options	6
5.	Conclusion	12
	Appendix A: Responses to Specific Consultation Questions	

1. Introduction

1. Genesis Power Limited, trading as Genesis Energy, welcomes the opportunity to provide a submission to the Gas Industry Company on its paper "Transmission Pipeline Balancing Issues" dated August 2008. Genesis Energy has reviewed the paper and is pleased to respond to the issues raised.
2. Genesis Energy is a welded party on the Maui pipeline and a shipper on both the Maui and Vector transmission systems. Genesis Energy is a major gas retailer and ships gas for its own use generating electricity at Huntly Power Station, including e3p.
3. Genesis Energy also has upstream petroleum interests including being an equity partner and gas purchaser for the Kupe field development and production facility in South Taranaki. Kupe is targeted to start supplying gas via the Vector transmission system mid-next year.

2. Overview

4. Genesis Energy believes that the issues paper provides a very good foundation for the Gas Industry Company and the sector's coming work on transmission pipeline balancing arrangements. Genesis Energy is pleased to see the Gas Industry Company's hard work reviewing its policy development processes paying off. The paper also shows the value of the considerable work completed already on the transmission work stream, dating right back to the 2006 access framework issues paper.
5. In this submission, Genesis Energy:
 - comments on some specific aspects of the analysis in the issues paper;
 - sets out how it considers that regulatory options could best be framed and evaluated; and
 - shares its views on what should emerge as a preferred regulatory option.
6. Genesis Energy is strongly of the view that an incremental approach should be adopted by Gas Industry Company in addressing transmission and balancing issues. In order for meaningful progress to be made, issues should be addressed in an order of priority, allowing the preferred option in

respect of each issue to be implemented, and the benefit of such implementation to be unlocked and its impact assessed, in stages.

7. Genesis Energy's view is that the issue of highest priority is the firm daily allocation of 'midstream' gas quantities (i.e. at the Vector delivery points or gas gates points).
8. This submission focuses predominantly on the Gas Industry Company's potential exercise of its regulatory powers rather than on its involvement in the various non-regulatory avenues for improving transmission pipeline arrangements.

3. Comments on the Analysis

Project Driver

9. The government policy statement (GPS) has a lengthy list of outcomes and objectives that are related in some way to the topic of balancing arrangements. It's useful to narrow these down to identify the principle driver for the Gas Industry Company's work on balancing arrangements. In Genesis Energy's view, the most relevant are the outcomes:
 - accurate, efficient and timely arrangements for the allocation and reconciliation of downstream gas quantities; and
 - accurate, efficient and timely arrangements for the allocation and reconciliation of upstream gas quantities.
10. However, Genesis Energy considers that more work is required to refine what is meant by 'upstream allocation' and to zero in on the primary causes of the problems currently being experienced in transmission pipeline balancing. In Genesis Energy's view transmission balancing arrangements hinge on accurate, efficient and timely arrangements for the allocation of *midstream* gas quantities (that is, allocation of imbalances at the Vector Welded Points on the Maui Pipeline). This requires the daily allocation of Vector gas gate volumes.
11. The operational balancing arrangements (OBA) on the Maui pipeline function well for determining imbalances on the Maui Pipeline, particularly with the removal of the legacy gas arrangements in MPOC, and the downstream allocation and reconciliation rules should improve downstream reconciliation processes.

Evaluation Framework

12. Chapter Four of the issues paper opens with the statement:

“An evaluation framework is needed to assess and compare the desirability of alternative balancing arrangements – including the status quo.”¹

The remainder of the chapter then sets out an evaluation framework building on the Gas Act, GPS outcomes and objectives, and the European Regulators’ Group for Electricity and Gas (ERGEG) balancing principles.

13. Genesis Energy agrees that the ERGEG balancing principles provide a very useful tool for considering balancing arrangements, but they are less useful for the narrower question of framing and evaluating options for regulatory intervention. Genesis Energy suggests that their place in the context of any work stream oriented towards a possible regulatory outcome is initially as an aid to analytical work dissecting the topic and identifying issues or problems. Later the principles may be useful as a set of touchstones against which options can be assessed.
14. The ERGEG principles should be more directly useful for those parts of the Gas Industry Company’s balancing work stream not oriented toward regulatory intervention.
15. In terms of evaluating options for regulatory intervention, the guiding principle for the Gas Industry Company’s analysis needs to be the level of consistency with the principal objective in Part 4A of the Gas Act 1992 (safe, efficient and reliable gas delivery) and its evaluation framework needs to relate to estimation of net present value.

Options Design

16. Chapter Seven discusses the elements that could go into designing a set of balancing arrangements.
17. Again, the discussion of balancing arrangement design options is very useful from a problem dissection perspective, although it seems far less useful from a policy options design perspective. As noted above, Genesis Energy is strongly of the view that a staged approach should be adopted by the Gas Industry Company in addressing transmission and balancing issues through regulatory means and that if, as an alternative, a ‘clean sweep’ approach to designing balancing arrangements were taken, then the Gas industry Company and industry are likely to find the problems to

¹ Pipeline balancing issues paper, p13.

be too big to resolve; will encounter considerable implementation risk; and will risk failing to realise material option value.

4. Developing a Tractable Set of Regulatory Options

18. The Gas Industry Company has a tremendous body of work under its belt now on transmission pipeline issues. Even though the Gas Industry Company hasn't implemented any regulatory interventions as an output from this work, Genesis Energy considers that the Gas Industry Company has helped move the industry forward. By addressing the appropriate priorities in this project, Genesis Energy expects reasonably rapid progress can be made and meaningful benefits unlocked.
19. Given the wide range of issues related to transmission pipeline balancing and the nature of changes underway extrinsic to any intervention, focussing on priorities in a staged approach should enable the Gas Industry Company's regulatory output oriented work to:
 - avoid getting bogged down;
 - satisfy Gas Act requirements; and
 - lead to Ministerial approval (should regulation ultimately be an output).
20. Part of achieving this is to frame the regulatory options at a suitable level. The analysis in the issues paper and the Gas Industry Company's earlier research paper have dissected the problem to a point where it should be possible to start zeroing in on any market failures and collapsing the associated issues back to a manageable set of regulatory options.
21. The consolidated set of issues listed in Section 6.4 provides a very good starting point for framing regulatory options. To suit this purpose, it's useful first to prioritise the list of issues. Prioritisation should take into account not only the relative importance of any given issue, but also the inter-relationships between the issues and the need and scope for the Gas Industry Company to tackle each issue using regulatory instruments. This is ultimately a matter of judgement. Genesis Energy's view of the top two priorities is as follows.
 - a. Poor information on balancing status. Definitive daily allocation of midstream imbalances (that is, allocation of imbalances at the Vector Welded Points to Vector shippers on a basis which is not able to be retrospectively varied) is a pre-requisite for shippers being able to manage their own positions in the most efficient

manner and will, in Genesis Energy's view, reduce the need for residual balancing services.

- b. Balancing agent role. There seems little value in having two - potentially competing - balancing agents across the linked transmission systems which will be competing for limited balancing resource.
22. Our focus here is on the question of which issues may most invite resolution via regulatory intervention. For example, Genesis Energy rates transparency of balancing costs highly in absolute terms but it is not an issue that seems to invite a regulatory response at this stage.
23. To be clear, Genesis Energy considers that the other issues should remain part of the Gas Industry Company's transmission pipeline balancing work stream. Those issues may need to be addressed through regulatory intervention in the future but can be worked at through non-regulatory means in the interim. Until accurate, efficient and timely arrangements for allocation of *midstream* gas quantities is achieved it is premature to contemplate regulatory solutions for the other issues. Resolving the midstream allocation information gap should unlock industry-based resolution of some of the other issues and provide a better information base in any event for assessing whether further regulatory intervention is required.
24. Having set out our view of the top two priorities, Genesis Energy suggests that regulatory options could be framed as set out below.

Table 1: Setting out a tractable set of regulatory options for development and evaluation.

	OPTION	DESCRIPTION
0	Do nothing	As always, this option forms the counter-factual against which to measure the benefits and costs of any potential regulatory intervention.
1	Top priority (imbalance status)	Genesis Energy's preferred option. Targets only the most important and achievable regulatory intervention – providing users with timely and definitive information on their balancing status.

	OPTION	DESCRIPTION
2	Top priority plus one	Targets the top two issues. Consistent with an incremental approach to evaluation, this provides a yard stick for whether further intervention makes sense at this time.
3	Full regulation	The 'clean sweep' approach. Existing arrangements replaced by a regulatory regime.

25. These regulatory options should be able to be evaluated at a reasonably high level without needing to first resolve matters down to a great level of detail.
26. Genesis Energy's preferred option is to focus first on ensuring shippers on the Vector pipeline have timely and definitive information on their balancing status – reflecting Genesis Energy's view that poor information on balancing status is a mid-stream problem. To achieve this would require:
- a. a party (say, a midstream allocation agent) to calculate definitive daily imbalance positions – for example, on a D+1 basis;
 - b. the midstream allocation agent to have access to required information;
 - c. an obligation for balancing charges to be allocated on the basis of the calculated imbalance positions without any retrospective changes;
 - d. wash-up quantities allocated to a future balancing period; and
 - e. recovery of the midstream allocation agent's costs.
27. These requirements are likely, in Genesis Energy's opinion, to require delivery via regulatory means.
28. Genesis Energy anticipates that a 'midstream allocation agent' role would probably best be carried out by the incumbent downstream allocation agent, as they would have access already to most of the information they would need. Imbalance calculations would benefit from access to daily volume information from larger TOU sites. A reasonably simple algorithm could then be used to calculate and allocate residual (that is, non-TOU) volumes based on mass-market shares or customer numbers (say, from the month prior).

29. To evaluate the option wouldn't require detailed design of the algorithm or the cost recovery basis – just an appreciation of whether such things would be achievable. Further work may be required to rough out the scope and cost of any obligation to provide TOU data and the mechanics of an obligation to base balancing charges on the agent's calculated imbalances.
30. The following table sets out some of the key factors that could go into evaluating each regulatory option.

Table 2: Key considerations for assessing benefits and costs of candidate regulatory interventions.

OPTION	FOR	AGAINST
Do nothing	<p>Fully preserves options for future regulation (based on better information) or for resolution of issues without regulatory intervention.</p> <p>Doesn't preclude any involvement of the Gas Industry Company in resolving issues through code change processes, industry dialogue, etc.</p>	Does 'doing nothing' pass up an opportunity to add value via regulatory intervention?
Imbalance status	<p>Could provide a (relatively) quick win.</p> <p>Imbalances should reduce (assuming that, all things being equal, parties will better manage their imbalances if they are certain of their positions) leading to:</p> <ul style="list-style-type: none"> • lower costs of balancing; • less need for residual balancing actions; and • improved productive 	<p>Direct costs of developing regulations.</p> <p>Agent costs (establishment and ongoing).</p> <p>TOU data submission obligation costs.</p> <p>Changes to transmission codes (if any).</p>

OPTION	FOR	AGAINST
	<p>efficiencies.</p> <p>Disputes over balancing position should reduce.</p> <p>Should improve information base for any future interventions or industry-led developments.</p> <p>Doesn't preclude involvement of the Gas Industry Company in resolving remaining issues through code change processes, industry dialogue, etc.</p>	
<p>Imbalance status plus regulated balancing agent role.</p>	<p>Could reduce complexity and improve efficiency of residual balancing operations.</p> <p>Could reduce transaction costs.</p> <p>Could help clarify balancing agent role.</p>	<p>Transmission code changes.</p> <p>Transition costs (severing existing contracts, altering processes, learning new systems, etc).</p> <p>Destroys option value of waiting to observe effect of imbalance status intervention.</p> <p>Prior to filling the imbalance status information gap, it's difficult to assess whether there is a market failure around the balancing agent role.</p>

OPTION	FOR	AGAINST
Full regulation	<p>Provides opportunity to implement ERGEG balancing principles in full (or as far as desirable).</p> <p>Improved efficiency of pipeline balancing (once fully implemented and assuming no regulatory failure).</p>	<p>Could be too ambitious – significant implementation risk.</p> <p>Destroys option value.</p> <p>Loss of flexibility/innovation (dynamic efficiency).</p> <p>Transition costs (severing existing contracts, altering processes, learning new system, etc).</p>

31. As is often the case, full quantification of benefits and costs is unlikely to be feasible. In the case of the imbalance status option, costs should be estimable and so should a rough upper bound of the direct (non-option value) benefits. Comparing a break-even value against the upper value should then provide an indication of whether an NPV-positive outcome is plausible.
32. If the Gas Industry Company were to develop and analyse regulatory options along the lines discussed above, then it may settle (as Genesis Energy has) on an “imbalance status” intervention as the best candidate regulatory option to pursue initially. This would:
- leave open the detailed design of the intervention (including consideration of whether regulations really are the best delivery mechanism);
 - leave open options for further regulatory interventions in future if warranted (building on the issues paper work); and
 - provide the Gas Industry Company with the opportunity to observe the effects of (and participate in as appropriate):
 - any industry-initiated transmission code changes;
 - introduction of the Gas Exchange;
 - implementation and bedding in of downstream reconciliation and allocation processes;

- implementation of the critical contingency regulations;
 - the end of Maui legacy gas;
 - evolution of the production and demand sides of the market; and
 - any progress made through forums such as the transmission pipeline balancing advisory group.
33. Providing users with timely and definitive information on their imbalance status would be entirely consistent with the first of the ERGEG balancing principles – the primary responsibility for balancing should be with the users and the transmission system operator should retain a residual role.

5. Conclusion

34. Genesis Energy commends the Gas Industry Company on the work it has completed to date on transmission issues and pipeline balancing in particular.
35. For the next stage of its work, the Gas Industry Company needs to step back from detailed balancing arrangement design options and consider its regulatory intervention options. Genesis Energy considers that the best candidate option at this juncture is a targeted intervention to ensure pipeline users have timely access to definitive imbalance status information.
36. Focusing on regulatory intervention options doesn't preclude proactive participation by the Gas Industry Company in other forums aimed at improving the operation of transmission pipeline balancing arrangements.

Appendix A: Responses to Specific Consultation Questions

Question	Comment
<p>Q1: Do you agree that the European Regulators' Group for Electricity and Gas (ERREG) 'Guidelines of Good Practice for Gas Balancing' are appropriate to use as a framework to evaluate alternative balancing market design options for New Zealand?</p>	<p>Genesis Energy considers that the Gas Industry Company primarily needs an evaluation framework not for 'considering alternative balancing market design options', but rather for evaluating alternative regulatory interventions.</p> <p>The ERREG guideline does nonetheless provide a useful analytical tool – both for initial dissection of the topic and as a touchstone for assessing options.</p> <p>The ERREG guideline also provides a useful tool for other work by the Gas Industry Company and the sector on other avenues for improving the operation of transmission pipeline balancing arrangements.</p>
<p>Q2: Are there key issues that are not identified in Chapter 6? How would you prioritise the Chapter 6 issues?</p>	<p>Genesis Energy doesn't believe it is necessary for the Gas Industry Company to try to prioritise all of the issues identified for regulatory option development and evaluation purposes. As set out in the body of this submission, a reasonable approach to regulatory options development and evaluation should be possible on an 'incremental interventions' basis initially requiring only the top two issues to be ranked so that an NPV 'sweet spot' can be found.</p> <p>In ranking the issues it seems important to consider not only the</p>

Question	Comment
	<p>relative importance of the issues, but also their inter-relationships and the scope for (and need for) regulatory intervention by the Gas Industry Company.</p> <p>Genesis Energy ranks issue three 'poor information on balancing status' as the top priority. This is a pre-requisite for better understanding, and ultimately improving, other aspects of the balancing arrangements. At present, users with mass-market customers are never in a position of knowing their actual imbalance position on a timely basis. The closest such users get to knowing their imbalance position is at the 10th of the month when they know their opening position as at the 1st of the month. However, even that position is subject to change if there is a significant prior-period wash up.</p> <p>Genesis Energy understands that shippers devote significant effort to forecasting demand by gas gate and nominating accordingly. However, due to different market structures across gas gates and different weather-driven demand characteristics across market segments, retailer shares at any given gas gate can be volatile and difficult to predict. Consequently it is unlikely that the sum of shipper forecasts, and hence nominations, will equate to actual gas gate volumes on a day.</p> <p>Genesis Energy does not consider it important for users to know one another's imbalance positions ('name and shame'). It would be sufficient for</p>

Question	Comment
	<p>users to know their own position and the overall pipeline position.</p> <p>Genesis Energy considers that until users have definitive and timely information on their imbalance positions, it is premature to conclude that there are insufficient incentives on users to self-balance, or that tolerances should be changed.</p> <p>Genesis Energy ranks the balancing agent role – including the number of balancing agents and their obligations – as the second priority.</p> <p>If the need and scope for regulatory intervention were not a factor, then Genesis Energy would rank issue five ‘poor transparency regarding balancing costs’ as the second priority. Once quantity is certain, the range and pricing of balancing services is the next most important factor. However, Genesis Energy expects that the scale and context of this issue would probably alter following any intervention targeted at providing imbalance status information.</p> <p>There are three further items that Genesis Energy would add to the list of issues:</p> <ol style="list-style-type: none"> 1. Clarity of balancing cost allocations. It seems unclear as to where the boundaries lie between ILON cash-outs, balancing agent cost recovery from the MPOC incentives pool, and allocation of costs under the critical contingency

Question	Comment
	<p>regulations (CCRs). Without such clarity, there seems scope for balancing costs on a day to be recovered via tariffs (and so socialised), from a welded party or shipper via the cash out mechanism, via balancing agent claim on the incentives pool, and/or via the CCRs. Lack of clarity in this respect could lead to disputes over allocation of balancing costs.</p> <p>2. Operational balancing target. It's not clear whether linepack on the Maui pipeline is managed hour-to-hour to a pre-determined line pack (or pressure) set point or to a broader flexibility band. The target used has implications for the extent of 'operational' balancing required and hence the scale of socialised balancing costs.</p> <p>3. Balancing action transparency. Genesis Energy would identify the lack of distinction between demand and balancing nominations as a separate issue. Separating these classes of nominations would provide better information on which to base residual system balancing actions.</p>

Question	Comment
<p>Q3 Are there any additional design elements, not identified in Chapter 7, which you consider should be addressed?</p>	<p>Refer responses to Q2 above and Q4 below. Refer also to the section in the body of this submission headed 'options design'.</p>
<p>Q4 Are there any balancing regime options which you consider Gas Industry Co should include in its forthcoming options analysis work?</p>	<p>As set out in the cover letter, Genesis Energy believes it is premature for the Gas Industry Company to launch into considering detailed options for design of an all-encompassing balancing regime. There is a prior question of what type of regulatory intervention to pursue.</p> <p>In terms of that prior question, Genesis Energy's view is that it would be best for the Gas Industry Company to contemplate targeted intervention in the first instance aimed at ensuring pipeline users have timely and definitive information on their imbalance position. Targeted intervention allows for a quick 'win', while preserving option value.</p>