Gas Outage and Contingency Management Arrangements—

Submissions Analysis and Next Steps

October 2007

The Gas Industry Co was formed to be the co-regulator under the Gas Act. As such, its role is to:

- recommend arrangements, including rules and regulations where appropriate, which improve:
  - the operation of gas markets;
  - access to key infrastructure; and
  - consumer outcomes;
- administer, oversee compliance with, and review such arrangements; and
- report regularly to the Minister of Energy on the performance and present state of the New Zealand gas industry, and the achievement of Government's policy objectives for the gas sector.

Authorship

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1 Executive Summary

1.1 Gas Industry Co has developed a set of proposed arrangements and draft Outage and Contingency Management Regulations. In August 2007 these were published in the Statement of Proposal for Gas Outage and Contingency Management Arrangements for consultation with stakeholders. This paper is an analysis of the submissions received, and a summary of the changes that Gas Industry Co intends to make to the proposed arrangements in light of submissions.

1.2 Submissions on the August 2007 consultation paper were received from seven submitters including retailers, transporters and one end user (Methanex).

1.3 Two broad categories of issues were canvassed in submissions:

a) Issues of principle – whether the 'problem' has been correctly identified, and whether alternative solutions to mandatory regulations might be feasible;

b) Implementation issues – assuming mandatory regulations are appropriate, whether detailed design of the arrangement can be improved.

Issues of Principle

1.4 Genesis raised a number of high level concerns. In particular, it questioned whether the stated problems were the 'root cause' issues, and expressed concern that mis-identification of these issues would lead to the wrong solution. Mighty River Power expressed similar concerns, commenting that "while there seems to be general agreement that mandatory arrangements should be put in place this does not abrogate the need for a proper specification of the problem definition (identification of market failures)".

1.5 Gas Industry Co believes these issues were addressed in the process which began in 2006, and culminated in the preparation of the Statement of Proposal. Nonetheless, given the concerns expressed by Genesis and Mighty River Power, Gas Industry Co considers it worthwhile to restate its views on these issues.

1.6 The first point to emphasise is that Gas Industry Co believes that reliance on normal commercial incentives is generally the best means to ensure security of supply. Put another way, Gas Industry Co supports the use of price-based mechanisms/free bargaining as the preferred means of allocating gas in most situations.

1.7 However, Gas Industry Co also considers that *exclusive* reliance on this approach is not optimal from a security perspective, because there are a number of issues which mean that the outcome of 'trading' will not necessarily be optimal from an economy-wide view. In other words, there are grounds for believing that various forms of "market failure" could occur.

1.8 These issues include:

- Misalignment of incentives – the cost of an uncontrolled outage and system relight could be very large – perhaps $250m or more based on the estimated costs from the Longford outage in Victoria. The parties who are likely to bear the greater part of this cost will generally not be the same as those making gas trading decisions in the heat of a gas contingency;

- Asymmetric information – timely information about the effect of the contingency on supply, and the behaviour of users is needed for parties to form reasonable views about the relative scarcity/value of gas. The facts can change rapidly, and it is difficult to gather and distribute this information in an even-handed and timely manner; and

- Perverse incentives – situations can exist where parties have a perverse incentive. For example, in a 'market-only' environment, a large gas user in a sensitive sector might deliberately use more gas than it is contractually entitled to, and seek to mitigate the adverse financial consequence by appealing for political intervention.

1.9 Compounding these issues, the ability of parties to allocate gas through trading is hampered by the short time period over which major action can be required. For example, an extreme situation could develop within 70 minutes of a major contingency. This leaves little time for participants to gather information, assess options, communicate with other parties to trade gas, and put plans into action.

1.10 To address these issues, Gas Industry Co believes it is important to put effective backstop arrangements in place.

1.11 MDL was the only party to recommend a completely different alternative to the arrangements in the Statement of Proposal. MDL proposed that the existing commercial arrangements contained in the MPOC (and Vector Transmission Code - VTOC) be used, with modifications to make certain aspects mandatory. While Gas Industry Co concurs with the thrust of MDL's submission that commercial arrangements should be left undisturbed as far as possible, it does not agree that involuntary curtailment of consumers can be directed through the MPOC/VTC processes alone. Gas Industry Co has this view for the following reasons:

- the MPOC/VTC processes are separate and only deal with their respective pipelines;

- the proposed arrangement is more comprehensive than that recommended by MDL;

- it is not clear whether MDL's proposal would address Maui legacy gas issues; and

- there is legal uncertainty as to whether Gas Industry Co could recommend regulations that compel MDL/Vector customers to comply with instructions issued under MPOC/VTC.

1.12 The other key area of concern for some submitters was the proposed wording of the regulatory objective.

1.13 To address concerns about potential ambiguity, Gas Industry Co intends to amend the regulatory objective as follows:

> *"~~that arrangements are in place~~ to achieve effective handling of a national or regional gas contingency without compromising long-term security of supply".*

Implementation Issues

1.14 A number of detailed comments on aspects of the arrangements were received. Following analysis of the submissions received Gas Industry Co is recommending changes in the following areas:

- Terminology used - Gas Industry Co sees merit in adopting a term that clearly distinguishes events triggered under an OCMP from situations handled through MPOC or VTC. The term proposed is *critical gas contingency*. There are a number of inconsistencies between the OCMR and the recently released draft regulations for transmission access, e.g. "*transmission network owner*" vs. "*transmission system owner*". The OCMR will be revised to match transmission access

- Imbalance calculations - Gas Industry Co intends that the details of these processes will be developed, with input from the industry, after a recommendation has been made to the Minister and finalised once the regulations have been approved. It also expected that existing systems/processes will be used wherever possible, for reasons of efficiency. Gas Industry Co believes this can best be achieved by requiring TNOs to address this issue in their OCMPs. The detail would then be exposed to industry scrutiny through the consultation process;

- Contingency pricing – Gas Industry Co recommends that the hierarchy of factors in the Statement of Proposal should be replaced with an overarching principle that needs to be achieved, that: "*the gas contingency price must be set at a level that reflects the price that would be established by an efficient short-term market that allocated scarce gas resources to the highest value uses during the contingency*". The current weighting given to the individual factors used to determine the contingency price would be removed;

- Cost Recovery – Gas Industry Co will reconsider the way in which the upfront development and establishment costs are recovered. In particular, it will look into introducing an efficient financing arrangement which may spread the costs

over three years. However, given the restrictions around funding in the Gas Act, such an arrangement is unlikely to be feasible;

- Information provision – the intent of the regime is that there would be two-way information flows between the GCO and participants. Gas Industry Co acknowledges that the current draft is ambiguous on this matter, and will amend the policy design (and draft regulations) to clarify this point; and

- Avoiding deadlock in preparation of OCMPs - submissions have highlighted the potential for a deadlock to arise in the development of OCMPs, if the TNO/GCO and Gas Industry Co cannot agree. Gas Industry Co intends to give this issue further consideration, and review whether there is an alternative allocation of decision rights among the relevant parties that still ensures strong input from the TNO and GCO, but reduces the potential for the process to become deadlocked.

Next steps

1.15 It is intended to work through the key issues at an industry workshop which will be scheduled for late-November. Assuming an acceptable level of support for the revised approach, the next step will be to consult on the revised draft regulations. Gas Industry Co expects to be in a position to issue a short-form consultation paper in December and seek submissions in early February 2008.

1.16 Taking into account feedback from submissions, the requirement for any further drafting, and gaining internal approvals, it would be reasonable to assume that a recommendation could be made to the Minister in either March or April 2008.

2 Introduction

Background

2.1 Currently, the National Gas Outage Contingency Plan (NGOCP) is the key industry arrangement dealing with risks relating to security of supply. The NGOCP is a voluntary arrangement between industry participants, and does not impose any enforceable obligations on any industry participant.

2.2 It is commonly recognised that the NGOCP is no longer appropriate and that it does not provide the degree of certainty that is necessary to cope with a gas security contingency[1].

2.3 Accordingly, the Gas Industry Co was asked to assist industry participants to develop a more appropriate set of arrangements that would address the deficiencies identified with the current arrangements.

2.4 The arrangements proposed by Gas Industry Co are intended to replace only those functions of the NGOCP which are regarded as inadequate. For example, the proposed arrangements are intended to complement rather than supplant the commercial mechanisms in existing transmission codes which are designed to manage gas contingencies (for example the provisions to address a "Contingency Event" under MPOC). It is only if commercial mechanisms fail to arrest a decline in linepack that the proposed arrangements would be triggered to curtail demand where necessary to achieve stabilisation.

2.5 Gas Industry Co began a process to consider outage and contingency arrangements some time ago, through discussions at the Wholesale Markets Working Group, release of a discussion paper in July 2006, and consideration of submissions. This process identified the key issues that need to be addressed to establish an effective outage and contingency management regime, including the central issue of ensuring the arrangement could be enforced (i.e. voluntary compliance is not sufficient).

The proposal

2.6 Gas Industry Co concluded that the only practicable means of making outage and contingency management arrangements mandatory, and to remove doubt about compliance with the arrangements during a contingency, is to implement them within a framework of regulations (and/or rules) under the Gas Act.

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[1] See for example, section 5 of "*Statement of Proposal—Gas Outage and Contingency Management Arrangements*" available on the Gas Industry Co website: www.gasindustry.co.nz.

2.7 Gas Industry Co developed a proposal based on Outage and Contingency Management Regulations (OCMRs). The approach combines the application of regulations with a requirement for industry participants to develop much of the detailed planning and arrangements to apply during a gas contingency. Thus the proposal represents somewhat of a hybrid between a fully regulated set of arrangements and a pan-industry agreement.

2.8 The OCMRs will set out the roles and responsibilities of participants; define powers to direct certain actions during a gas contingency; and require the Transmission Network Owners (TNO) to develop Outage and Contingency Management Plans (OCMPs). The OCMPs will be developed by the TNOs in consultation with all affected stakeholders.

2.9 Gas Industry Co also hosted a workshop on gas contingency arrangements, and held meetings with a number of industry participants. Feedback from these sessions was incorporated in the policy design process.

2.10 Gas Industry Co has developed a set of proposed arrangements and draft Outage and Contingency Management Regulations. In August 2007 these were published in the Statement of Proposal for Gas Outage and Contingency Management Arrangements and issued for consultation with stakeholders. This paper is an analysis of the submissions received from industry stakeholders.

Structure of this Paper

2.11 The paper is structured as indicated below.

Section		Key Points
3	Overview of submissions	• Submissions received from seven submitters • Two broad categories of issues
4	Issues of principle	• Nature and extent of problem with current arrangements issues raised by Genesis and Mighty River Power • Reasoning behind the need for Gas Contingency Arrangements revisited • Range of feasible solutions – new alternative put forward by MDL. However, Gas Industry Co does not consider it to be a reasonably practicable alternative • Regulatory objective amended to remove possible misinterpretation

Section		Key Points
5	Implementation issues	• Assumes issues of principle have been settled • Comments received on the detail of the arrangements • Gas Industry Co making a number of minor changes to the recommended approach in the areas of: terminology, determination of imbalances, gas contingency price, cost recovery and information provision
6	Next steps	• Make the changes identified to the recommended approach • Hold industry workshop to test revised approach • Issue “Decision Paper” for consultation on revised regulations • Proceed with a recommendation to the Minister

3 Overview of submissions

List of Submitters

3.1 Submissions on the August 2007 consultation paper were received from:

- Contact Energy Ltd (Contact);
- Genesis Power Ltd (Genesis);
- Maui Development Ltd (MDL);
- Methanex New Zealand Ltd (Methanex);
- Mighty River Power Ltd (Mighty River Power);
- NovaGas Gas Ltd (Nova); and
- Vector Ltd (Vector)

3.2 The submitters can be grouped according to their involvement in the different parts of the supply chain and this is shown in Table 1.

Table 1 – Summary of submitters

Retailers/Shippers	Transporters	Consumers
Contact	MDL	Methanex
Genesis	Vector	
Mighty River Power	Nova	

3.3 Gas Industry Co thanks those involved in compiling these submissions.

Categories of Issues Identified in Submissions

3.4 Two broad categories of issues were canvassed in submissions:

a) Issues of principle – whether the 'problem' has been correctly identified, and whether alternative solutions to mandatory regulations might be feasible. These issues are addressed in Section 4; and

b) Implementation issues – assuming mandatory regulations are appropriate, whether detailed design of the arrangement can be improved (discussed in section 5).

3.5 The following sections address each of the categories in turn.

4 Issues of principle

Nature and extent of problem with current arrangements

What was said in the Statement of Proposal

4.1 The paper identified four key problems that need to be addressed in order to establish an effective outage and contingency management regime and for each problem the paper described the reasons that the problem was significant and needed addressing. In summary the four key problems identified were:

- NGOCP is not mandatory;
- NGOCP is not suited to the post-Maui era;
- Lack of legal clarity to manage contingencies; and
- Inadequate commercial arrangements during contingencies.

4.2 Submitters were asked if the four problems described in the paper were key issues that need to be addressed in any new arrangements for outage and contingency management, and whether there are other key problems with the current arrangements that also need to be addressed.

What the submissions said

4.3 There was general (but not unanimous) agreement that the four problems identified need to be addressed. Submitters also suggested a number of additional detailed issues to address (discussed in Section 5).

4.4 However, Genesis also raised higher level concerns. It questioned whether the stated problems were the 'root cause' issues, and expressed concern that mis-identification of these issues would lead to the wrong solution. Mighty River Power expressed similar concerns, commenting that "while there seems to be general agreement that mandatory arrangements should be put in place this does not abrogate the need for a proper specification of the problem definition (identification of market failures)".

Gas Industry Co response

4.5 In effect, Genesis and Mighty River Power appear to be saying that there is a prior question—*what is the market failure that prompts the need for creation of mandatory curtailment powers*—which has not been addressed in the analysis to date.

4.6 Gas Industry Co does not accept that this is the case and believes the issue has been considered as part of the development process reaching back to 2006. However, Gas Industry Co would acknowledge that the Statement of Proposal is relatively succinct on this issue, stating that: "the NGOCP recognises (at least

implicitly) that turning off mass-market consumers and essential service providers represents a potentially higher cost to the economy and/or a protracted gas restoration process" than a mandated curtailment process. Furthermore, the language used in the Statement of Proposal is not expressed in terms of "market failures".

4.7 Given the concerns expressed by Genesis and Mighty River Power, it is worth traversing this issue.

4.8 The first point to emphasise is that Gas Industry Co believes that reliance on normal commercial incentives is generally the best means to ensure security of supply. Put another way, Gas Industry Co supports the use of price-based mechanisms/free bargaining as the preferred means of allocating gas in most situations.

4.9 However, Gas Industry Co also considers that *exclusive* reliance on this approach is not optimal from a security perspective, because there are a number of issues which mean that the outcome of 'trading' will not necessarily be optimal from an economy-wide view. In other words, there are grounds for believing that various forms of "market failure" could occur.

4.10 These issues include[2]:

- Misalignment of incentives – the cost of an uncontrolled outage and system relight could be very large – perhaps $250m or more based on the estimated costs from the Longford outage in Victoria[3]. The parties who are likely to bear the greater part of this cost will generally not be the same as those making gas trading decisions in the heat of a gas contingency. Nor is it easy to align the incentives of decision makers through contractual mechanisms, so as to ensure they make the best 'choice' for end-users. In particular, the cost of a system relight would be likely to fall mainly on small gas users, as these are the most expensive parties to re-energise[4]. It is impractical for these parties to participate in a price-based rationing mechanism in real time, or for them to signal the individual value of security through their supply contracts[5];

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2 In economic parlance, these are agency problems, information asymmetry, and moral hazard.

3 The Longford Gas Plant accident and Victorian gas supply interruption in 1998 lasted for 19 days and supplies of natural gas to domestic and industrial users were halted. Approximately 1.3 million households and 89,000 businesses were affected. It was estimated that the total cost to industry and commerce was AU$1,300 million (source : Emergency Management Australia Disasters Database). A simple estimate based on customer numbers would suggest a cost of approximately $250m for a similar system wide interruption in New Zealand. No allowance has been made for inflation or exchange rates, both of which would tend to increase this estimate.

4 Gas lines need to be purged, and service restored on a progressive basis across the network. The generally requires the installation of a large number of new isolation valves on the network (involving excavation), and a door-to-door relight.

5 In theory, contracts could place the cost of relight on gas retailers (customers would still pay over time of course through the purchase price). However, the small probability/extreme cost nature of these events means that retailers may simply protect themselves through other mechanisms, such as limited liability trading entities.

- Asymmetric information – timely information about the effect of the contingency on supply, and the behaviour of users is needed for parties to form reasonable views about the relative scarcity/value of gas. The facts can change rapidly, and it is difficult to gather and distribute this information in an even-handed and timely manner. This can act as a barrier to contracting in a contingency situation, as parties apply a premium for uncertainty. The issue is especially marked where some parties are perceived to enjoy a privileged position, either because of their access to information, or the large effect their actions can have on supply-demand balance; and

- Perverse incentives – situations can exist where parties have a perverse incentive. For example, in a 'market-only' environment, a large gas user in a sensitive sector might deliberately use more gas than it is contractually entitled to, and seek to mitigate the adverse financial consequence by appealing for political intervention. This type of behaviour is witnessed in other markets[6].

4.11 Even if these issues did not arise, there is a further practical issue. A loss of supply can require a very short response time. Consider the extreme situation where a total loss of gas supply into the transmission system occurred on a day of peak demand (i.e. winter)[7]. As shown in Figure 1, if large loads did not react, there would be approximately 70 minutes between the point at which a Phase 1 Contingency is triggered and curtailment of load connected to the transmission network is required, and a further 60 minutes before curtailment of load on reticulated networks is required.

4.12 The figure also shows that curtailing demand in a managed fashion can more than double the number of hours of supply that the linepack can cover under average demand conditions.

4.13 It is also worth remembering that it can take hours to establish exactly what has caused a disruption, and assess how long it can take to remedy the problem. In this period users would be expected to form views on the current and future value of gas, and make appropriate trading decisions.

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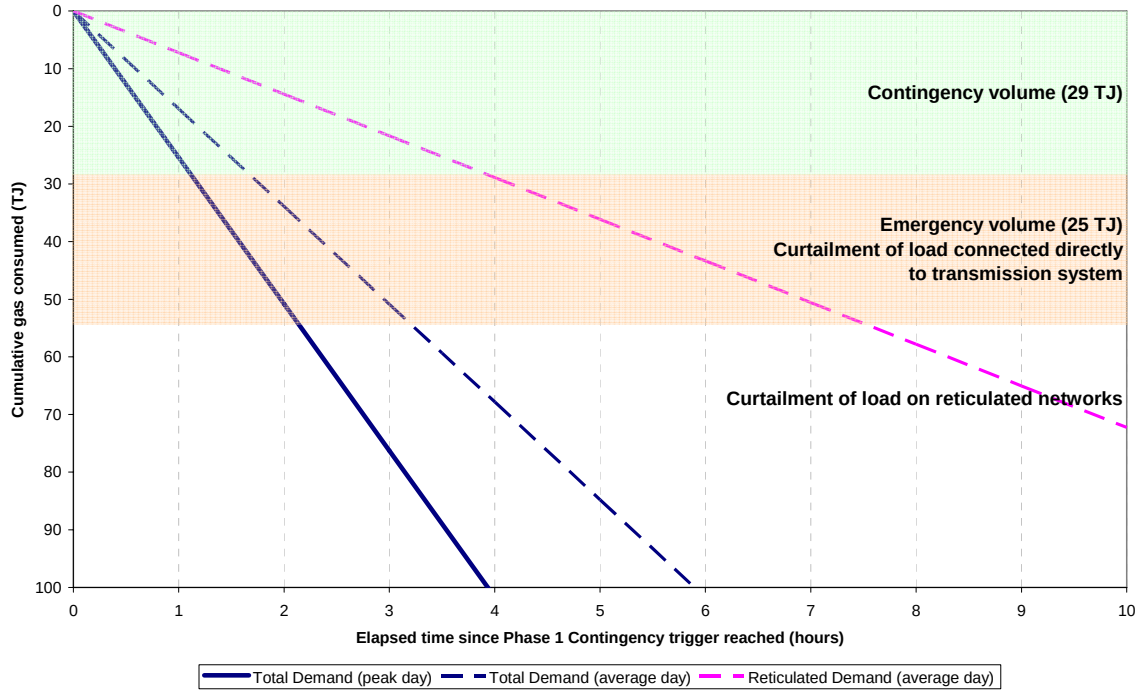
6 For example, some commentators have argued that participants in the US sub-prime mortgage market have taken the view that if the problem is large enough, the Federal Reserve will need to act in a way that reduces their losses – the so-called 'Bernancke Put'.

7 With gas being supplied from different fields into multiple points in the transmission system, a partial loss is a more likely scenario, but this could still disrupt over 50% of the total supply. Furthermore, a natural disaster such as an earthquake could temporarily disrupt supply, due to plant tripping etc.

Figure 1 – Depletion of linepack



Assumptions: 1. Average day based on annual volumes for 2006 (from EDF). 2. Peak day based on flows on MDL pipeline on 20/06/07 + 1/365*annual production for Kapuni and Rimu/Kauri in 2006 (from EDF). 3. Hourly flow is 1/24 of daily flow.

4.14 There is no doubt that improving institutional arrangements to facilitate trading can help to avoid a situation where mandatory curtailment would be required[8]. Nonetheless, it is unrealistic to believe that total reliance on gas trading alone will be sufficient to provide appropriate assurance for the foreseeable future.

4.15 Finally, Gas Industry Co is mindful that the issues faced in New Zealand are not unique to this market. It has considered the approaches adopted in a range of other gas jurisdictions to provide a 'reality check' on its thinking. In particular, it has looked at whether other jurisdictions have adopted market-only approaches, or supplemented these with 'backstop' arrangements which provide for mandatory curtailment of demand where market mechanisms do not arrest a contingency.

4.16 The results of this review are summarised in Table 2.

8 For example, the development of a platform to facilitate wholesale gas trading is being facilitated by Gas Industry Co.

Table 2: Nature of contingency arrangement

Market	Contingency Arrangement
Victoria – gas	Market suspended, with compulsory load shedding applying twelve curtailment bands under direction from VENCorp
New South Wales – gas	Suspension of nomination process. Each system operator has a detailed emergency plan including load shedding procedures and priorities
United Kingdom – gas	Market suspended, with compulsory load shedding applying three curtailment bands under direction of the Network Emergency Coordinator
Ireland – gas	Market suspended with compulsory load shedding applying six curtailment bands under direction of the Network Emergency Manager
New Zealand - electricity	Market mechanism, with compulsory load shedding (via automatic circuit breakers) if frequency falls below pre-defined level Note that electricity networks are more easily re-energised than gas networks

Regulatory objective

What was said in the Statement of Proposal

4.17 The GPS states at paragraph 5(h) that consistent with its overall policy objective for the gas industry, the Government is seeking some specific outcomes, including:

> *"risks relating to security of supply, including transport arrangements, are properly and efficiently managed by all parties".*

4.18 The review of gas outage and contingency arrangements is consistent with the outcomes specified in the GPS. Having a robust set of processes in place to appropriately deal with risks relating to the security of gas supply (including transport arrangements) is an essential part of optimising the security of supply of gas and the overall efficiency of the gas sector (including the supply to large and small end-users).

4.19 The paper proposed the following regulatory objective:

> *"that arrangements are in place to achieve effective handling of a national or regional gas contingency without compromising long-term security of supply".*

What the submissions said

4.20 Mighty River Power felt that the proposed wording confused objectives with solutions. It stated that "…if the objective is to have arrangements in place to handle national or regional gas contingencies the solution is to put arrangements in place to handle national or regional gas contingencies. This is the case, regardless of whether it is desirable to put such arrangements in place, and regardless of whether such arrangements would promote the Government's overall policy objective for the gas industry".

4.21 Genesis also expressed concern about the objective, commenting that "the statement of proposal frames the reasonably practicable options as a choice between different means of implementing near-identical policy". Genesis considered that this unduly constrained the range of feasible solutions.

4.22 Other submitters (Contact, MDL, Methanex, NovaGas, Vector) appeared to support the thrust of the proposed objective, but commented that:

- references to efficiency, safety and reliability should be added, and the reference to long-term security be deleted (Contact);
- a reference to efficiency be added (MDL);
- the reference to long-term security be clarified or deleted (Methanex); and
- the reference to long-term security be deleted (Vector).

Gas Industry Co response

4.23 Dealing first with the concerns expressed by Genesis and Mighty River Power, Gas Industry Co does not believe that the proposed objective is 'circular'. In particular, it is not correct to say that putting in place *any* arrangement to handle national or regional gas contingencies would satisfy the proposed regulatory objective.

4.24 That interpretation appears to ignore the word "effective", and the clause "without compromising long-term security of supply". That said, Gas Industry Co believes that a misinterpretation may have occurred because of the inclusion of the words "that arrangements are in place". Given that the focus should be on what the arrangements are designed to achieve, these words could probably be deleted without losing the intent of the objective.

4.25 Turning to the other suggestions, Gas Industry Co believes the reference to not "compromising long-term security of supply" is important. It was added because poorly designed arrangements could increase the risk of gas contingencies. For example, an arrangement that did not provide a proper pricing mechanism for cashing out imbalances could create perverse incentives.

4.26 As regards the inclusion of other considerations such as efficiency, reliability and safety, Gas Industry Co would agree that these are important, but believes that the

current wording should ensure that the arrangements contribute to their attainment. For example, a focus on longer-term security should contribute to efficiency (through incentive effects), safety and reliability. Furthermore, if extra considerations are to be added to the definition, it begs the question of why not all the elements of the Government's current policy objective which is to "ensure that gas is delivered to existing and new customers in a safe, efficient, fair, reliable, and environmentally sustainable manner".

4.27 Gas Industry Co has considered this alternative, and believes that it would dilute the focus on contingency management.

4.28 With all of these considerations in mind, Gas Industry Co proposes to amend the regulatory objective as follows:

> *"~~that arrangements are in place~~ to achieve effective handling of a national or regional gas contingency without compromising long-term security of supply".*

Range of feasible solutions

What was said in the Statement of Proposal

4.29 The paper identified three main options to implement outage and contingency management arrangements:

- Continuation of the status quo;
- A multi-lateral (or pan) industry agreement; and
- Rules or regulations under the Gas Act.

4.30 The paper indicated that the status quo was not effective because it did not provide sufficient assurance of compliance. A multi-lateral (or pan) industry agreement was also rejected, because of the difficulties of obtaining unanimous agreement from all parties, or implementing a boycott arrangement.

4.31 On this basis, rules or regulations was chosen as the preferred option.

What the submissions said

4.32 Most submitters endorsed the preferred option (Contact, Methanex, NovaGas, Vector), but some commented on aspects of detail (these issues are discussed in Section 5).

4.33 Genesis disagreed, saying the conclusion could not be reached from the problem definition (see earlier section).

4.34 MDL was the only party to recommend a completely different alternative. MDL proposed that the existing commercial arrangements contained in the MPOC be used, with modifications to make certain aspects mandatory:

> *"MDL's view is that the existing contingency arrangements in the Maui Pipeline Operating Code (MPOC) and Vector Transmission Services Agreement (Vector TSA) could be used to effectively manage GCs, subject to some minor contractual amendments and buttressed by limited regulation where necessary to ensure the arrangements work well in practice."*

4.35 In essence, MDL proposes that a Gas Contingency Operator is not required to manage a gas contingency. Instead, MDL would be given mandatory backing to enforce compliance with the MPOC.

Gas Industry Co response

4.36 While Gas Industry Co concurs with the thrust of MDL's submission that commercial arrangements should be left undisturbed as far as possible, it does not agree that involuntary curtailment of consumers can be directed through the MPOC/Vector Transmission Contract (VTC) processes alone. Gas Industry Co has this view for a number of reasons:

- the MPOC processes only deal with the MDL pipeline. Similarly, the VTC only deals with the Vector system. Given the degree of interconnection between the systems, it not clear that separate 'curtailment' controllers would be desirable or workable;
- the proposed arrangement is more comprehensive than that recommended by MDL. In particular, under MDL's proposal, customers who are not directly connected to a gas transmission line could not be directed to curtail, whereas they could (via their shippers) under the proposed regulations;
- a complicating factor is the ability of legacy gas holders to make retrospective nominations under the MPOC;
- Shippers may also be exposed to legal claims from their end-users to the extent that they curtailed gas supply, even though their own gas supply is unaffected; and
- Gas Industry Co does not consider that the Gas Act gives it the power to recommend regulations which provide for third parties to enforce contractual powers or obligations.

4.37 For these reasons, Gas Industry Co does not consider the MDL proposal to be a practicable alternative. Having said that, MDL would be required to prepare an Outage and Contingency Management Plan (OCMP) under the proposed regulations, and Gas Industry Co envisages that elements of MDL's proposed approach could be usefully incorporated in the OCMP for the Maui system.

Benefits of proposal compared with counterfactual

What was said in the Statement of Proposal

4.38 The Statement of Proposal stated that the only reasonably practicable alternative to the proposal is to fully prescribe the detail proposed to be contained in the Outage and Contingency Management Plans in regulations and/or rules. The key advantage of the proposal is that the scope for including industry expertise and experience on the operational details is maximised.

4.39 Submitters were asked if they agreed that the benefits of the proposal are materially higher than the benefits of the counterfactual.

What the submissions said

4.40 The majority of the submitters agreed that the benefits of the proposal were higher than the counterfactual (Contact, Methanex, NovaGas and Vector). MDL stated that the benefits were untested and in any case favoured its proposal. Genesis did not believe that the cost benefit analysis usefully discriminated between the two options. Mighty River Power could not conclude the benefits were material due to the difficulty in assessing the different options in a quantitative manner.

Gas Industry Co response

4.41 Gas Industry Co believes that the benefits from including industry expertise and experience on the operational details will be significant.

Development of draft regulations

What was said in the Statement of Proposal

4.42 The Statement of Proposal included draft Outage and Contingency Management Regulations as an attachment.

What the submissions said

4.43 Some submitters expressed concern that Gas Industry Co had prepared draft regulations at this point of the process. They felt this could indicate an element of pre-determination.

4.44 For example, Genesis stated that "*combining consultation on draft regulations with consultation on substantive policy issues is not an ideal approach*". Mighty River Power commented that it was concerned that the paper is bundling the "*specification of the policy options that the GIC considers to be practicable and identification of the GIC's preferred policy option, with full specification* [draft regulations etc] *of the GIC's preferred option for implementation*".

Gas Industry Co response

4.45 Gas Industry Co acknowledges the concerns raised by Genesis and Mighty River Power, but does not believe they reflect the full picture.

4.46 Firstly, it is not correct to imply that the policy design embodied in the Statement of Proposal and the Regulations have been developed in parallel. The policy has been progressively developed since mid-2006, when the discussion paper on "Review of Gas Emergency Arrangements" was published.

4.47 Furthermore, a major workshop on the proposed design of contingency management arrangements was held in May 2007. This was open to interested parties, and much of the feedback received in that session and subsequent dialogue has been influential in shaping the Statement of Proposal.

4.48 Given the broad level of support expressed in the workshop, and the desire of many participants for more detail, Gas Industry Co considered that the preparation of draft regulations could usefully commence.

4.49 Secondly, Gas Industry Co's previous experience has been that it is often hard for some submitters to form clear views on proposals until they are expressed in a tangible form. This was one of the major motivations for including draft regulations in the Statement of Proposal.

4.50 Thirdly, and perhaps most importantly, Gas Industry Co is required to work within the strictures of the Gas Act. Having concluded that a mandatory set of arrangements is required, it is essential that the design of the arrangements fits within what is feasible under the Act. Drafting the regulations is a very efficient means of testing that feasibility.

4.51 Finally, the publication of draft regulations does not indicate that Gas Industry Co has a closed mind on any of the design issues. Indeed, in light of feedback from submitters, Gas Industry Co is intending to make modifications to a number of elements contained in the proposal.

5 Implementation issues

5.1 The previous section focused on the high level questions associated with the proposed arrangements – for example, whether a compulsory arrangement is required, and if so, what mechanism should be used.

5.2 In contrast, this section concentrates on implementation issues raised in the Statement of Proposal, assuming the issues of principle have been settled.

Definition of a Gas Contingency

What was said in the Statement of Proposal

5.3 The Statement of Proposal suggested that the circumstances which should trigger a gas contingency were limited to those where pressure was falling and/or line-pack was being depleted to the extent that, if there was no intervention, it was likely that at some future point gas supplies would effectively run out and customers would be curtailed in an unmanaged fashion.

5.4 This led to the proposed definition for a Gas Contingency in the Statement of Proposal:

> *"Whenever there is a need to intervene in the normal commercial arrangements in order to secure the operation of the gas supply system as a whole".*

5.5 The corresponding definition in the draft regulations was:

> *"The gas contingency operator must make a determination that there is a gas contingency if either:*
>
> *(1) One or more of the thresholds included in an outage and contingency management plan pursuant to regulation 24(1) is breached; or*
>
> *(2) The gas contingency operator has a reasonable expectation that a breach of one or more of the thresholds included in an outage and contingency plan pursuant to regulation 24(1) is imminent."*

What the submissions said

5.6 Comments on the proposed definition fell into two broad categories.

5.7 A number of submitters (Contact, NovaGas) considered that an objective physical trigger should be incorporated in the definition, such as the number of hours of linepack remaining, or the level of pressure in the pipeline. Contact also noted the difference between the definition in the Statement of Proposal and the draft regulations.

5.8 The other key issue raised was the potential ‘confusion’ that could arise if the definition is different to that used in the MPOC and VTC. Both MDL and Vector felt that it would be desirable to achieve consistency as far as possible.

5.9 Vector also considered that the definition of Gas Contingency could be broader to encompass “anything that threatens the safety of the gas transmission system”, e.g. loss of odorisation on the system, injection of non-specification gas and/or a terrorist attack.

Gas Industry Co response

5.10 The first point to note is that the difference in definitions between the Statement of Proposal and the draft regulations was deliberate. The former is expressed in terms of higher level policy intent, whereas the latter is more detailed reflecting the need to be more legally prescriptive.

5.11 In respect of the Contact/NovaGas comments, it is not entirely clear what is being requested. If it is that a quantitative trigger be used, this is provided for in the OCMPs and in the proposed definition within the draft regulations. Alternatively, Contact/NovaGas may be uncomfortable with the proposition that these triggers be specified by TNOs in the relevant OCMP, and they may be seeking a more centralised level of prescription.

5.12 This concern might be motivated by a fear that TNOs have mixed incentives in setting thresholds. If this is the concern, Gas Industry Co believes that it should be dealt with through the checks and balances applying to the development of OCMPs. In particular, it notes that before an OCMP comes into force, it must be consulted upon, recommended by the GCO, and approved by the Gas Industry Co.

5.13 Linepack is a service provided by the TNO and paid for by its users. The setting of the threshold levels is a trade-off between providing sufficient inventory to adequately buffer supply shortages and needlessly holding back quantities of gas in reserve. The threshold is not set in the Regulations. Instead the ‘right’ level for the threshold will be a matter for determination by TNOs in light of customer views. Gas Industry Co notes that the threshold levels may vary across the transmission networks, and vary over time (for example if there were a change in pipeline operating pressure or in response to different levels of throughput).

5.14 Turning to the question of consistency between MPOC/VTC and the OCMRs, Gas Industry Co does not believe that consistency is necessary, or even desirable. The reason for this view is that the declaration of a Gas Contingency under the OCMRs is intended to be a backstop measure, and only occur after normal processes under MPOC and VTC have failed to arrest a major deterioration in linepack.

5.15 As a result, it would be undesirable for a gas contingency or "contingency event" under the MPOC or VTC to automatically trigger a Gas Contingency under the OCMR[9].

5.16 Gas Industry Co therefore believes that a common definition is not appropriate. Furthermore, Gas Industry Co sees merit in adopting a term that clearly distinguishes events triggered under an OCMP from situations handled through MPOC or VTC. The term proposed is *critical gas contingency*.

5.17 Finally, Vector proposed that the GCO be permitted to invoke its powers for reasons other than major deterioration in linepack and impeding uncontrolled demand curtailment.

5.18 Gas Industry Co favours retention of the narrow scope of powers because it appears that the scenarios raised by Vector can all be managed through other processes. In particular:

- If an event is confined to a distribution network, it would not have an effect on the "wholesale market" for gas, and the powers of the distribution company to manage safety covered under other sections of the Gas Act should apply;
- If an event were a terrorist attack, there are powers under the Civil Defence and Emergency Management Act (CDEMA) pertaining to lifeline utilities which would presumably be invoked;
- If an event stemmed from the injection of non-specification gas, this should be handled under the existing codes and a gas contingency would only be triggered under an OCMP if it arose as a consequence of managing the non-specification gas incident; and
- If an event occurs related to over pressurisation, this should be handled under existing industry codes rather than under Gas Contingency arrangements, since over pressurisation raises different issues from a public policy perspective.

Level of discretion for Gas Contingency Operator

What was said in the Statement of Proposal

5.19 The Statement of Proposal set out the proposed responsibilities of the Gas Contingency Operator. In broad terms, these would be :

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[9] Gas Industry Co notes that the term "Gas Contingency" is not defined under the MPOC, but "Contingency Event" is defined "an event or circumstance that MDL believes, acting as a Reasonable and Prudent Operator, has detrimentally affected Transmission Services or depleted Line Pack to an unacceptable level, or could do so, and includes an Emergency".

- Reviewing and recommending approval of TNO OCMPs;
- Testing plans and procedures;
- Declaring a Gas Contingency and operating the affected system through that period; and
- Managing restoration process, and terminating a Gas Contingency.

5.20 In general, the Gas Contingency Operator will be limited to implementing the provisions in each OCMP. However, it was also proposed that the Gas Contingency Operator would have the power to take any other action necessary to ensure the effective management of a gas contingency. This provision was included to avoid a situation where the Gas Contingency Operator is unable to implement a sensible/necessary action simply because it is not in the relevant OCMP.

What the submissions said

5.21 Most submitters supported the proposed list of responsibilities for the Gas Contingency operator (albeit with some detailed additional suggestions). MDL was the only party to express significant concern, stating that the role itself was unnecessary. This reflects MDL's overall view that the bolstering MPOC/VTC with some regulatory backing is the preferred path forward (see paragraph 4.34 and following for discussion on this point).

5.22 Most submitters (Contact, Genesis, Methanex, NovaGas, Vector) expressed support for providing the GCO with some flexibility. Genesis also noted that this needs to be accompanied by appropriate accountabilities and transparency arrangements.

5.23 MDL expressed concern at the level of discretion, and suggested that, at a minimum, it should be required to meet the standard of a reasonable and prudent operator.

Gas Industry Co response

5.24 Gas Industry Co agrees that the level of discretion given to the GCO needs to be balanced by the requirements for transparency and accountability.

5.25 Gas Industry Co believes that the OCMRs provide a balance on the discretion of the GCO by requiring the GCO to report on each Gas Contingency, and through the intended provisions of the service provider agreement.

Interface between normal arrangements and Gas Contingency

What was said in the Statement of Proposal

5.26 The proposed arrangements are intended to preserve the incentives for the industry to comply with arrangements under the normal operation of the

transmission systems prior to a Gas Contingency. The early warning arrangements that are triggered at phase 1 of the NGOCP arrangements should be preserved within the normal commercial arrangements and be unaffected by the new arrangements. One particular aspect which has been discussed at the industry workshop was the potential that the contingency price could have on shippers' behaviours prior to a Gas Contingency—in particular shippers should not be incentivised to hold back gas supply in the run up to a contingency.

5.27 The GCO is required to publish a declaration at the start and at the end of a Gas Contingency. Once a Gas Contingency has been declared, the GCO has powers as prescribed under the OCMRs and is required to direct the industry through the period of the contingency. Once a contingency has ended the GCO's powers to direct are removed and the operation of the industry reverts back to the normal commercial arrangements.

5.28 After the gas contingency has been terminated the contract imbalances for each shipper and retailer during the period of the Gas Contingency will be calculated. The process to estimate a consumer's demand will use the standard industry processes modified as necessary to take account of the extent and duration of the actual curtailment that took place during the gas contingency.

5.29 Gas Industry Co appoints an agent to determine the imbalance for each shipper and retailer during the gas contingency. It is intended that the details of the process will be developed, with input from the industry, once the regulations have been approved. It may be that the most appropriate agent is the service provider that performs the standard imbalance calculations on behalf of the industry outside a gas contingency.

What the submissions said

5.30 There were a number of concerns from submitters about the method for the calculation of imbalances, and whether the contingency period calculations will employ the same mechanisms as those used for determining imbalances in the MPOC and VTC, which are done on a daily basis.

5.31 Some submitters queried what happens if a gas contingency commences or ends sometime during a day, rather than at the start of a day. NovaGas suggested that daily allocations should be sufficient for allocation purposes.

5.32 Vector raised the question of how title tracking will occur and how imbalances in linepack quantities will be dealt with.

Gas Industry Co response

5.33 Gas Industry Co acknowledges the concern expressed by submitters over how the arrangements will mesh with the normal arrangements under MPOC and VTC and the detail of how shipper imbalances will be calculated. Furthermore the development work that is ongoing on the arrangements for allocation and

reconciliation will impact on the detail used to calculate shipper imbalances during a Gas Contingency.

5.34 However, the OCMRs are intended to lay down the principles for the calculation of imbalances and are intended to endure beyond any changes to the balancing arrangements.

5.35 Gas Industry Co also recognises that there are temporal and spatial issues surrounding the calculation of imbalances that will need to be further defined. Examples of these two areas are:

- The unit of time used for calculating the imbalances will need to tie in with existing industry practices – it may be that this means the calculation of the imbalance has to be based whole gas days, in which case if a Gas Contingency were to be triggered part way through a day then there would likely be a requirement for intra-day adjustments in the calculation of imbalances.

- If only part of the transmission system were affected by a Gas Contingency, for example in a regional contingency, only the supply system downstream of the incident is likely to be affected by a shortage of gas. The other parts of the transmission system may be unaffected and able to continue to operate under the normal commercial arrangements.

5.36 Another issue that will require resolution is how to handle the change in linepack during a gas contingency. It is likely that the linepack at the start of a Gas Contingency will be different from the linepack at the end of the Gas Contingency implying that either linepack has been depleted to supply end consumers or augmented to store gas in the pipeline.

5.37 Gas Industry Co intends that the details of these processes will be developed, with input from the industry, once the regulations have been approved. It also expected that existing systems/processes will be used wherever possible, for reasons of efficiency. Gas Industry Co believes this may best be achieved by requiring TNOs to address this issue in their OCMPs. The detail would then exposed to industry scrutiny through the consultation process.

Formation of curtailment bands and priority end users

What was said in the Statement of Proposal

5.38 The curtailment schedule contains bands specifying the order for curtailment of consumer demand. During a gas contingency the GCO will direct the curtailment of demand in the order determined by the schedule, to the extent necessary to stabilise the gas transportation network. The schedule has been designed to minimise the net public cost of a curtailment to the economy, whilst prioritising essential service providers and providing for effective management in terms of rapid reduction in the demand for gas.

5.39 The paper started with the curtailment bands contained in the NGOCP and proposed a modification to help better manage the cost of interruption by introducing a category of minimal load consumer. By maintaining an approved minimal supply a minimal load consumer is expected to be able to mitigate the likelihood of serious damage (plant or environmental) for the period that it is winding down the plant, or switching to an alternative fuel. The supply to a minimal load consumer will be maintained but only at the minimum required to avoid plant (or environmental) damage. The minimal load consumer will be expected to have a plan to wind down the plant completely and details of the minimal load and duration of supply are required to be agreed in advance by the retailer and consumer. The supply to a minimal load consumer will be fully interrupted if it proves necessary to move to the next level of curtailment.

5.40 Submitters were asked whether the arrangements for a minimal load consumer should be designed to encourage such consumers to make alternative arrangements, for example by making the classification time-limited.

5.41 The paper included a proposed set of modified bands in which there was a distinction between Major Plant who have an alternative fuel capability and those who do not have an alternative fuel capability. It also proposed that three of the bands contained in the NGOCP be combined into a single band.

5.42 The regulations will also require the Gas Industry Co to undertake a more complete cost-benefit analysis in support of the curtailment bands and propose a replacement set within three years of the start of the new arrangements (or confirm the existing bands if no change is required).

What the submissions said

5.43 Submitters were generally supportive of the changes proposed to the curtailment bands, but had some questions around how the bands might operate.

5.44 Vector asked whether the GCO will maintain discretion as to how load will be curtailed in the event of a contingency, provided that this does not breach any provisions contained within the OCMR and OCMPs.

5.45 Vector suggested that the information that retailers are required to supply to the GCO on numbers and annual volumes of end consumers in each curtailment band should not be necessary below 10TJ. Vector also highlighted the issue of confidentiality of data around the supply of customers.

5.46 Contact and Vector suggested that an independent audit of minimum gas requirements may be needed for minimal load consumers.

5.47 Methanex noted that for many minimal load consumers it will not be practicable to make alternative arrangements and for these consumers it is necessary to continue to provide for a managed shut down of plant.

5.48 Genesis also expressed some concern that the review of curtailment bands effectively locked-in an approach based on implementing curtailment using bands.

Gas Industry Co response

5.49 Gas Industry Co believes that the changes which are proposed to the curtailment bands are a first step in updating the bands designed to minimise the net public cost of a curtailment to the economy, whilst prioritising essential service providers and providing for effective management in terms of rapid reduction in the demand for gas. Gas Industry Co acknowledges that there is further work to do in this area.

5.50 The interaction between the gas industry arrangements and the electricity industry is an important area for development. One area where this might be addressed is in the curtailment bands – Gas Industry Co is involved in a piece of work being led by Contact and involving a wider industry group that is looking at the interactions between the gas and electricity markets at time of curtailment of gas demand. The output from this work might inform the future development of the curtailment bands.

5.51 Gas Industry Co recognises that there is a potential issue over which end users the GCO interrupts, if interruption of the full load within a curtailment band is not required. This issue is most likely to occur within the curtailment band containing Major Plant which has few end users, each of whom consume large quantities of gas. One possible approach would be partial interruption of end users, however, at this stage it is envisaged that partial curtailment could be included in the cost-benefit analysis in support of the curtailment bands that is to be carried out within three years of the start of the new arrangements.

5.52 The provision of information to the GCO from retailers is not intended to be overly burdensome on retailers. Gas Industry Co envisages that the register of consumers used for switching registry would contain information on the curtailment band that each end user is allocated (including categories of minimal load consumers and essential service providers)[10]. The protection of confidential information would be dealt with under the GCO service provider agreement.

5.53 Gas Industry Co proposes to amend the OCMR to include a test for a minimal load consumer that there is no feasible alternative supply arrangement during a gas contingency that is economic, and to require the consumer to have plans to effect an orderly shut-down of plant within a minimum time. The requirement for the minimal load consumer to implement alternative arrangements would be removed. A dispute arising over the categorisation of a consumer as minimal load consumer could if necessary be handled through the compliance and enforcement arrangements.

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[10] The switching rules provide a field in the registry called “Load Shedding Category” for each ICP

5.54 With regard to the review of curtailment bands, Gas Industry Co does not disagree in principle with the Genesis proposition that the scope of the review should not be narrowed unnecessarily. This matter will be reviewed to determine whether there is a formulation which allows greater scope in the analysis. This point is particularly important as the curtailment process is where the regulations will have the greatest impact and the process for approving regulations is designed to ensure that regulations reflect the intentions of the governing Act.

Interaction with gas production

What was said in the Statement of Proposal

5.55 The GCO is required under the regulations to issue a formal notice that a Gas Contingency has been declared to a number of parties including the operators of upstream gas production facilities. During a Gas Contingency the GCO is required to maximise all available opportunities to increase upstream gas production.

5.56 The new arrangements are intended to put commercial incentives in place that appropriately reward any additional supply provided during a Gas Contingency. The commercial incentives will come about in two stages:

- up to the point that a Gas Contingency is declared the incentive for producers to maximise supply comes through the price in the wholesale market; and
- after a Gas Contingency has been declared any additional supply will be recompensed based on the contingency cash-out price through the contingency arrangements. The arrangements provide for payments for additional gas by the shipper or retailer who has received the gas from the upstream producer.

5.57 The legal advice suggests that it is not appropriate for the regulations to direct producers to maximise supply from their assets.

What the submissions said

5.58 Vector said that it would be preferable for there to be powers under the OCMRs that enable the GCO to instruct producers to increase output in the event of a contingency. Vector said that it would be useful for Gas Industry Co to elaborate on why it considers it is not appropriate for regulations to direct producers to maximise supply from their assets in the event of a contingency.

5.59 Several submissions pointed out that with ex post pricing, the gas contingency price would be uncertain and this may not provide sufficient commercial incentives to maximise upstream production.

Gas Industry Co response

5.60 Gas Industry Co had considered the issue of whether producers could be directed by the GCO to maximise supply. It came to the view (similar to other regimes) that

whilst the GCO could request producers for additional supply, it could not direct the producers to perform in a way that it had nothing to measure the performance against. Furthermore the arrangements for payment for the gas would be unclear as the GCO would be directing additional gas to be purchased on behalf of other parties with whom the producers have contracts. The GCO is not a party who can purchase gas.

5.61 Gas Industry Co notes that the approach taken in the Regulations for producers is consistent with that for shippers (shippers are not compelled to maintain flows under their supply contracts). The arrangements were developed to create the commercial incentive for shippers and producers to continue supply and to encourage additional supply during a Gas Contingency. There is an expectation that the contingency price would provide sufficient incentive for this to occur. Gas Industry Co notes that commercial arrangements between producers and shippers for backup supplies should operate in the normal market before a Gas Contingency were declared, and thereby reduce the likelihood of a Gas Contingency developing in the first place. Gas Industry Co also recognises that the incentives for shippers to manage their supply arrangements prior to a Gas Contingency need to be preserved under the new arrangements.

5.62 Gas Industry Co agrees that one advantage of ex ante pricing is that the price can be seen at the time that additional supply is being called and can be weighed up against other options that could potentially available to the shipper. The arrangements for setting the contingency price are looked at below.

Contingency pricing

What was said in the Statement of Proposal

5.63 At the end of 2005 Gas Industry Co commissioned Farrier-Swier Consulting (FSC) to undertake a review of outage and contingency pricing arrangements in other jurisdictions. The paper produced by FSC reviewed a range of possible options and concluded that the most economically efficient way of dealing with the contingency pricing issue was to utilise a “fit for purpose” wholesale market. FSC reasoned that such a market would reallocate gas to its most efficient use in times of scarcity.

5.64 The WMWG considered the FSC paper and was uniformly of the view that:

- it would be difficult in a market as small as New Zealand to develop a “fit for purpose” wholesale gas market; and
- even if it were possible to design and implement such a market, the lead time for doing so is such that an interim solution is required as soon as possible.

5.65 The second best option offered by FSC was an “ex-post fair pricing determination”. Under this option a contingency gas price(s) would be determined “ex-post” based on a defined set of principles. The contingency price would be determined either

by the system operator, an appointed expert or an arbitrator. Payments would subsequently be made and received depending on the net of each party's injections and off-takes.

5.66 WMWG considered that this option offered a reasonable prospect of being able to be implemented within a short period of time which gave it a practical advantage over the wholesale market option. In addition, it was considered that the ex-post option could even have a useful life beyond the implementation of a "fit for purpose" wholesale market (if that option ultimately proved to be feasible) as there could be instances where the wholesale market did not produce acceptable outcomes. In such circumstances the ex-post fair price determination would offer a way to compensate for market failure.

5.67 The paper took the recommendations from the FSC work and proposed a set of arrangements for ex post price determination by an industry expert.

5.68 After a gas contingency has been terminated, an industry expert will be appointed to make a determination of the contingency price that is to be used for the purpose of cashing out imbalances arising during the course of a gas contingency.

5.69 Gas Industry Co will appoint the industry expert from a list of nominees put forward by retailers and shippers. Gas Industry Co has the discretion to make its own nomination if, in its view, none of the nominees is sufficiently independent.

5.70 The contingency price is intended to represent the value of gas at the time of the contingency. To determine the contingency price the industry expert will follow a set of guidelines. The industry expert will have regard to a hierarchy of prices, in descending order of importance these are shown in the table below.

Ranking	Price
1	Gas wholesale market price immediately prior to the gas contingency giving a measure of the marginal value of additional supply, or demand reduction, at the time of the contingency. (It is envisaged that the wholesale market will be suspended when a gas contingency is triggered.)
2	Gas wholesale market price in the 7 days leading up to the contingency. This represents the price for additional supply in advance of the gas contingency.
3	Prices in the wholesale electricity market: in the 7 days leading up to the contingency; prices immediately prior to the contingency and prices during the contingency itself. The electricity price is to be used to impute a gas price taking account of efficiency and cost of emissions (this being the implied marginal value of gas to electricity generation).
4	Economic cost of the curtailment to the end users who had their gas supply curtailed.

5.71 If there is no suitable wholesale gas market then the industry expert will be required to rely on rankings 3 and 4.

5.72 In choosing which prices to use the industry expert is to have regard to how:

- reliable the prices are – the prices need to come from a transparent wholesale market (except for ranking 4); and
- appropriate the prices would be to represent the value for gas at the time of the contingency.

5.73 The industry expert is to give greater weight to the higher ranking prices (1, 2, 3 than 4) in determining the contingency price.

What the submissions said

5.74 Comments from submitters were mixed on the criteria that should be used to determine the contingency price. Submitters could be split into those who want assurance that the contingency price will be sufficiently high to encourage supply/demand curtailment, and those who want the price to be low and require protection from the potential for gaming by participants with perceived or actual market power.

5.75 Methanex and NovaGas stated that the gas or electricity wholesale market prices in the 7 days leading up to a contingency are likely to be in steady state and not reflective of the need for economic rationing of gas. Methanex stated that it would be helpful for a minimum price to be part of the price setting criteria. This would help avoid, however unlikely this might be, too low a contingency price being set by the industry expert.

5.76 Vector pointed out that it is likely a suitable wholesale gas market will not be available for some time increasing the chances that the contingency price will be determined by the corresponding wholesale electricity price. Vector suggested that the electricity price prior to a contingency may well be high given that those with the ability to influence this price will have timely information that an event may be imminent (possibly resulting in an artificially high price). Vector suggested that the time frame used for the electricity price should be extended to a period of 10 to 20 days prior to a contingency with the purpose of diluting the potential for gaming by those in the industry.

5.77 In response to the question on upstream production, Contact and NovaGas stated that the determination of the contingency price ex-post will create uncertainty and may discourage commercial arrangements. NovaGas stated that ex ante pricing is more likely to stimulate the supply of additional gas than ex post pricing as ex-post pricing by the independent third party will be subject to pressure from purchasers to form a view that a low price is appropriate.

5.78 Several submitters mentioned one of the pricing arrangements under MPOC that references the price in the wholesale electricity market.

5.79 Contact stated that the criteria to determine the gas contingency price should be sufficiently robust so that there is not scope for industry participants to manipulate

the pricing regime. Prices must also be set at a level so that there is no incentive to precipitate a contingency.

Gas Industry Co response

5.80 The arrangement for determining the gas contingency pricing needs to be adaptable to future developments in the market and to use the most suitable of the prices available. In developing the proposal Gas Industry Co held the view that the first best method identified by FSC of a "fit for purpose" wholesale gas market should be allowed for even if at the present time one does not exist.

5.81 The second best option for determining the gas contingency price is a price imputed from the electricity market, and this is the likely basis for prices at the current time. However, there is no guarantee that prices from the electricity market will be sufficiently robust, and so a third best option in case these prices cannot be used would be to apply the economic cost of the curtailment to the end users who had their gas supply curtailed.

5.82 In addition, contingency pricing should be sufficiently robust so that there is not scope for industry participants to manipulate the contingency price. Prices must also be set at a level so that there is no incentive to precipitate a contingency.

5.83 Gas Industry Co acknowledges that in setting the criteria used to determine the contingency price, a balance has to be struck between a number of competing objectives.

5.84 Following responses from submitters Gas Industry Co believes that there should be an overarching principle that needs to be achieved. The overarching principle for the independent expert to follow would be that: "*the gas contingency price must be set at a level that reflects the price that would be established by an efficient short-term market that allocated scarce gas resources to the highest value uses during the contingency*". As a result, Gas Industry Co intends to remove the implied order of importance or weighting.

5.85 Determining the contingency price *ex post* was a matter that was thought to be settled during the 2006 round of consultation. However, some submitters expressed the view that an *ex ante* price would provide stronger signals. As there is no single view which has unanimous support it is planned to use the next industry workshop to test views, including the use of an *ex ante* formula.

Cost allocation

What was said in the Statement of Proposal

5.86 The Statement of Proposal recommended that the cost of implementing the new gas contingency management arrangements be recovered from wholesale customers and retailers on the basis of annual reconciled gas volumes. The development fee is to be recovered at the time that the new arrangements start, and the ongoing fees for the year are to be charged through monthly fees.

What the submissions said

5.87 Contact, Genesis and Methanex suggested that it may be more efficient to use the general (wholesale) levy, rather than introduce a separate charge which has the same underlying basis (i.e. a charge to wholesale gas purchasers based on volumes). Contact and Genesis also recommended that upfront costs be recovered through time, rather than as a lump sum.

5.88 NovaGas considered that purchasers of non-specification gas and gas from dedicated use pipelines should be exempt from any charges, as they do not contribute to, or benefit from, the need for contingency arrangements.

5.89 MDL considered that the costs could be met from within existing pipeline operator revenues.

Gas Industry Co response

5.90 The need for improved arrangements to address a Gas Contingency is driven to a significant extent by the advent of greater competition in the wholesale market, and the complexities that this entails. For this reason, Gas Industry Co favours a cost recovery mechanism that covers all wholesale users, because all such parties benefit from the arrangement (even if the benefit is indirect).

5.91 Whilst Gas Industry Co sees merit in recovering the cost of this arrangement through a specific charge rather than from the General Levy, because this is more transparent, there is a practical consideration of whether this is feasible under the Gas Act.

5.92 The Regulations envisage that the upfront development and establishment costs (estimated at circa $560k in the NZIER cost-benefit analysis) should be recovered up front. It could be argued that the development costs should be spread so that the parties that benefit from the new arrangements pay the costs. Gas Industry Co will reconsider the way in which the upfront development and establishment costs are recovered, and if an efficient financing arrangement can be secured, it will consider spreading the costs over 3 years. However, if it proves to be the case that the costs must be recovered through the General Levy, then it may not be feasible to spread the costs and meet Gas Industry Co's statutory obligations.

Liability provisions for Gas Contingency Operator

What was said in the Statement of Proposal

5.93 The Statement of Proposal noted that the Gas Contingency Operator would be immune from liability in tort because of the provisions of the Gas Act. However, it proposed that the GCO will be liable under the compliance regime for breaches of certain regulations, such as those relating to the determination of a gas contingency.

5.94 It proposed that the GCO liability for such breaches be limited by the service provider contract to the quantum of the annual fees to be paid under the service provider contract in respect of all events occurring in any one financial year.

What the submissions said

5.95 Submitters generally supported the proposed approach (Contact, MDL, Methanex, NovaGas, and Vector).

5.96 The major exception was Genesis which considered that some other remedy should be provided, given the immunity from tort liability afforded to service providers under the Gas Act.

Gas Industry Co response

5.97 Gas Industry Co shares the concern expressed by Genesis, but believes that it would not be appropriate to seek to impose significant liability on the GCO, as this would either be reflected in the price, or make it impossible to find a party willing to take on the role.

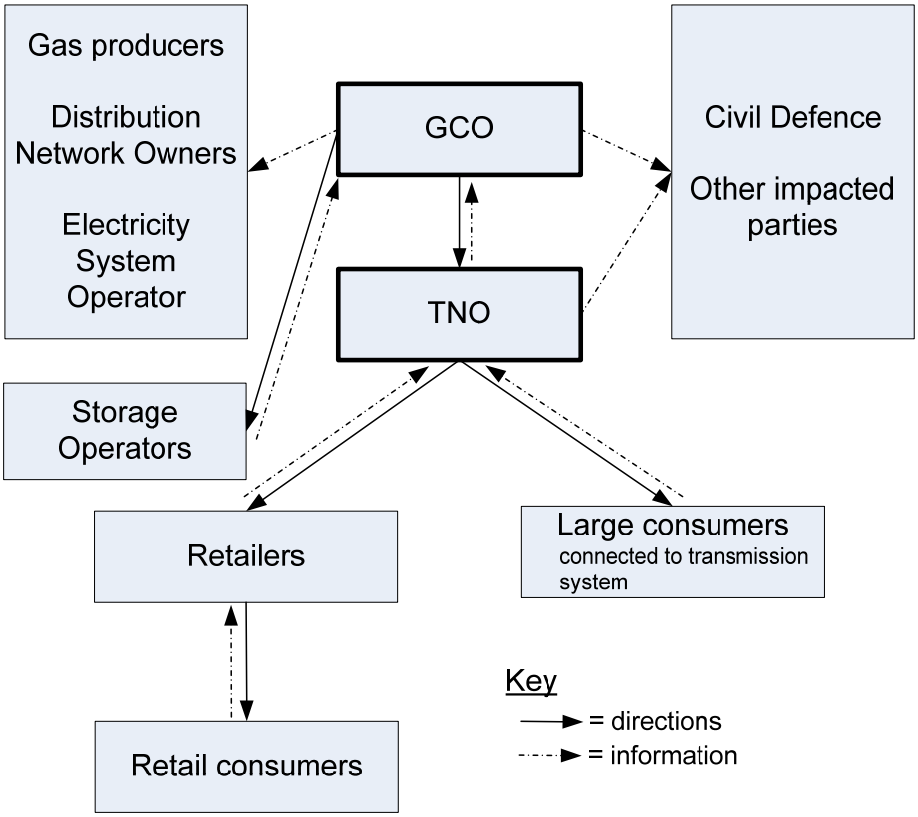
5.98 It was for this reason that Gas Industry Co proposed a limit on the GCO liability, to provide an appropriate balance between the likely cost to a participant of a breach by the GCO, and the level of risk that the GCO is prepared to bear without adversely impacting upon service provision.

Communication processes by the Gas Contingency Operator

What was said in the Statement of Proposal

5.99 The Statement of Proposal contained a diagram summarising the expected communication flows during a Gas Contingency (see Figure 2).

Figure 2 – Communication flow during a Gas Contingency



What the submissions said

5.100 Methanex, NovaGas and Vector supported the proposed communications process.

5.101 MDL commented that existing processes should be used, which is consistent with MDL's overall view that the bolstering MPOC/VTC with some regulatory backing is the preferred path forward (discussed in section 4).

5.102 Contact commented that there should be a requirement for two-way information flow between the GCO and participants.

Gas Industry Co response

5.103 The intent of the regime is that there would be two-way information flows between the GCO and participants. Gas Industry Co acknowledges that the current draft is ambiguous on this matter, and will amend the policy design (and draft regulations) to clarify this point.

Formulation of Outage Contingency Management Plans

What was said in the Statement of Proposal

5.104 The Statement of Proposal provides for each Transmission Network Owner (TNO) to prepare a draft Outage Contingency Management Plan (OCMP). The TNO must consult with affected parties, allowing a minimum of 20 business days for consultation.

5.105 The OCMP for each network will be reviewed by the GCO, and the GCO is required to confirm that the plan meets the requirements of the regulations before it can be recommended for approval by the Gas Industry Co.

5.106 Because the GCO may face a conflict of interest, the proposal provides for Gas Industry Co to appoint an expert who can work alongside the GCO during the process of reviewing draft OCMPs.

5.107 An OCMP will only come into effect if it has been approved by Gas Industry Co.

What the submissions said

5.108 Some submitters (Genesis and Contact) expressed concern that TNOs might have undue influence in the preparation of OCMPs. In particular, Genesis noted that the requirement for TNOs to prepare the OCMP for its network might produce a 'Mexican stand-off', where a TNO and Gas Industry Co become deadlocked.

5.109 Genesis has suggested that some provision be made for resolving such a situation. This could occur, for example, by allowing the Gas Industry Co to make changes to a draft OCMP.

Gas Industry Co response

5.110 This issue involves difficult trade-offs among a number of considerations. On the one hand, it is important that scope for deadlocks be minimised, because they would frustrate the attainment of the objectives for the regime.

5.111 On the other hand, it is important that TNOs be closely involved in the development of OCMPs because they are the only parties with detailed knowledge of their networks. Furthermore, achieving TNO 'buy-in' to an OCMP is likely to be very important in ensuring effective implementation of the plan during an event.

5.112 For these reasons, Gas Industry Co opted to make TNOs responsible for preparing the draft OCMPs. To address the issue of potential conflicts of interest and deadlock, it proposed that Gas Industry Co have the ability to appoint an independent expert. This person would be required to have sufficient technical knowledge to effectively review OCMPs.

5.113 While the proposed approach does not eliminate the potential for a deadlock, it should at least ensure that the sources of any differences of view can be clearly

identified, and debated on their technical merits. These differences can also be exposed to wider industry scrutiny.

5.114 However, it may not be acceptable for a set of regulations to be drafted in a way that risks an indeterminate outcome. Accordingly, practical considerations may cause this issue to be revisited.

5.115 In subsequent discussions with MDL a suggestion was made that it may be appropriate to restructure the recommendation mechanism such that the TNO prepares the draft plan, and then the GCO would make a report to the industry expert who, in turn makes a recommendation to Gas Industry Co. This would create a potential mechanism for avoiding deadlocks. There appears to be some merit in that suggestion and this will be examined further.

6 Next Steps

6.1 Following a careful review of submissions, the Gas Industry Co has concluded that it would be desirable to amend some aspects of the proposed arrangements contained in the Statement of Proposal for Gas Outage and Contingency Management. These amendments are described below.

Regulatory Objective

6.2 To address potential ambiguity in the Statement of Proposal, Gas Industry Co will amend the regulatory objective as follows:

> *"~~that arrangements are in place~~ to achieve effective handling of a national or regional gas contingency without compromising long-term security of supply".*

Terminology used

6.3 On the issue of consistency between MPOC/VTC and the OCMRs, Gas Industry Co does not believe that consistency is necessary, or even desirable. The reason for this view is that the declaration of a Gas Contingency under the OCMRs is intended to be a backstop measure, and only occur after normal processes under MPOC and VTC have failed to arrest a major deterioration in linepack. As a result, it would be undesirable for a gas contingency or "contingency event" under the MPOC or VTC to automatically trigger a Gas Contingency under the OCMR. Gas Industry Co therefore believes that a common definition is not appropriate.

6.4 Gas Industry Co sees merit in adopting a term that clearly distinguishes events triggered under an OCMP from situations handled through MPOC or VTC. The term proposed is *critical gas contingency*.

6.5 There will be adjustments made to the OCMRs in order to make the terminology consistent with that used in the proposed transmission access regulations.

Determination of gas imbalances during contingency period

6.6 Gas Industry Co intends that the details of these processes will be developed with input from the industry, once a recommendation to the Minister has been made, and finalised when the regulations have been approved. It also expected that existing systems/processes will be used wherever possible.

6.7 For reasons of efficiency. Gas Industry Co believes this can best be achieved by requiring TNOs to address this issue in their OCMPs. The detail would then exposed to industry scrutiny through the consultation process.

Gas contingency price

6.8 Following responses from submitters Gas Industry Co believes that there should be an overarching principle that needs to be achieved. The overarching principle for the independent expert to follow would be that: "*the gas contingency price must be set at a level that reflects the price that would be established by an efficient short-term market that allocated scarce gas resources to the highest value uses during the contingency*".

6.9 Gas Industry Co intends that the current weighting given to the individual factors used to determine the contingency price would be removed.

Cost Recovery

6.10 Gas Industry Co will reconsider the way in which the upfront development and establishment costs are recovered and, if an efficient financing arrangement can be identified, will consider spreading the costs over 3 years.

6.11 However, if it proves to be the case that the costs must be recovered through the General Levy, then it may not be feasible to spread the costs and meet Gas Industry Co's statutory obligations.

Information provision

6.12 The intent of the regime is that there would be two way information flows between the GCO and participants. Gas Industry Co acknowledges that the current draft is ambiguous on this matter, and will amend the policy design and regulations to clarify this point.

Avoiding deadlock in preparation of OCMPs

6.13 Submissions have highlighted the potential for a deadlock to arise in the development of an OCMP. Gas Industry Co intends to give this issue further consideration, and review whether there is an alternative allocation of decision rights among the relevant parties that still ensures strong input from the TNO and GCO, but reduces the potential for the process to become deadlocked.

Implementation

6.14 The Statement of Proposal suggested that a recommendation could be made to the Minister as early as November 2007. That view was based on an assumption that one consultation round on the Proposal would be sufficient. Given the revisions that are proposed, there will be a requirement for a further round of consultation on those areas of proposed change, and on the revised draft regulations.

6.15 The following table sets out an indicative timetable for the revised project plan:

Target date	Key step
Late November	Industry forum to present proposed changes
18 December	Board approves short-form consultation on changes to proposal and updated draft regulations
19 December	Issue short-form consultation (Decision Paper)
4 February	Receive submissions
February/March	Board considers recommendation
April	Recommendation to Minister