

# **GAS TRANSMISSION ACCESS: SINGLE CODE OPTIONS PAPER**

**November 2016**

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## EXECUTIVE SUMMARY

First Gas has committed to developing a single gas transmission access code (GTAC) to replace the two existing codes (the Maui Pipeline Operating Code and the Vector Transmission Code). The purpose of this initiative is to ensure that transmission arrangements support gas industry growth by creating a single set of “end to end” transmission access arrangements to transport gas from its source to locations throughout the rest of the North Island.

The purpose of this options paper is to explore the possible forms that the new GTAC could take, and consult on the general direction for the new code before embarking on the detailed design work required.

### Objectives for the new code (section 2)

We have built on the GIC’s regulatory objective and articulate a set of objectives in this paper that we will use when making decisions on the new code arrangements.

- Enable the use of gas
- Minimise the cost of transporting gas
- Keep it simple
- Ensure flexibility
- Increase transparency

### Drawing the boundaries of the new code (section 3)

The code exists within a system of other contracts, regulations, and other legal instruments that together specify the rights and responsibilities of different parties in the gas industry. We believe that the boundaries of the new code should be drawn in ways that provide reasonable clarity on matters that materially affect service levels or costs to most or all pipeline users (referred to as shippers in this paper).

In some areas the code bumps up against bilateral contracts, such as interconnection agreements and non-standard agreements. In those cases, the code needs to protect the legitimate interests of other network users to maintain quality and reliability of supply and allocate shared network costs in an efficient way. In other areas, the code needs to be supplemented by other documents, such as a transmission pricing methodology and operating procedures and standards. Here the code should provide principles that govern how decisions in those other documents should be made, along with obligations to consult on decisions and make decisions transparent.

### Core access options in the new code (section 4)

This paper describes 3 high-level options for providing access to the gas transmission system under a new code. These options present reasonably stark alternative design choices for the new access regime in order to inform stakeholder views on which direction they think would best meet their needs and those of the gas industry as a whole.

The options are presented across a number of different dimensions in the table on the following page.

	<b>Option 1: Menu of capacity products</b>	<b>Option 2: Daily nominated capacity</b>	<b>Option 3: Flow to demand service</b>
<b>Overall philosophy</b>	Contractual hierarchy allocates capacity when it is scarce, while having the ability to access any unutilised capacity on a day	Allocate capacity on nominations, without upfront resource to establish who should receive priority when capacity is scarce	Using all available flexibility in the transmission system and a range of operational responses to “flow to demand”
<b>Accessing pipeline capacity</b>	Capacity able to be accessed through a priority right (in advance), and/or nominated for on the day. Interruptible capacity also available where it has value	Daily nominations provide access to capacity on a day	Pipeline capacity is not booked or allocated in advance, but pipeline users would be required to forecast demand and injections
<b>Product structure</b>	Could be a combination of points and zones or entry/exit	Could be a combination of points and zones or entry/exit	Postage stamp (i.e. does not rely on contract path or flow through zones)
<b>Incentives for efficient behaviour</b>	Overrun fees apply for any capacity used in excess of daily nominations	Overrun fees apply for any capacity used in excess of daily nominations	Interconnected parties would be obliged to keep within maximum design flow rate
<b>Allocating scarce capacity to the highest value</b>	Scarce capacity allocated to parties holding priority rights	Other mechanisms (such as price) needed to allocate daily nominated capacity when scarce	Operational responses such as operational flow orders (OFOs) would manage system capacity when constrained
<b>Pricing challenges</b>	Establish value of premium for priority right (and discounts for interruptibles)	Establish value of daily nominated capacity when it is scarce	Charges set to reflect value of using system at different times (e.g. peak days or seasons)
<b>Important design choices</b>	<ul style="list-style-type: none"> <li>• Design of priority right and pricing</li> <li>• Form and content of nominations</li> <li>• Allocation of receipts and deliveries</li> </ul>	<ul style="list-style-type: none"> <li>• Approach to pricing daily nominated capacity</li> <li>• Form and content of nominations</li> <li>• Allocation of receipts and deliveries</li> </ul>	<ul style="list-style-type: none"> <li>• Design of operational tools to manage system</li> <li>• Ensuring high-quality forecasts</li> <li>• Tracking gas title without nominations</li> <li>• Reflecting scarcity in network prices</li> </ul>

## Supporting arrangements in the new code (section 5)

This paper also canvasses some of the provisions that will supplement and support the access and pricing regime in the new code. A summary of our current thinking in these areas is as follows:

- **Code governance.** The GTAC should provide a common set of terms in bilateral Transmission Service Agreements (TSAs) between First Gas and shippers. While the code will specify certain aspects of interconnection agreements (ICAs), these agreements may not require the connected party to agree to the entire code. We are keen to explore the option of having different change processes apply to substantive or contentious code changes, with an independent party considering such changes with reference to gas industry objectives and principles.
- **Balancing, linepack management and allocation.** We consider that shippers should continue to have an obligation to use all reasonable endeavours to ensure that their aggregate receipt and delivery quantities match each other on a day, and we will consider incentives to encourage accurate nominations (where nominations are used). First Gas may then need to buy or sell balancing gas to manage the line pack in the transmission system to within prudent operational limits. We see this as a service that is provided to shippers, and can help to track title to gas as well as providing a short term “park and loan” service where valuable.
- **Non-standard agreements.** We expect that situations will arise where standard transmission prices would lead to uneconomic outcomes (such as bypass). We consider that non-standard agreements should be available to deal with such circumstances, and that the full negotiated agreements should be made public.
- **Gas quality.** The core principles and requirements for gas quality in the existing codes and ICAs will be carried through into the new code. We are keen to ensure greater transparency on gas quality under the new code, and are prepared to explore the option of using the code to provide contractual nexus between parties suffering loss for gas quality events and parties that are proven to have caused that loss.

## Next steps (section 6)

This paper represents our first substantive step towards a new code. While no decisions have yet been made, we hope that the material presented in this paper helps to inform stakeholder views on the range of options that might underpin the new code.

We look forward to receiving submissions by 5pm on 23 December 2016. We will review submissions carefully, and confirm next steps in developing the new code early in 2017. We expect that the next stage in the process will then involve drafting code provisions across several workstreams: code governance, access products, pricing methodology, balancing and allocation, and technical requirements.

While finalising the detail of the new code will at times be contentious, we look forward to the continued support of gas industry stakeholders – confident in the view that a single code will help to promote a more competitive, vibrant gas industry.

## 1. INTRODUCTION

- 1.1. For the first time, New Zealand's open access gas transmission assets have a common owner – First Gas. This creates the opportunity to apply a single set of “end to end” transmission access arrangements to transport gas from its source to locations throughout the rest of the North Island.
- 1.2. First Gas has committed to developing a single gas transmission access code (GTAC).
- 1.3. Success will rely on the time, effort and support of a range of interested parties: gas consumers, First Gas as asset owner and operator, Government ministries, regulators, gas producers, gas distribution networks, and shippers (retailers). While we will endeavour to take into account the range of stakeholder interests and preferences, some parties may not view the proposed new code as the best possible set of arrangements from their perspective. However, from our discussions with stakeholders to date, we have yet to find a single party that doesn't see the value of developing a single transmission code.

### **Purpose of this paper**

- 1.4. The purpose of this options paper is to explore the possible forms that the new GTAC could take, and consult on the general direction for the new code before embarking on the detailed design work required.
- 1.5. We acknowledge that the “devil is in the detail” when it comes to code development, which makes it essential to have real clarity on the principles and direction underpinning the code before trying to resolve matters of detail.
- 1.6. This paper therefore focuses on decisions that are important to establishing direction for the new code and the IT system that will implement new code arrangements. While technical and contractual details (such as the definition of force majeure) will also be important and potentially contentious, this paper does not directly address such matters. Nevertheless, if parties have views on specific details that are important to them within whatever system is adopted then we welcome that input.

### **Background**

- 1.7. First Gas took ownership of the former Vector gas transmission system in April 2016, and the Maui pipeline assets in June 2016. Shortly thereafter, First Gas and the Gas Industry Company (GIC) agreed a process for developing a single transmission code.
- 1.8. The two organisations are “co-leading” the code development, with First Gas responsible for preparing the new code and seeking support from the industry on its proposal, while GIC provides an independent perspective on the proposals and stands ready to consider recommending regulation, if required. The proposed process was presented at an industry forum in August 2016.
- 1.9. The value of “co-leadership” lies in the respective accountabilities of First Gas and the GIC. First Gas has a commercial mandate to agree suitable transmission access conditions, while the GIC has the statutory power (alongside MBIE) to recommend

regulation to the Minister of Energy in relation to transmission access arrangements where industry agreement cannot be reached, or where the access arrangements do not meet the Gas Act objectives.

- 1.10. To date, First Gas has met “one on one” with most of the parties that have a direct interest in the form and content of a new code. Those meetings have been valuable in better understanding the interests of different parties.
- 1.11. This is the second paper released in the process of preparing a single code. The first paper (Single Code Options Paper (SCOP) 1) was drafted by the Gas Industry Company (GIC) and released in September 2016.<sup>1</sup> SCOP1 set out the background to the development of the new code, summarised how the two existing transmission codes operate and canvassed the work completed to date to improve code arrangements. SCOP1 also presented the regulatory objective that will be applied to the development of the new code and confirmed the continued relevance of the guiding principles established by the Panel of Expert Advisors (PEA).
- 1.12. This paper builds on SCOP1 by interpreting the regulatory objective and PEA principles in the specific context of the new code. We have also read the submissions on SCOP1, and incorporate them into this paper where relevant.

#### **Problems with existing arrangements have been canvassed in earlier work**

- 1.13. This paper does not dwell on problem definition. Problems with the current codes have been exhaustively traversed by the GIC over the past 7 years.<sup>2</sup>
- 1.14. The foundation of these problems is that the two transmission systems serve different functions, and the codes have developed to serve them separately under separate ownership:
  - 1.14.1. The MPOC provides gas producers with open access to transmission, and moves gas north to two major end-users (Methanex and the Huntly Power Station) and multiple interconnections points with the non-Maui (ex-Vector) system. The physical capacity provided by the Maui pipeline within the overall transmission system has called for contractual mechanisms such as balancing to manage the use of pipeline flexibility.
  - 1.14.2. The VTC provides transmission services to a much larger number of delivery points “downstream” of the Maui pipeline, while also enabling additional gas producers to inject gas at different receipt points. The limited storage capacity of the non-Maui system and the characteristics of the gas distribution networks it supplies makes it efficient to “flow to demand” on this system, meaning that the non-Maui system draws gas from the Maui pipeline as needed.

<sup>1</sup> <http://www.gasindustry.co.nz/work-programmes/transmission-pipeline-access/developing/gas-transmission-access-single-code-options-paper-september-2016/>

<sup>2</sup> Papers on the GIC Transmission Access programme are available at <http://www.gasindustry.co.nz/work-programmes/gas-transmission-investment-programme/background/transmission-access/>

- 1.15. The new code needs to facilitate the operation of the two transmission systems as an integrated entity. Accordingly, it is likely to draw upon concepts that are found in one or other of the existing codes in a way that shapes them together into a single set of arrangements. However, as previously explained, we do not intend to use either of the existing codes as a “foundation” to build the new code from. Common pipeline ownership creates the opportunity for a fresh approach to developing a single set of arrangements that recognises the physical characteristics of the system as a whole, while taking opportunities to integrate the codes.

### Terminology in this paper

- 1.16. It is useful to define some terms that are used in this paper. These terms have particular meanings under existing codes that may be different in a new code.
- 1.16.1. **Shipper:** any party to a Transmission Services Agreement with First Gas. Not limited to current shippers – we would hope that more flexible, simple arrangements would encourage more parties to become shippers if that is valuable
- 1.16.2. **Nomination:** A notification by a Shipper of an intention to transport a specified quantity of gas from one point or zone to another. Upon confirmation the nomination is scheduled by the pipeline operator.
- 1.16.3. **Overruns and imbalance:** Under the new code, we think that it will be worth distinguishing between situations where shippers use more transmission capacity than they have booked (overruns) and situations where actual pipeline receipts and deliveries differ from nominations (imbalance). The MPOC currently combines these two separate variances.
- 1.16.4. **Curtailement:** A reduction in a Shipper’s scheduled flow required by the pipeline operator because of pipeline conditions.

### Structure of this paper

- 1.17. The remainder of this paper proceeds as follows:
- 1.17.1. Section 2 proposes a set of objectives for the GTAC. These objectives will guide our decision-making on the form and content of the new code.
- 1.17.2. Section 3 explores what the GTAC should cover (and at what level of detail), and what matters should sit outside the GTAC.
- 1.17.3. Section 4 describes 3 high-level options for the core access regime that could underpin the code. These options are presented in a way that aims to provide reasonably stark choices between different possible designs for the new code.
- 1.17.4. Section 5 provides some proposed direction for the other code arrangements that will support the access regime, covering the topics of code governance, managing gas pipeline inventories (balancing), non-standard agreements, gas quality, metering and dispute resolution.

1.17.5. Section 6 proposes some next steps and concludes.

## 2. OBJECTIVES FOR THE GAS TRANSMISSION ACCESS CODE

- 2.1. Clear objectives or guiding principles are essential to any code governing access to shared gas transmission infrastructure. Objectives need to be specific enough to guide decisions on how particular issues should be resolved and code provisions drafted, without unnecessarily limiting the range of possible solutions.
- 2.2. This section sets out the objectives that First Gas has applied in developing this options paper, which are the same objectives that we intend to apply in developing the detail of the new code. We have built on the GIC's regulatory objective set out in SCOP1, and we are confident that the objectives we propose are compatible with any regulatory process required.
- 2.3. These objectives will be used to evaluate possible options and design choices.

### Regulatory objective

- 2.4. The GIC has established the following regulatory objective for developing and implementing the new transmission access code:

*To promptly establish a new non-discriminatory gas transmission open access regime that facilitates safe, efficient and reliable operation and use of the gas transmission system, including;*

1. *competition in the production and marketing of gas;*
2. *efficient investment; and*
3. *transparency of information.*

### Proposed objectives

- 2.5. We have expanded on the regulatory objective, and attempted to use direct, practical language to express what we should aim to achieve through the new code.
- 2.6. We propose to adopt the following 5 objectives as key reference points for making decisions on what matters need to be addressed in the new code, and how those matters should be addressed.
- 2.7. **Enable the use of gas.** Fundamentally, the new code needs to reflect the important link that gas transmission plays in connecting gas producers with consumers – and play this role in a way that enables gas to compete effectively with other energy sources. This puts end-users of gas squarely as the priority when it comes to gas transmission arrangements. We believe this also serves the interests of explorers, producers, pipelines, shippers, traders, and service providers by ensuring we play our part in encouraging gas demand (which in turn creates the market for wholesale gas and promotes further gas exploration). We also believe that increasing utilisation of the gas transmission system is in the interests of all gas industry participants, consumers and New Zealand:
  - 2.7.1. Enable us to provide service that our customers value and are willing to pay for. By reflecting willingness to pay, the new code will support greater

utilisation of shared system assets and ensure that all customers receive value from the system

- 2.7.2. Remove barriers to transporting gas. The code arrangements should not create unnecessary hurdles that disadvantage gas as a fuel relative to other energy sources
  - 2.7.3. Limit the costs and risks of transporting gas. The code should provide a clear set of prices for use of the system, and clear consequences when events occur (either on the system or other parts of the supply chain)
  - 2.7.4. Provide confidence in the gas transmission system. By clarifying how transmission capacity is accessed and priced, the code should provide confidence that core functions are being carried out in a reasonable and prudent way
  - 2.7.5. Promote gas market development. The code should encourage the development of options for trading wholesale gas, without favouring any particular contracting form or platform.
- 2.8. **Minimise the cost of transporting gas.** We recognise that gas transmission can be a material component of the total cost of delivered gas. The code should promote least-cost solutions for transporting gas by efficiently allocating costs and risks between First Gas and other parties. To achieve this objective, the code should:
- 2.8.1. Strike an appropriate balance between the risks we bear as TSO, and the risks that other parties bear. First Gas should carry out all industry functions and bear risks that we are best placed to manage
  - 2.8.2. Put incentives in place to discover lowest cost solutions. The decisions made by other parties influence the costs of transporting gas. The code should encourage parties to manage those costs where they can do so most efficiently, and pay for us to manage those costs where that provides the cheapest solution. This should include appropriate locational signals to encourage parties to locate new sources of gas demand where spare capacity exists on the transmission system
  - 2.8.3. Deal with scarcity of transmission capacity efficiently, if and when it arises. Such scarcity can be created by physical bottlenecks, when demand on a particular part of the system reaches a high enough level. Scarcity can also be created by events outside of the transmission system – such as when a production station stops injecting gas into the system and there is insufficient storage in the system to maintain supply. The code needs to have mechanisms to address both types of scarcity, and should allow customers that value gas deliveries the most to continue to use the system.
- 2.9. **Keep it simple.** Having a single code presents an opportunity for simplification by replacing the two different sets of policies, prices and other arrangements which currently exist.

- 2.9.1. Simple arrangements enable the use of gas by minimising administration and transaction costs and making it easier to enter the gas market. Current codes require shippers to both manage capacity day to day on the non-Maui system so as to minimise overrun charges, as well as nominate daily for gas/capacity on the Maui Pipeline; shippers must also manage their imbalance positions on the Maui pipeline and within multiple non-Maui Balancing and Peaking Pools (BPPs). We are keen to ensure that any administrative costs imposed on system users provide value.
  - 2.9.2. Simplicity also builds trust and confidence. For this reason, simplicity was a strong theme in submissions on the SCOP1 paper and in our discussions with stakeholders.
  - 2.9.3. Simplicity is likely to favour conventional, proven approaches that are used internationally to manage similar gas transmission systems. Building on concepts that are already familiar in the New Zealand gas industry will also help to simplify the transition to new arrangements.
  - 2.9.4. This objective has a clear link to the information technology (IT) system that will ultimately support the new code. Our current view is that off the shelf IT options are likely to be simpler to implement and administer, but may reduce some flexibility in how we design access arrangements for the transmission system.
- 2.10. **Promote flexibility.** The users of the gas transmission system are diverse, and no code is likely to perfectly meet the needs of all parties. On the other hand, the essence of a code is to apply common, non-discriminatory terms to all users of our shared infrastructure. To reconcile these realities, the new code should provide a range of different ways to interact with the gas transmission system where possible, linked by the same underlying principles and approaches. It should offer a range of services, with an ability for shippers to buy what they want and pay for what they value.
- 2.10.1. Promoting flexibility can have a tension with simplicity (described above). Greater flexibility can lead to more product differentiation and complexity in pricing different service levels, so there is a need to balance these potentially competing objectives.
- 2.11. **Increase transparency.** Since the codes were put in place, they have been supported by IT platforms (OATIS and BGIX) that make information available on the status of the system, emerging events, and individual shipper positions. More information has also been progressively released by pipeline owners and operators over previous years (including the terms of non-standard contracts). The creation of the new code provides an opportunity to increase transparency and ensure that all parties have best information available to make decisions. To promote this objective, the new code should:
- 2.11.1. Provide information that parties need to make decisions in a timely way. Any requirements placed on counterparties under the new code should be

accompanied by the provision of information that enables them to confidently make required decisions

2.11.2. Build confidence that arrangements are fair, non-discriminatory, and efficient. Information should be made available to all parties in an even-handed way, providing parties with equal opportunities to manage their costs and risks. Information historically considered by some parties to be confidential (such as non-standard agreements and shippers' capacity holdings) should be visible to other parties.

2.11.3. Actively "push" information in a useful format. Again this has a strong link to the IT system, which should be configured to allow parties to access and download information to carry out required analysis to inform decisions.

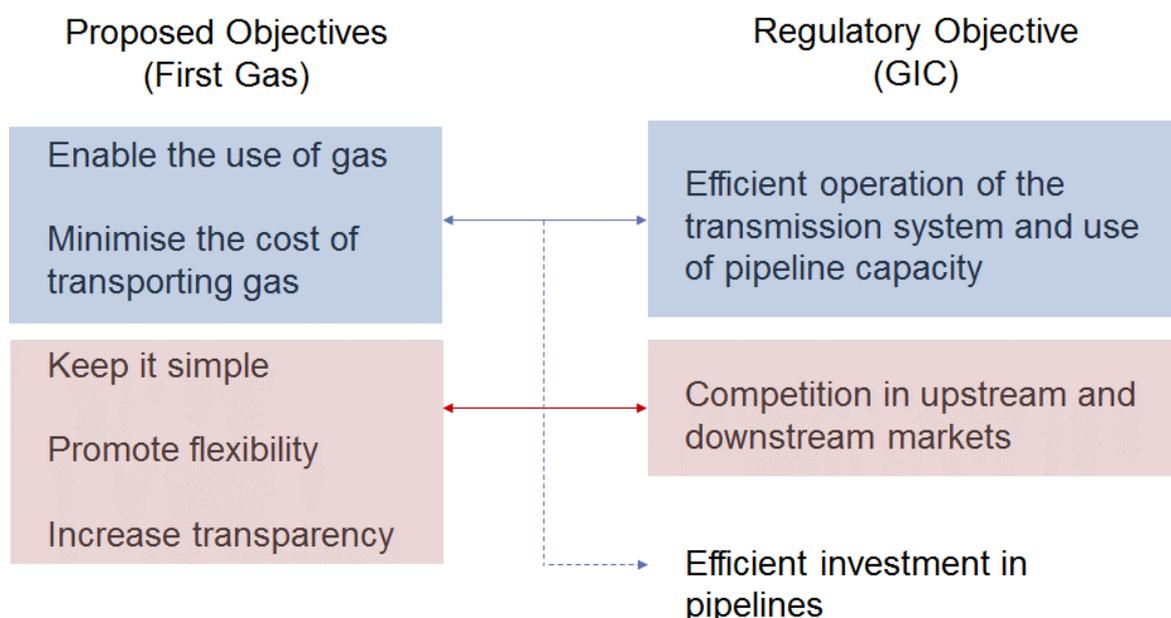
2.12. We consider this is a complete list of objectives to guide decisions on the new code.

**How do these objectives map to the regulatory objective?**

2.13. We consider these objectives are consistent with the regulatory objective put forward by the GIC in SCOP1

2.14. Figure 1 illustrates what we see as the linkages between the objectives presented above and the regulatory objective. As shown, we believe the first two regulatory objectives are covered by the 5 objectives described above. The third regulatory objective (focusing on efficient investment) has a less direct link with the objectives listed in this paper.

**Figure 1: Relationship between proposed objectives and regulatory objectives**



2.15. It is important to remember that the code is not the only legal instrument in place to guide us in achieving these objectives. As a business regulated by Part 4 of the Commerce Act, First Gas is required to demonstrate that proposed capital

investments are efficient. This is largely fulfilled through the preparation of our Asset Management Plan (AMP)<sup>3</sup> used when setting the Default Price-quality Path (DPP), and through specific investment cases if we apply for a Customised Price-quality Path (CPP).

- 2.16. As described above, our intention is to use the proposed objectives to evaluate the options before developing the detail of the new code. Such an evaluation has not yet been completed. We are interested in stakeholder views on how the options presented in the next section of this paper promote or detract from these objectives. We will then use the objectives, together with submissions, to evaluate the best way forward in 2017.

Q1: Do you agree with the objectives proposed in this paper? Are there any other objectives or outcomes that we should be aiming for that are missing?

Q2: Which objectives do you see as most important?

Q3: Do you agree that the objectives proposed in this paper are compatible with the regulatory objective presented in SCOP1?

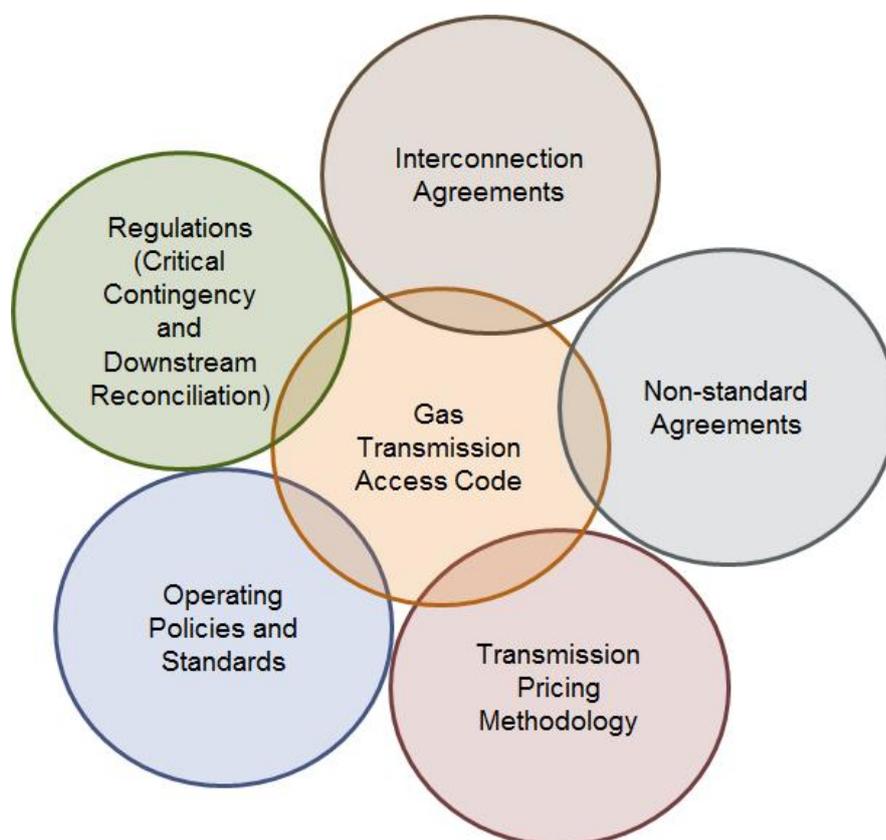
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<sup>3</sup> [http://firstgas.co.nz/wp-content/uploads/FGL\\_transmission\\_2016\\_asset\\_management\\_plan.pdf](http://firstgas.co.nz/wp-content/uploads/FGL_transmission_2016_asset_management_plan.pdf)

### 3. SCOPE OF THE GAS TRANSMISSION ACCESS CODE

- 3.1. SCOP1 provided a summary of the content of the existing codes (section 3). This summary demonstrates that both codes cover much the same ground – albeit in very different ways. We expect that the new code will also need to traverse the same range of topics – placing obligations on First Gas to operate the transmission system reasonably and prudently, defining how shippers can access transmission capacity, and describing the processes that will be used to facilitate transactions and communications between the pipeline, shippers and interconnected parties.
- 3.2. In determining how particular issues should be addressed in the code, it is important to acknowledge that the code exists within a system of other contracts, regulations, and other legal instruments. In this section, we describe how we propose to draw the boundaries between the code and these other instruments. We specifically focus on the points of interface between the codes and the five other legal or subsidiary instruments shown in Figure 2 below.

**Figure 2: Overview of relationship between GTAC and other instruments**



#### Principles for determining what is in the code

- 3.3. To supplement the objectives set out in section 2, we think it is useful to apply some principles to decide what topics should be governed by the code (as opposed to other legal instruments), and how specific the code should be in its treatment of each topic.

We have applied the following two principles to propose some answers to these questions:

- 3.3.1. **What's in?** The code should govern matters that materially affect service levels or cost of most/all shippers; and
- 3.3.2. **How much?** The code should address topics to a level that provides reasonable clarity on how different interests are treated.

## Interconnection agreements

- 3.4. Interconnection agreements (or ICAs) address the requirements and arrangements for physically interconnecting with the gas transmission system. An ICA does not confer rights to transmission capacity, and may be negotiated independently of transportation arrangements.
- 3.5. ICAs can potentially play an important role in governing how the system is operated and develops over time. They define rights and responsibilities at the interface between the transmission system and gas production facilities (at receipt points) and gas consuming facilities or distribution networks (at delivery points). They also provide the opportunity for new parties to connect to the system.
- 3.6. As noted in SCOP1, interconnected parties currently have a different status under the existing codes. Interconnected parties are subject to the MPOC terms since standard form ICAs incorporate the terms of the code. On the non-Maui system interconnected parties are not parties to the VTC, although their bilateral ICAs with First Gas refer to the VTC in a number of areas.
- 3.7. GIC conducted a review of interconnection process in 2009.<sup>4</sup> This review recommended that transmission owners develop and publish interconnection policies – and First Gas has inherited the policies previously developed by Vector and MDL. These policies are quite similar, though our intention is to move to a single new policy in due course. This has not been an immediate priority and requests for interconnection are being dealt with by applying existing approaches.
- 3.8. Under the new code, we expect that receipt point, delivery point and bi-directional ICAs will be bilateral contracts between First Gas and interconnected parties, and will be in a form that is substantively similar to ICAs under existing codes.
- 3.9. The table below summarises the matters that we consider should fall within the scope of the new code, and others that should fall outside. The latter should be covered either in the interconnection policy or in the ICAs themselves.

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<sup>4</sup> See Guidelines on Interconnection with Transmission Pipelines, <http://www.gasindustry.co.nz/dmsdocument/4704>

Covered by GTAC	Covered by ICA policy and ICAs
<ul style="list-style-type: none"> <li>• Principle of open access: that subject to available capacity the system is available to parties that wish to inject or withdraw gas</li> <li>• Principle of non-degradation of service: that common and non-negotiable quality standards will apply at receipt points and no interconnected party will be allowed to materially degrade the quality of supply to other shippers</li> <li>• Principle of cost recovery: that the interconnected party will be expected to fund reasonable interconnection costs incurred by First Gas</li> <li>• High-level requirements for getting an ICA</li> <li>• The metering requirements and applicable technical standards (i.e. by reference to separate documents outside of the code)</li> <li>• Liabilities</li> </ul>	<ul style="list-style-type: none"> <li>• Specific requirements for getting an ICA (such as information to be submitted and timeframes for responding)</li> <li>• Specifics of interconnection (design flow rate, location, timing, pressure)</li> <li>• Specific equipment requirements (e.g. options selected from a general list)</li> <li>• Price and payment terms</li> <li>• Term (including termination provisions)</li> </ul>

3.10. The Metering Requirements document (currently outside the VTC) will be revised, and a Technical Standards document developed in parallel with the new code.

### Non-standard agreements

3.11. Non-standard agreements (currently called “Supplementary Agreements” under the VTC), extend or vary the standard terms set out in the code in relation to a specific end-user or site. Parties may request a non-standard agreement for a range of reasons, for example to support an unusual or unpredictable load profile, or because standard prices may not be appropriate in certain circumstances (such as where there is risk of uneconomic bypass or the uneconomic use of an alternative fuel).

3.12. The VTC enables non-standard agreements to be entered into, but limits the terms that can be varied to those specified in s2.7(e). The MPOC only allows non-standard ICAs (there are no non-standard TSAs under the MPOC), and ICA provisions can only be varied in rare situations (clause 2.1).

3.13. We intend to honour existing non-standard agreements entered into under the VTC and we expect to enter into non-standard agreements under the GTAC. While they need to be consistent with the spirit of common, non-discriminatory code arrangements, non-standard agreements are essential to in specific circumstances to prevent perverse outcomes.

3.14. The table below summarises the elements of non-standard agreements that we believe should be covered by the code. Our proposed approach to non-standard agreements is discussed in more detail in section 5.

Covered by GTAC	Covered in Non-standard Agreements
<ul style="list-style-type: none"> <li>• Circumstances when non-standard agreements will be considered. As described in section 5, we think these circumstances should be limited</li> <li>• Provisions of code that can be varied in non-standard agreements</li> <li>• Transparency obligations – requiring full disclosure of any such agreements (including capacity and prices)</li> </ul>	<ul style="list-style-type: none"> <li>• Specific details of particular non-standard agreements (including receipt and delivery point(s), capacity and prices)</li> <li>• Term (including termination provisions)</li> </ul>

## Transmission Pricing Methodology

- 3.15. The transmission pricing methodology (TPM) sets out how annual revenue requirements will be recovered through transmission fees. The TPM explains how costs are allocated to different fee types.
- 3.16. First Gas currently maintains a separate TPM for each code. The MPOC TPM is very simple – allocating costs across two tariffs in the manner specified in the code. The VTC TPM is much more complex – setting capacity reservation fees that differ geographically, and which also reflect revenue gained from throughput and overrun fees and from non-standard agreements.
- 3.17. We consider that it is useful to include principles in the code that set out how access products will be priced. However, these principles should be kept at a relatively high-level to reflect pricing principles that are widely agreed and relatively non-controversial. The table below summarises the pricing information that we consider should be included in the code, and the details that should sit outside the code in the TPM.

Covered by GTAC	Covered by TPM
<ul style="list-style-type: none"> <li>• Definition of transmission fees and how charges will be calculated</li> <li>• High-level principles to be applied when setting prices for the services defined in the code (e.g. recover required revenue, reflect scarcity when it arises)</li> <li>• The process for determining and notifying transmission fees for any period</li> </ul>	<ul style="list-style-type: none"> <li>• Specific cost allocations for any given time period</li> <li>• Resulting transmission fees</li> <li>• Statements of compliance with Commerce Commission pricing principles</li> </ul>

- 3.18. We intend to develop a new TPM in parallel with the new code – so that shippers can see how the products defined in the code will be priced. This reflects the fact that

shippers and end-users will need to understand how much they are likely to have to pay in order to assess their demand for particular pipeline products and services.

## Operating policies and standards

- 3.19. All transmission pipelines, stations and other infrastructure are subject to operational policies or rules.
- 3.20. We believe infrastructure operating policies are fundamentally a matter for the owner, First Gas. We have strong incentives to operate the transmission system responsibly and efficiently. Shippers, producers and end-users are generally interested in the operation of the system only to the extent that operational decisions affect their security of supply or have material commercial implications.
- 3.21. There are currently several Standard Operating Procedures (SOPs) under the MPOC, mainly concerned with pipeline balancing. In contrast, there are no SOPs under the VTC. The VTC does deal with some reasonably operational matters, however – such as the process used to procure fuel for balancing (see clause 8.4 of the VTC). Our AMP also includes a security standard (previously applicable only to the non-Maui system), which addresses the matter of supply security.
- 3.22. We intend to exclude SOPs from the GTAC, while the code should simply set out the principles that will guide First Gas’ operational decisions – with the primary obligation to act as a Reasonable Prudent Operator (RPO). We think this strikes the right balance between protecting user interests and ensuring accountability, while maintaining our flexibility when making decisions of an operational nature. Our sense is that where existing codes deal with operational matters this has often been to ensure that conflicts of interest are transparently managed. This is less of an issue now that First Gas owns the transmission system, and is not involved in gas production or trading.
- 3.23. We are interested to understand better how much input into operational policies our customers would like, and how various interests can best be understood.
- 3.24. A summary of how we see the dividing line between operational matters covered in the code and those falling outside the code is provided in the following table.

Covered by GTAC	Examples of operational matters falling outside the code
<ul style="list-style-type: none"> <li>• Operational responsibilities of First Gas (e.g. line pack management)</li> <li>• Principles to be applied to operational decisions (e.g. RPO obligation, primary obligation for reliability of transmission system, cost-effectiveness)</li> <li>• Consultation and transparency on operating policies</li> </ul>	<ul style="list-style-type: none"> <li>• Criteria for determining required line pack</li> <li>• How to buy and sell gas for line pack management (fuel procurement)</li> <li>• How to operate compressor stations and other stations</li> <li>• Operating policies during emergencies</li> </ul>

## Regulations and Rules

- 3.25. Two sets of regulation have particular relevance for the new code: the Gas Governance (Critical Contingency Management) Regulations 2008 and the Gas (Downstream Reconciliation) Rules 2008.
- 3.26. The CCM regulations aim to promote the effective management of critical gas outages and other critical events without comprising long-term security of supply. These regulations establish a Critical Contingency Operator (currently Core Group), and define what actions the CCO can take to restore the system to normal operating conditions. Code arrangements have a clear link to the CCM regulations by defining the commercial arrangements that will operate prior to the declaration of a critical contingency. Code arrangements that involve stronger tools to respond to pipeline scarcity will tend to reduce the risks of critical contingencies (which is favoured by the CCO).<sup>5</sup>
- 3.27. The Downstream Reconciliation Rules (DRR) set out the processes for determining shippers' delivery quantities at each shared delivery point. The GIC plays the role of "allocation agent" under the regulations, which involves using information provided by gas retailers operating on a distribution network to allocate portions of the aggregate daily delivery quantity at the delivery point (gas gate) to shippers using that delivery point. The definition of transmission services under a new code could potentially affect the reconciliation process under the current DRR.
- 3.28. Our general view however is that the GTAC should aim to leave the substance of the existing CCM and DRR unchanged. This reflects our view that the CCM regulations and the DRR, which are crucial parts of the current open access environment, are generally in reasonable shape and do not need to be changed significantly to accommodate the new code.

Q4: Do you agree that the five other legal or subsidiary instruments presented above are all relevant to establishing the boundaries of the new code? Are there any other legal or subsidiary instruments that are missing?

Q5: Do you agree with the way that we have described what should sit inside the code, and what should fall outside? Are these particular elements of the arrangements that we have described as sitting outside the code that you consider should be covered by the code (or vice versa)?

Q6: Are there any other elements to the scope of the code that we should consider?

<sup>5</sup> <http://www.gasindustry.co.nz/assets/Consultations/Uploads/New-Gas-Transmission-Access-Single-Code-Options-Paper-Part-1-submissio....pdf>

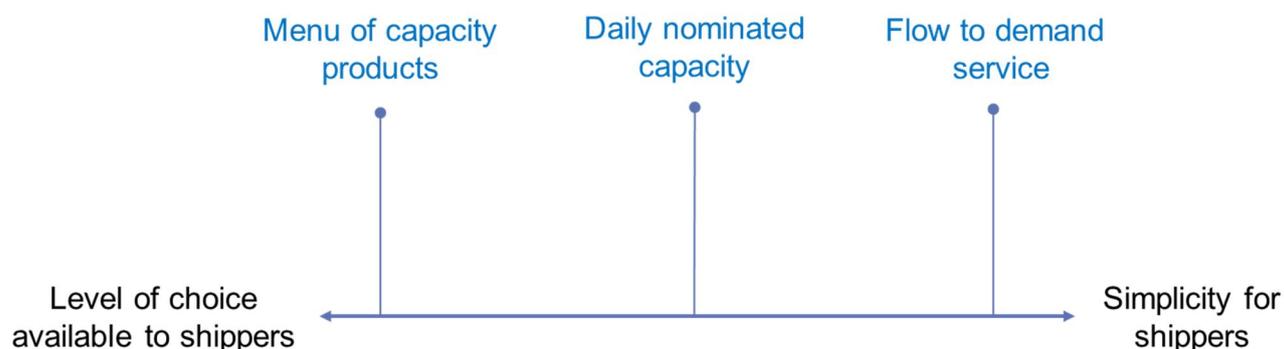
## 4. HIGH-LEVEL OPTIONS FOR TRANSMISSION ACCESS

- 4.1. This section describes 3 high-level options for using the gas transmission system under the new code. These options present reasonably stark alternative design choices for the new access regime. We are interested to hear from stakeholders about which option they think would best meet their needs and those of the gas industry as a whole. Particular stakeholders may like elements of different options, and to the extent that they are compatible we could look to combine such elements into our development of the new code.
- 4.2. We believe that all of the options would meet all of the objectives as set out in Section 2 to a greater or lesser extent. We have not evaluated the options in this paper, but intend to do so after having received submissions and before deciding on a way forward. We believe that the decision as to which option to pursue will depend on the weighting placed on the various objectives. For example, whether the ability to access firm capacity is considered most important or whether convenience and simplicity are considered to outweigh the requirement to book and pay for firm capacity.

### Overview of options for the access regime

- 4.3. One way to think about the high-level options we present in this paper is to place them on a spectrum, defined by the level of choice and flexibility for shippers at one end and simplicity for shippers at the other end. Such a spectrum is illustrated in Figure 3.
- 4.4. In fact, there are a number of dimensions that the options could be compared across – including geographic specificity, pricing complexity, approaches for dealing with congestion, and ease of integration with wholesale gas trading. The spectrum presented below has been chosen as a useful way to frame up the options simply because choice v simplicity for shippers seems to be a particularly important point of comparison between possible options.

**Figure 3: Spectrum of access regime options**



- 4.5. The three broad options presented on this spectrum can be summarised as follows:

- 4.5.1. **Menu of capacity products.** Provides ability to obtain priority in advance for pipeline capacity between locations (points and/or zones), as well as access to available capacity day to day. Scheduling is based on daily nominations across all products, with firm capacity having priority during times of scarcity. This option requires more upfront effort on the part of shippers who want pre-agreed priority, but enables access to capacity in ways that reflect different end-users' requirements and usage patterns and the values end-users place on capacity.
- 4.5.2. **Daily nominated capacity.** Provides access to capacity between locations (points and/or zones) on a day, with no priority obtainable in advance. Scheduling is based on daily nominations. This option is less complex for shippers to interact with, but involves less pre-determination of how access will be allocated should capacity become scarce.
- 4.5.3. **Flow to demand service.** Without a nominations regime, scheduling relies on First Gas' forecasts of pipeline offtakes and injections. Using this information, First Gas would flow to demand. This option should be the least complex for shippers to interact with, though it would rely on good quality information and transparency to provide certainty that capacity will be available at a level comparable to the other options.
- 4.6. The first two options (menu of capacity products and daily nominated capacity) could be implemented as point (or zone) -to- point (or zone) regime that use defined contractual paths to link gas injection with deliveries. Alternatively, they could be implemented as entry/exit regimes that allow parties to book capacity rights independently at entry and exit points and transport gas through zones, instead of along contractual paths. As described below, we have proposed these options as point (or zone) -to- point (or zone) regimes, but are interested in any reasons why an entry/exit regime would be better.
- 4.7. The third option focuses only on use of the transmission system, and would therefore likely be based on a postage stamp product and charge (although the charge could be specific to particular delivery points or zones).
- 4.8. Variants of the first two options are commonly found internationally. North American systems tend to set up contractual menus and paths as described in the first option. There is greater variation among European systems, which are required to use an entry/exit approach. The flow to demand service is not commonly used in open access systems internationally. A comprehensive review of international approaches to transmission access is found in Appendix A of the PEA July 2012 paper.<sup>6</sup>
- 4.9. We believe that all options could be implemented in ways that ensure compatibility with the development of New Zealand's wholesale gas trading market. The most important thing is that short term capacity is made available and can be traded

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<sup>6</sup> "Review of Transmission Access and Capacity Pricing: Advice from the Panel of Expert Advisers", July 2012 available online at <http://www.gasindustry.co.nz/work-programmes/gas-transmission-investment-programme/background/transmission-access/review-of-transmission-access-and-capacity-pricing-advice-from-the-panel-of-expert-advisers/>

efficiently (if required). Currently, most wholesale gas is sold to shippers under bilateral contracts with gas producers, with a spot market (emsTradepoint) used for short-term trading. emsTradepoint is a shipper under both existing codes, although we acknowledge that the current code arrangements are not ideally suited to short term trading.

Q7: Are there other code options that you believe should be considered in the process of developing a new code in addition to those described above?

Q8: Are there particular lessons from international experience that you consider First Gas should seek to learn from when designing and implementing the new access code?

Q9: How much focus do you think should be placed on ensuring that transmission access arrangements facilitate further development of the wholesale gas market? Are there particular features of a new access code (in addition to short term availability of capacity) that are important?

- 4.10. In the remainder of this section we outline the key characteristics of each option and identify design choices relevant to each option. We start by describing the capacity products available, and how we expect shippers would access these products. We then discuss the incentives for efficient pipeline and shipper behaviour, how scarce capacity is allocated, and the likely pricing structure that will accompany each option. Finally, we highlight key design questions that will need to be addressed for each option – giving stakeholders a flavour of the type of issues that will need to be worked through in 2017 if a particular option is selected for code detailed design and negotiation.
- 4.11. We describe these options at a relatively high-level in this paper, while acknowledging that underneath each options sit important detailed design choices that will need to be worked through during 2017. As stated in the introduction to this paper, decisions on such details should reflect a coherent, overarching philosophy. The time available for code development may be insufficient for us to work through multiple detailed designs, so we are keen to understand stakeholder views on the option they prefer and thus the direction in which we should head.

## Option 1: Menu of capacity products

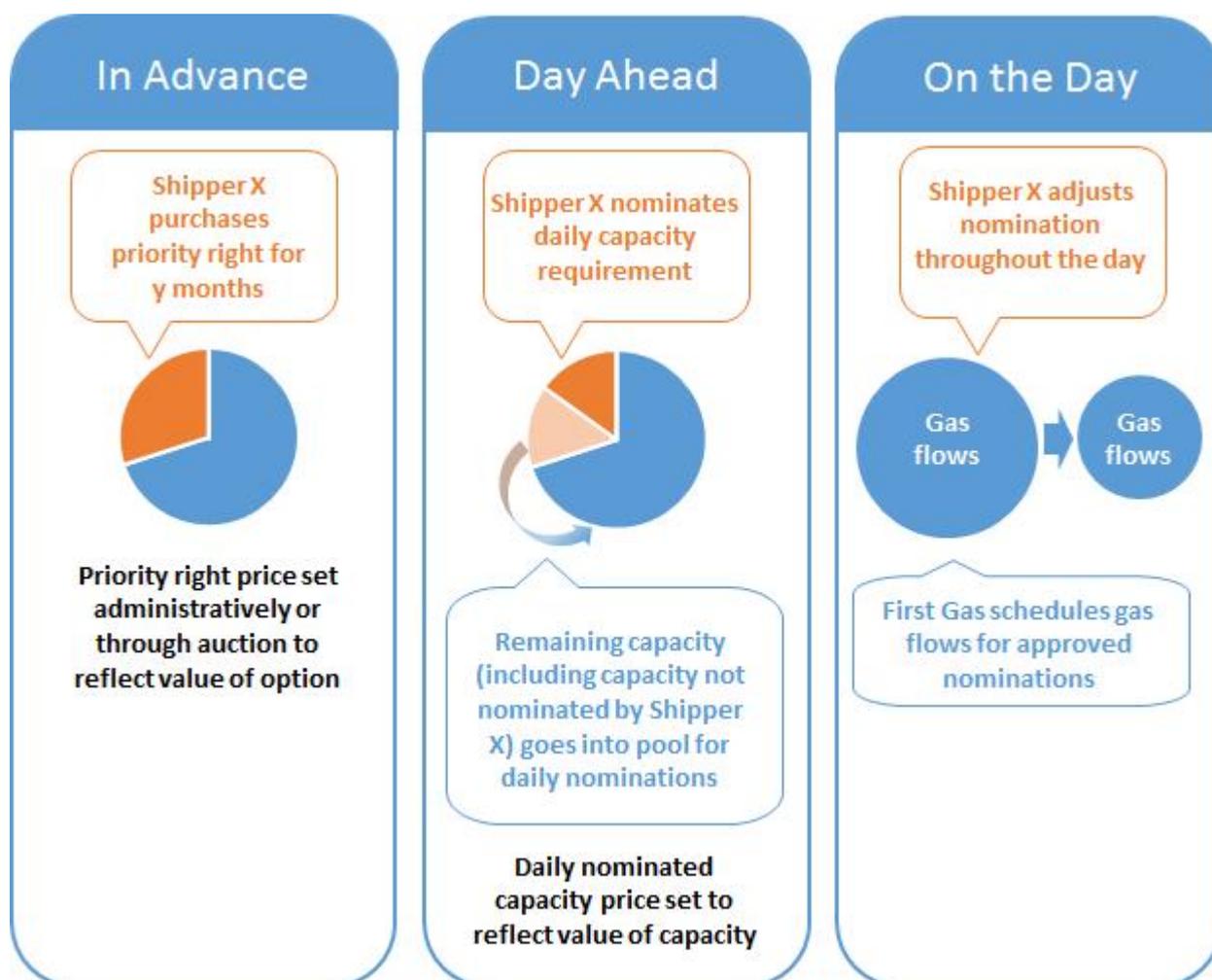
- 4.12. The overall philosophy of this option is to establish a contractual hierarchy to allocate capacity when it is scarce, while having the ability to access any unutilised capacity on a day.
- 4.13. In our assessment, this option is substantially different from both of the existing codes (VTC and MPOC). While the MPOC has the concept of priority rights (known as AQ), this has not been implemented. As a result, the MPOC is typically viewed as only having one capacity product – daily nominated capacity. While the VTC has

annual capacity contracts, it does not offer shippers the ability to access more capacity (or use less) from day to day via a nominations regime.

***Accessing pipeline capacity***

- 4.14. Under this option, First Gas would offer two standard products across all parts of the system:
  - 4.14.1. A priority right (offered periodically)
  - 4.14.2. A daily nominated capacity product.
- 4.15. First Gas could also offer other contracts where appropriate, such as interruptible contracts on congested parts of the system.
- 4.16. The capacity products would be expressed as:
  - 4.16.1. For the priority right, a maximum daily quantity (MDQ) for each capacity period and receipt-delivery point (or zone), determined in advance by a periodic booking process and utilised through a nominations process
  - 4.16.2. For the daily nominated capacity product, a daily quantity (DQ) of capacity for each receipt-delivery point (or zone), determined in advance by a nominations process
  - 4.16.3. A maximum hourly quantity (MHQ) equal to a set fraction of MDQ.
- 4.17. Without any link to a specific end-user of gas, a shipper could use either capacity product (or both) to aggregate demand from various end-users.
- 4.18. The priority right essentially gives the holder a right of first refusal on available daily nominated capacity. Daily nominated capacity would be a firm capacity product, curtailable only in the event of an emergency or critical contingency.
- 4.19. A visual overview of how shippers would access capacity under this option is presented in Figure 4 – divided into three timeframes: in advance, day ahead, and on the day.

Figure 4: Overview of Menu of Capacity Products Option



4.20. Flexibility could be built into the design of the priority right, for example by:

- 4.20.1. Providing multiple capacity periods during a year to enable customer-specific capacity profiling, e.g. for winter/summer, shoulder/peak, day/night
- 4.20.2. Enabling multi-year capacity bookings for those that require longer-term certainty.

4.21. Since the priority right could be purchased well in advance, it might not match actual demand requirements on a day. This may create value from trading the priority right. Such trading would be limited to with particular parts of the network to reflect physical capabilities (i.e. because rights on one part of the system will not have the same value as rights on another part of the system). We envisage that this trading would be facilitated through the new IT system.

**How would shippers access capacity?**

4.22. We envisage that shippers would access the products by:

- 4.22.1. Periodically booking priority rights

- 4.22.2. Nominating their total daily capacity requirements. We expect that nominations would also serve the purpose of scheduling gas flows from producers and would be the means of establishing title to gas.
- 4.23. An alternative to daily nominations for all requirements would be to treat priority rights effectively as a “no notice” fixed capacity service (like current Reserved Capacity under the VTC). On balance, we consider that requiring shippers to nominate their total daily capacity requirements (including any amounts covered by priority right bookings) is preferable because it provides:
  - 4.23.1. First Gas with information on how much capacity in total is expected to be required on a day, which could be useful for operating the system efficiently
  - 4.23.2. An efficient process for scheduling the flow of gas from producers into the pipeline system
  - 4.23.3. The option of making firm capacity that is not required available to others on the day and during congested periods. This reduces the likelihood of “contractual congestion”.

***Incentives for efficient pipeline and shipper behaviour***

- 4.24. Whether capacity is sold periodically in fixed amounts or daily according to nominations, a mechanism to ensure the integrity of the capacity allocation process is required. As is the case under the VTC, First Gas believes that the best such mechanism is an overrun fee.
- 4.25. First Gas believes that an overrun fee should be applied as follows:
  - 4.25.1. Where a shipper uses priority right only, to the GJ taken in excess of the shipper’s nominated quantity (or the amount of priority right, if the flow to demand fixed capacity option is adopted)
  - 4.25.2. Where a shipper uses daily nominated capacity only, to the GJ taken in excess of the shipper’s nominated quantity for the day
  - 4.25.3. Where a shipper uses both priority right and daily nominated capacity, to the GJ taken in excess of the shipper’s aggregate nominated quantity for the day (or the sum of the shipper’s priority right plus daily nominated capacity, if the flow to demand fixed capacity option is adopted).
- 4.26. To ensure efficient use of system resources, an incentive is also likely to be required under this option to match actual injections and demand with nominations (as close as possible).

***Allocating scarce capacity to the highest value***

- 4.27. Decisions to purchase priority rights will generally signal of the perceived value of scarce capacity. Those parties that have purchased priority right place a higher value on access to pipeline capacity than those parties who are prepared to take their chances that capacity will be available on a day.

- 4.28. Secondary trading provides a further mechanism for scarce capacity to flow to its highest value use. A party who finds itself with insufficient capacity access during a scarcity event can trade with parties having priority right they are willing to sell.
- 4.29. We consider it is worth placing some limits on the proportion of pipeline capacity that can be sold as priority right. The MPOC currently applies a limit for AQ of 70% - which we consider strikes a reasonable balance between ensuring that priority access can be obtained by parties who value it, while still enabling some flexibility on the day to access capacity.
- 4.30. As pipeline capacity starts to become scarce, First Gas would look to offer interruptible contracts. If the demand for priority capacity exceeds the supply, this would provide a signal to First Gas that further action may be required – such as investing to expand capacity.

### **Pricing**

- 4.31. Different prices will apply to different products. Since priority right provides an additional right that is valuable during capacity scarcity, it is reasonable for this product to have a higher price than daily nominated capacity. (The difference could be small where capacity is (realistically) not constrained.)
- 4.32. The key pricing decision is how to establish this price premium. The most “market based” option would be to use auctions – where parties would bid for available capacity and those bids would establish the price. Other more administrative approaches are also possible, such as having First Gas set a posted price for priority right based on an assessment of pipeline conditions and willingness to pay.
- 4.33. Under its revenue cap, First Gas will need to adjust the premium periodically to reflect changes in the amounts of priority right allocated (and therefore the expected amounts of daily nominated capacity).
- 4.34. Just as priority right would trade at a premium, we would expect interruptible capacity (if and where available) to be priced at a discount. Again, market processes could be used to establish the discount – although practically it would be simpler for First Gas to negotiate any discount with the shipper concerned. This topic was canvassed by the Gas Industry Transmission Access Working Group, which recommended relying on expressions of interest and bilateral negotiations initially and then moving to auctions over time.<sup>7</sup>

### **Summary of design choices for menu of capacity products**

- 4.35. The material above provides a high-level sketch of how this option would work, but there are a number of detailed design decisions that will need to be made to implement this option. We consider that setting out these decision choices now should help to inform submissions by allowing stakeholders to evaluate which set of decision choices is most worth spending time on to finalise the access arrangements.

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<sup>7</sup> <http://www.gasindustry.co.nz/work-programmes/vtc-change-requests-and-appeals/background/vtc-change-requests-from-april-2015/vtc-change-request-congestion-management/background/>

- 4.36. The design choices for the menu of capacity products option include:
- 4.36.1. **Design of priority product.** As mentioned above, we will need to decide whether the priority product operates as an option (like AQ under the MPOC) or like Reserved Capacity under the VTC.
  - 4.36.2. **Frequency of fixed capacity offers.** As mentioned above these could be annually, six-monthly, quarterly, or of varying duration. The choice involves a balance between the administrative costs of managing the booking-allocation-pricing process and the value to shippers of more regular booking cycles.
  - 4.36.3. **Design of the nominations regime.** Currently, nominations on the Maui pipeline have some operational limitations. Because curtailed nominations reduce gas injections as well as gas demand, attempts to curtail nominations can actually be unhelpful. There is a need for further examination of how a system of curtailing nominations should work. We have also received quite a bit of feedback on the timing of nominations – both the definition of the “gas day” and the timing of ID cycles. We would propose an extensive review of the role and features of the nominations regime under a menu of capacity products option
  - 4.36.4. **Link between contracts and pipeline operations.** Changing demand requirements, such as the replacement of base load power stations with peakers, may have implications for pipeline operational limits, the design of the capacity products and the fees that apply
  - 4.36.5. **Pricing.** As discussed above, this option would require careful thought on how to price different products to send incentivise the right behaviours. These decisions would also need to be made in a way that ensures First Gas complies with its revenue cap as a regulated business.<sup>8</sup>
  - 4.36.6. **Allocation of receipts and deliveries.** The Maui pipeline currently uses an Operational Balancing Agreement (OBA) method that equates receipt and delivery quantities to approved nominations rather than actual (metered) quantities. The VTC uses a different approach at receipt points (i.e. rules-based Gas Transfer Agreements), while at delivery points the metered quantity forms the basis for allocation of delivery quantities to shippers. We will need to consider how to allocate gas receipts and injections – which may involve using different allocation approaches at different parts of the system.

Q10: Do you have a view on whether the priority right product should be designed as an option (subject to nominations) or as no notice fixed capacity?

<sup>8</sup> Although we note that the Commerce Commission is proposing a relatively flexible revenue cap where under- and over-recovery can be washed up in the prices charged the following year.  
<http://www.comcom.govt.nz/regulated-industries/input-methodologies-2/input-methodologies-review/>

Q11: Do you consider that there would be sufficient interest in priority rights to justify the effort in administering this product?

Q12: Do you have any views on the broad features of the priority right product, such as the length on the contract, the frequency of booking rounds, etc?

Q13: Do you have any views on the frequency and timing of nomination cycles, and the role of nominations?

Q14: Do you have any preferences on the allocation methodology at receipt points and delivery points (OBAs, rules based approaches, or a combination of different approaches)?

Q15: Are there any aspects of the menu of capacity products option that you see as particularly valuable, or particularly concerning?

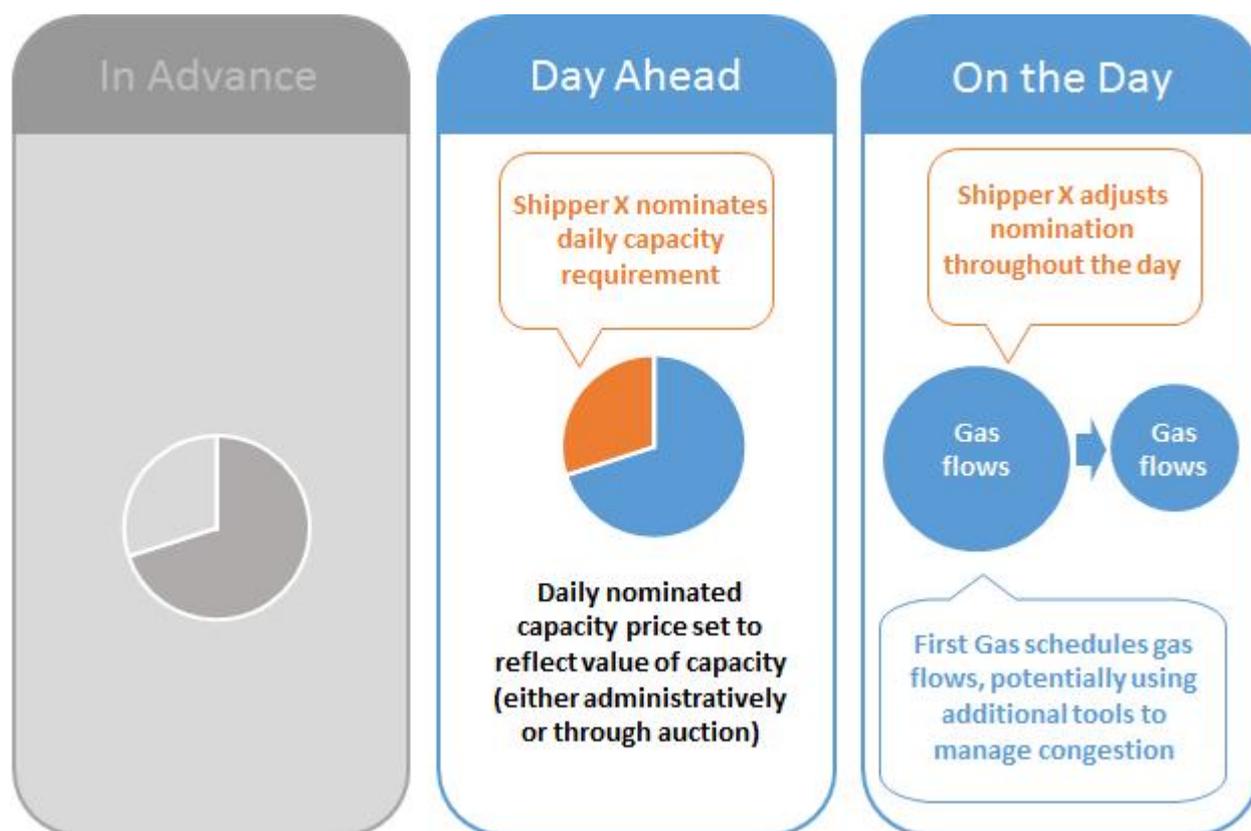
## Option 2: Daily nominated capacity

- 4.37. The overall philosophy of this option is to allocate capacity solely on nominations, with little upfront resource applied to establish who should receive priority when capacity is scarce. This option is essentially a simplified version of the menu of capacity products approach, with no priority right available leaving only the 'day ahead' and 'on the day' processes for allocating capacity. This option would still need to have a way to manage scarcity if and when it arises, so the approach to pricing daily nominated capacity might be more dynamic.
- 4.38. Superficially this option might be thought of as extending the MPOC nominations regime to the non-Maui system. However, we think that there would be key differences between the implementation of this approach in a new code and the MPOC, particularly in relation to curtailments, allocation of imbalances, and pricing.

### *Accessing pipeline capacity*

- 4.39. Under this option, First Gas would offer one standard product across all parts of the system: a daily nominated capacity product.
- 4.40. We envisage that daily nominated capacity would be expressed in a similar way to that described in the menu of contracts option described above. It would comprise of a daily quantity (DQ) of capacity, corresponding to the approved nomination for the day, a maximum hourly quantity (MHQ) equal to a set fraction of the DQ, and would not be linked to any specific end-user. The nomination would also be used to schedule the flow of gas.
- 4.41. This product would be firm capacity, curtailable only in the event of an emergency or contingency event.
- 4.42. Figure 5 illustrates how this approach would work.

Figure 5: Overview of Daily Nominated Capacity Option



4.43. Given the short-term nature of this product it is assumed that nominations will suit actual need and therefore tradability would not be necessary. However, allocation of capacity at times of scarcity would require an allocation mechanism (such as some form of congestion management system).

**How would shippers access capacity?**

4.44. Daily Nominated Capacity would be obtained via a standard nominations process. There could be options associated with the design and implementation of the nominations process.

**Incentives for efficient pipeline and shipper behaviour**

4.45. As with the menu of capacity option above, the main incentive to ensure the integrity of the capacity allocation process would be an overrun fee. This would be payable for exceeding any approved nominations on a day.

4.46. Incentives to match nominations to reality can also come through the regime for balancing (discussed later). In our view, it is worth separating out the incentives that apply to use of pipeline capacity (overruns) from balancing incentives (which help efficiently manage gas inventories). This appears to be consistent with overseas practice, and reflects the definitions of overruns and imbalance set out in paragraph 1.16.

### ***Allocating scarce capacity to the highest value***

- 4.47. As demand for nominated capacity increases, parts of the system may reach the point where nominations need to be curtailed (i.e. where operational capacity would otherwise be exceeded). A mechanism to signal this scarcity would need to be developed to ensure that scarce resources were, as far as possible, allocated to the highest value use.
- 4.48. We envisage that under this option First Gas would develop a transparent capacity allocation methodology, which could include increasing prices for nominated capacity as available pipeline capacity decreases (i.e. more dynamic pricing that reflects the level of capacity available on different parts of the system and different times). This could include pricing that varies with time of year to signal to shippers to shift load away from system peaks.

### ***Pricing***

- 4.49. The fee structure, and price-setting under this option would be relatively simple:
- 4.49.1. A capacity fee for each approved nominated quantity of capacity
  - 4.49.2. An overrun fee for exceeding the nominated quantity of capacity
- 4.50. Various design options could be considered, for example:
- 4.50.1. Whether to have a throughput fee as well as a capacity fee
  - 4.50.2. Different prices depending on the time of year and other variables
  - 4.50.3. A multi-part capacity fee, to include a coincident peak demand component.
- 4.51. The key aspect of pricing daily nominated capacity would be to determine how capacity fees would vary across different parts of the transmission system – particularly when approaching scarcity.

### ***Summary of design choices for daily nominated capacity***

- 4.52. This option would involve a similar set of design choices to the menu of capacity products. However, instead of spending effort finalising the design of the priority right and the booking process, time would instead be spent designing a capacity allocation regime and pricing approach for the daily nominated capacity that reflects the value different shippers place on scarce pipeline capacity.
- 4.52.1. **Design of capacity allocation regime.** To allocate scarce pipeline capacity to its highest value, First Gas would need to develop a transparent capacity allocation methodology under this option. We expect this could include increasing prices for nominated capacity as available pipeline capacity decreases. This could include pricing that varies with time of year to signal to shippers to shift load away from system peaks.
  - 4.52.2. **When and where to implement the capacity allocation regime.** The approach to allocating scarce capacity could be implemented across the

system from the time the new code is implemented. Alternatively, the capacity allocation regime could be agreed in principle, but not used until required (in a similar way to the AQ system under the MPOC).

- 4.52.3. **Pricing.** As described above, the pricing challenge for daily nominated capacity will involve signalling the value of scarce capacity as and where it arises. This could include more dynamic pricing for daily nominated capacity than required within the menu of capacity products option
- 4.52.4. **Design of the nominations regime.** Like the menu of capacity products, we would also propose an extensive review of the role and features of the nominations regime under a daily nominated capacity option
- 4.52.5. **Link between daily nominated capacity and pipeline operations.** First Gas needs to be able to respond to changing demand requirements (such as from further peaking power stations). This has implications for pipeline operational limits, the design of the daily nominated capacity product, and the applicable transmission fees
- 4.52.6. **Allocation of receipts and deliveries.** The same considerations apply as under the menu of capacity products option. To ensure efficient use of system resources an incentive is likely to be required under this option to match actual injections and demand with nominations (as close as possible).

Q16: Do you have any views on how scarcity should be signalled if a daily nominated capacity option was developed?

Q17: Are there any elements of the daily nominated capacity option that you consider should differ from capacity nominated as part of a menu of capacity products (option 1), such as the frequency and timing of nomination cycles, and the role of nominations?

Q18: Are there any aspects of the daily nominated capacity option that you see as particularly valuable, or particularly concerning?

### Option 3: Flow to demand service

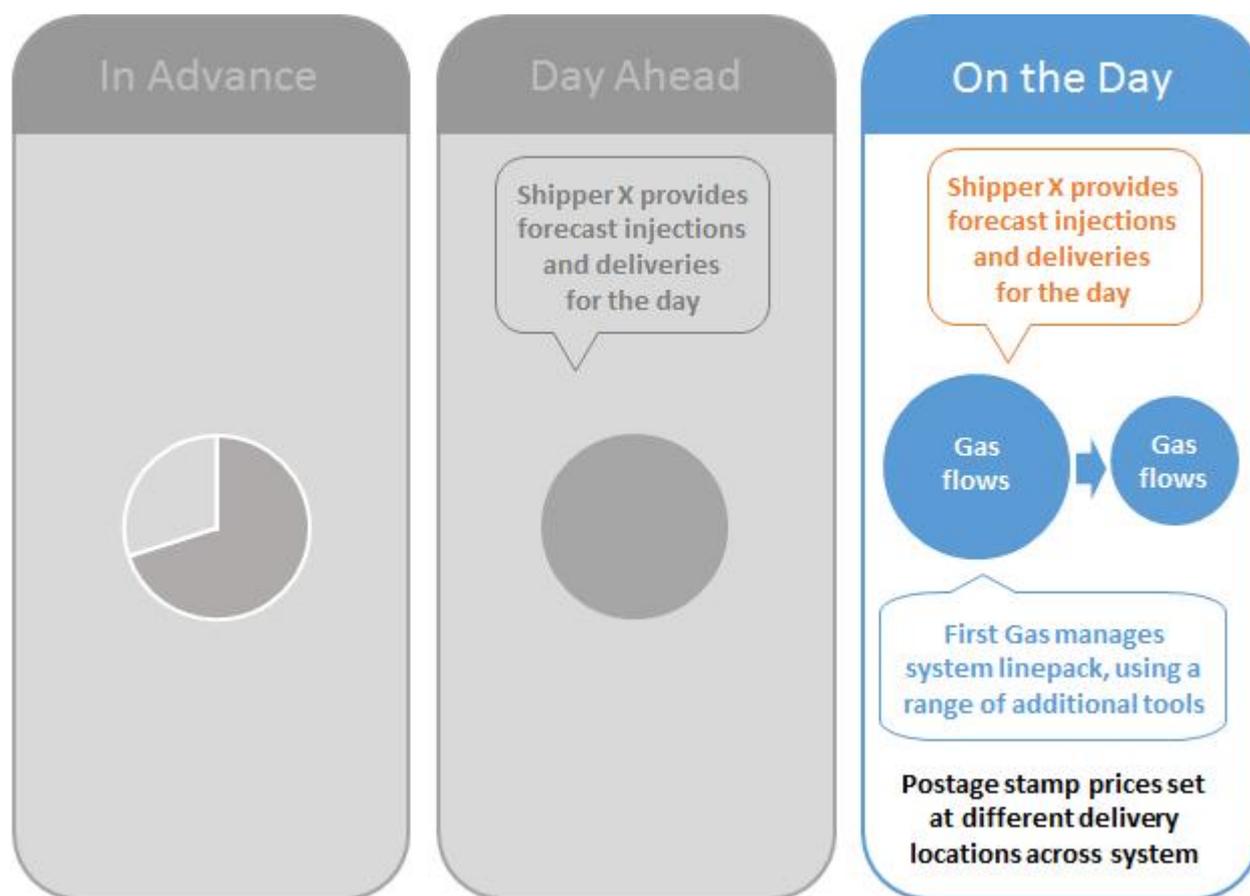
- 4.53. The overall philosophy of this option is to operate the system to “flow to demand”, with First Gas using all available flexibility in the transmission system to provide a uniform transmission service to all shippers.
- 4.54. This option would not involve shippers booking or nominating for capacity. Instead, future use of the transmission system would be signalled through forecasts, and the system would be managed in real-time using operational responses (which would likely include measures that would not be used if capacity was booked or nominated in advance).

- 4.55. Operationally, this option is similar to how the non-Maui system currently works. This option could also be thought of as similar to how Transpower operates the electricity system in New Zealand (albeit without accompanying nodal price signals and the wholesale market).
- 4.56. It is important to understand that making code arrangements more simple is likely to make system operations more complex. This reflects the reality that complexity and risk needs to be managed by someone. The flow to demand option takes complexity off shippers and puts it on First Gas. As a result, this option may result in First Gas bearing more operational cost, which would ultimately be charged to shippers and recovered from end-users. We see the key determinant of whether this option is worth pursuing further as whether the processes used to contract for capacity under the first two options are adding value. If they are not adding value (and therefore simply imposing cost), an option that does not involve those processes is worth considering.

***Accessing pipeline capacity***

- 4.57. The key components of a flow to demand service would be that shippers forecast their demand, to assist First Gas' planning of future capacity requirements.
- 4.58. The code could require shippers to notify First Gas before connecting a new end-user above a threshold size (MDQ), which could vary from location to location on the system. Alternately (or possibly additionally), distribution network owners might have a greater role to play under this option. Specifically, distribution networks might be required to ensure that load connected to their network does not exceed the maximum design flow rate for the relevant delivery point in their ICA (after accounting for user diversity) without the prior agreement of First Gas.
- 4.59. This highlights the fact that this option likely places more emphasis on the role of interconnected parties – not just shippers. This is because interconnected parties are able to help address any physical system issues that arise in operating the system, such as by injecting more gas to maintain system linepack or by reducing demand.
- 4.60. Figure 6 provides an overview of how this approach would work. While this option involves some forecasting ahead of time (either day ahead or earlier), any operational responses required under this option takes place on the day.

Figure 6: Overview of flow to demand service option



- 4.61. Under a flow to demand service, trading and transferring of capacity would not be necessary.
- 4.62. Transparency of information and decision making would be a key feature for building confidence in the reliability of the transmission service available under this option. This is the simplest option from a shipper’s point of view. It might however be more complex (or uncertain) for First Gas, and we expect First Gas to need a set of operational tools to manage the risk of critical contingencies.

**How would shippers access capacity?**

- 4.63. Other than signing a transmission services agreement, shippers would not need to do anything to access pipeline capacity under this option. Shippers would, however, be expected to provide demand forecasts and the accuracy of those forecasts would be assessed from time to time.

**Incentives for efficient pipeline and shipper behaviour**

- 4.64. Since this option does not include nominations there can be no incentive to manage demand to nominations or contracted quantities. However, this does not mean that the user can use as much capacity as it wishes. Each delivery point will continue to

have a maximum design flow rate which must not be exceeded, as set out in the relevant interconnection agreement.

- 4.65. We believe that shippers will have strong interests to provide high quality information – since they will want the system to be managed prudently within operational limits. However, this option may need to involve reviewing the forecast information received by shippers to ensure that it is accurate and can be relied upon to inform decisions.
- 4.66. Parties (including First Gas) would also continue to have incentives to avoid critical contingencies. This option would need to ensure that First Gas has the necessary information and incentives to manage scarcity events using the available tools.

### ***Allocating scarce capacity to the highest value***

- 4.67. As noted above, this option would require some way to ration capacity when it becomes scarce. We envisage that this would be a price-based mechanism, such as the congestion management contracts developed by the Gas Industry Transmission Working Group.<sup>9</sup> Under this option particular shippers whose customers (end-users) can provide demand response would be paid to do so, in order to maintain reliable supply to other shippers.
- 4.68. We also consider that other operational responses may be required under this option, such as operational flow orders (OFOs) that have consequences for shippers and interconnected parties. These operational responses could be similar to the provision of ancillary services in the electricity market – where interconnected parties are called upon to support system operations (for example by providing frequency keeping, spinning reserve, or being “constrained on” or “constrained off”).

### ***Pricing***

- 4.69. Since this option would not involve capacity booking or nominations, transmission charges would be based on delivered quantities.
- 4.70. Under this option, pricing could theoretically be as simple as dividing First Gas’ allowable revenue by total (i.e. forecast) gas deliveries (a pure postage stamp option).
- 4.71. In reality however, pricing would be more complex, and probably more efficient. Transmission fees would likely be zonal, and could vary depending on time of year and capacity demand (i.e. to reflect scarcity). Transmission fees could also include a coincident peak demand component (like Transpower’s current pricing) to encourage demand management.

### ***Summary of design choices for flow to demand service***

- 4.72. The design choices for the flow to demand service would be quite different from the other two options described in this paper.

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<sup>9</sup> <http://www.gasindustry.co.nz/work-programmes/vtc-change-requests-and-appeals/background/vtc-change-requests-from-april-2015/vtc-change-request-congestion-management/background/>

- 4.73. The design choices would focus on matters such as:
- 4.73.1. **Operational tools to manage physical congestion.** We would need to determine what additional tools First Gas will need to maintain prudent system operations. We would also need to determine how physical congestion and events would be managed (e.g. through storage, flow orders, interruptible user contracts), and how the costs of those interventions would be recovered
  - 4.73.2. **Ensuring high-quality forecasts.** The quantity and quality of information required to ensure reliable transmission in the absence of nominations
  - 4.73.3. **Title tracking.** Other arrangements would be required to track title to gas in the absence of nominations/GTAs
  - 4.73.4. **Allocation of metered deliveries.** As with previous options, we will need to deal with allocation of deliveries under a flow to demand service.

Q19: What information do you think it would be realistic for shippers to provide as forecasts for managing the transmission system under a flow to demand service option?

Q20: What information would you require from First Gas to provide you with confidence in security of supply both in the short and long term under this approach?

Q21: How dynamic do you think pricing should be under a flow to demand service approach?

Q22: Are there any aspects of the flow to demand service option that you see as particularly valuable, or particularly concerning?

## Link between access options and system characteristics

- 4.74. The physical reality of the transmission system will influence both the selection of the option around which the new code is built and the final design of that option.
- 4.75. For example, physical system characteristics will influence:
- 4.75.1. The format of nominations under the first two options described above. These could be point-to-point, point to zone or zone to zone, depending on what the configuration of the system will support in different areas
  - 4.75.2. The format of forecasts required under the flow to demand service option described above. Where capacity is scarce, forecasts may need to be regular and precise to support prudent system design and operation
  - 4.75.3. The prices that apply to different locations across the system and to different products. For example, where capacity is scarce, we would expect higher prices to apply to fixed capacity in a menu of capacity products

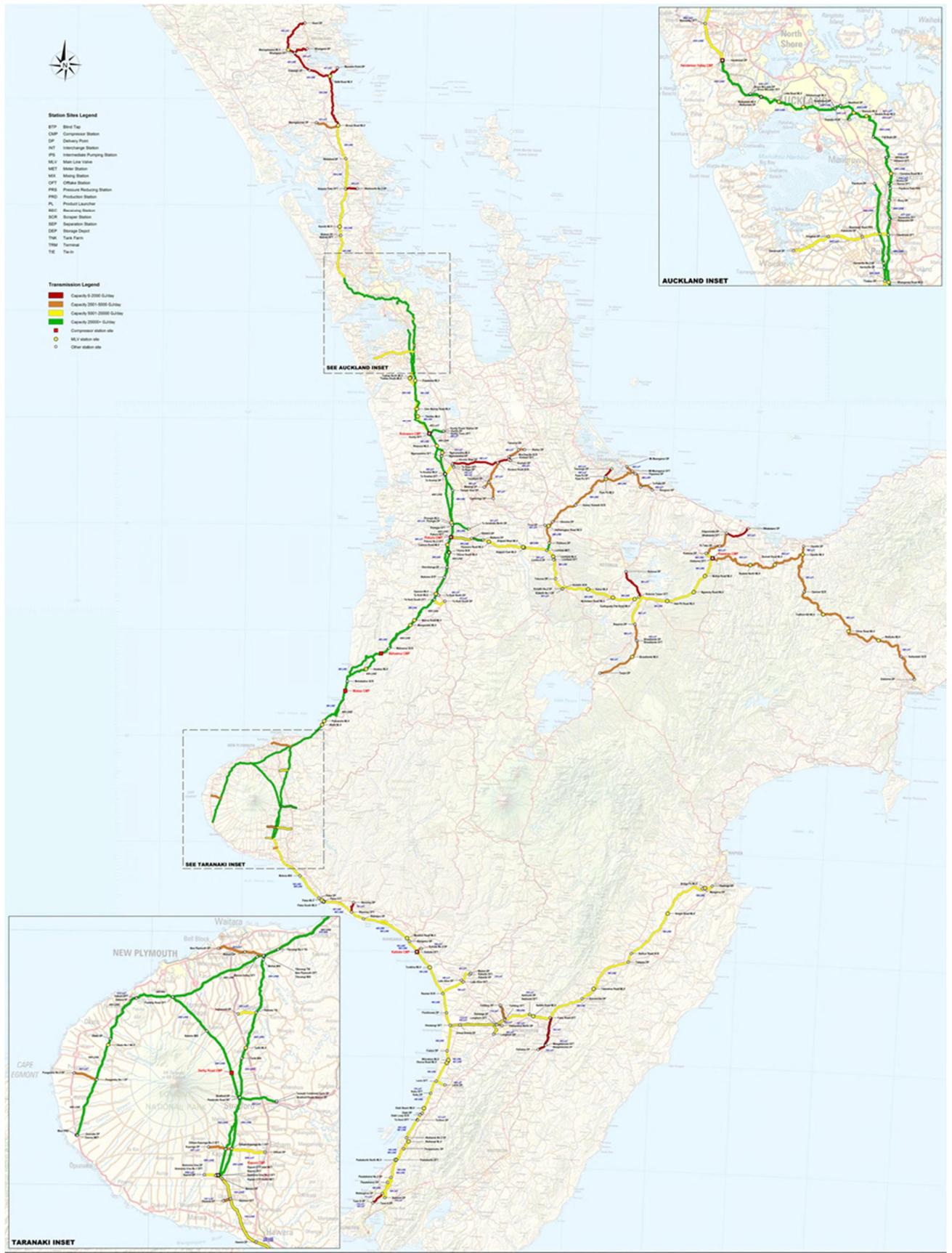
- 4.76. In order to inform submissions, a map showing the available capacity across the system is provided on the following page of this paper in Figure 7. This map uses information presented in Appendix F of our AMP, and uses a traffic light system to indicate where there is ample spare capacity (green), capacity is becoming tight (yellow/orange), and limited spare capacity exists (red).
- 4.77. This map needs to be interpreted with caution: no shipper should be deterred from inquiring about the availability of capacity in any area. Depending on the size of the load, the system can still accommodate growth without capacity expansion – even in areas shown as red. For example, while the line to Whakatane is shown in red, demand on the distribution network there could double without exceeding the existing capacity of the system. On the other hand, to supply a major new industrial load in Whakatane might require some expansion of capacity.
- 4.78. Our initial assessment of the information presented in the map is that:
- 4.78.1. Parts of our system have relatively scarce capacity. For example, the BOP system is predominantly orange and red. The area north of Auckland also has little spare capacity (the map is based on expected demand after the Henderson compressor station, currently under construction, is commissioned).
  - 4.78.2. The main “trunks” of the system between Taranaki and Auckland and Taranaki and Wellington are relatively unconstrained
  - 4.78.3. Scarcity occurs at particular delivery points. The lines change colour at particular parts of the system – Kapuni heading south, Pokuru heading east, and Henderson heading north. Downstream of those “bottlenecks” capacity is relatively scarce. This seems to lend itself to zones where shippers upstream of those areas nominate and face prices based on the capacity available on those points of the system. On the other hand, some parts of the system become more constrained at locations past those points. For example, the lateral to Rotorua (red) has less spare capacity than the main line on the BOP system (yellow).

Q23: Do you believe that the new code access arrangements should reflect the physical constraints on the transmission system? If so, which option does this support in your view?

Q24: Do you have any views on how capacity on the system should be defined and priced (i.e. between points or between zones or between points and zones), and why?

Q25: Of the options described in this paper, which do you prefer and why?

Figure 7: Map of Available Capacity in First Gas Transmission System (2016)



## 5. SUPPORTING ARRANGEMENTS IN THE NEW CODE

- 5.1. The GTAC will include a number of provisions that supplement and support the access and pricing regime. Some of the features of those supporting arrangements will depend on which access regime is ultimately selected. However, we present some initial thinking on supporting arrangements in this section to allow stakeholders to provide their perspectives and preferences on how these matters should be resolved in the new code.
- 5.2. The supporting arrangements discussed in this section are code governance; balancing, linepack management and allocation; non-standard agreements; and gas quality.

### Code governance

- 5.3. The code provides a common set of access terms to multiple parties – and therefore needs to exist within a multilateral framework to ensure that various interests are protected. We have started to give some thought to the contractual form of the code and how it might be amended if required.

### Legal form of the new code

- 5.4. The new code could adopt one of any number of possible legal forms including:
  - 5.4.1. A pan-industry agreement between all components of the supply chain (producers, First Gas, distribution networks, shippers, and end-users)
  - 5.4.2. A set of bilateral shipper contracts (TSAs) with common terms. Under this approach, ICAs would be bilateral agreements between First Gas and producers (but could be on defined terms set out in the code)
  - 5.4.3. Bilateral contracts with substantially similar terms (possibly based off a model contract), with the obligation to update agreed terms from time to time such as when more favourable terms are offered to another party. Network use of system agreements often take this approach.
- 5.5. Currently, the provisions of the MPOC are incorporated into the standard ICAs and TSAs made available under that Code. While strictly this constitutes a set of bilateral contracts, the standardised form of ICAs makes it close in some respects to a pan-industry agreement. The VTC takes a different approach to ICAs, which are stand-alone bilateral contracts.
- 5.6. Our preference at this stage is to have TSAs that incorporate the provisions of the new code, with ICA agreements that are separate bilateral contracts with terms that may differ from other ICAs (where appropriate).
- 5.7. We see two implications of this approach:
  - 5.7.1. The lack of contractual nexus between shippers and gas producers means that First Gas will need to play a role in linking any loss caused from the supply of non-spec gas under a TSA with any causation under an ICA. This

arguably means that First Gas will be involved in disputes that do not directly affect its rights and responsibilities

- 5.7.2. Producers will generally not need to be signatories to the code. While the code may prescribe some of the conditions of receipt point ICAs, these contracts will be bilateral between First Gas and each producer. However, if a producer is operating under an OBA, parts of the code relating to system balancing will need to apply. We expect this would be achieved simply by replicating relevant provisions from the code, and requiring any code changes to be reflected immediately in receipt point ICAs with OBAs.

### **Change processes with tiered governance**

- 5.8. The processes for making changes to the operating code vary between the MPOC and VTC. The MPOC requires the GIC to approve change requests (which can be made by any party), whereas changes to the VTC require the support of 75% or more of shippers.
- 5.9. First Gas is of the view that decisions on the code amendment process should require appropriate industry consultation (including input from the GIC), but should be primarily driven by an independent assessment of the value of the proposed change in meeting gas industry policy objectives. Adequate safeguards to protect First Gas' interests should be included in the change process.
- 5.10. We are interested in exploring whether a tiered approach to change requests might be possible. This would see "core provisions" in the code only able to be changed following a more resource intensive processes of engagement and independent evaluation, with other code provisions able to be amended more easily.

Q26: Do you have any preference on the legal form for the new code, and who should be counterparties to the new code?

Q27: Are there particular code change processes or features that you consider important or valuable for the new code?

### **Balancing, linepack management and allocation**

- 5.11. Many parties consider that "balancing" currently occupies too much time and effort. A lot of this stems from the complexity of the commercial interaction between the MPOC and the VTC. Now that First Gas owns the entire transmission system, arrangements can be simplified in the new code.
- 5.12. We think that the new code should continue to require shippers to use all reasonable endeavours to ensure that on a day their aggregate receipt and delivery quantities match each other, i.e. to "balance" themselves. (This is sometimes referred to as "primary balancing".) A key difference in future will be that there will no longer be multiple "Balancing and Peaking Pools, (BPP)". A shipper's primary balancing

obligation will apply to the transmission system as a whole, which therefore need not be referred to as a BPP.

- 5.13. The new code should also continue to require First Gas to use all reasonable endeavours to manage the line pack in the transmission system to within prudent operational limits, consistent with the transmission services it contracts to provide.
- 5.14. First Gas believes it is necessary to distinguish gas bought or sold to increase or decrease line pack for the purposes of providing transmission services from gas bought or sold to correct imbalance (i.e. “balancing gas”). First Gas believes that balancing gas is simply shippers’ aggregate mismatch (note: this differs from the definition of balancing gas set out in the VTC).
- 5.15. Decisions are required in relation to the shipper mismatch used in this process:
  - 5.15.1. Should it be running mismatch, or simply mismatch on the relevant day?
  - 5.15.2. Should shippers or interconnected parties be responsible for mismatch, or a combination?
- 5.16. First Gas currently buys and sells gas when the extent of the balancing gas component may not be precisely known. The balancing component for a day is not determined until the required data is available on the next business day. However, we consider that this does not matter, since decisions regarding line pack management should be based on objective criteria, unrelated to individual shippers’ balancing positions.
- 5.17. First Gas considers that:
  - 5.17.1. the costs and credits from the purchase or sale of balancing gas should be recovered from, or reimbursed to shippers.
  - 5.17.2. shipper (running) mismatch should be the determinant of a shipper’s share of any cost or credit from a balancing gas transaction
  - 5.17.3. any gas bought or sold in excess of aggregate shipper mismatch should be to First Gas’ account
  - 5.17.4. arrangements that incorporate daily incentives for Balancing and pass through line pack management costs/credits to causers align well with the operational requirements of the transmission system
  - 5.17.5. The recent GIC analysis of the Market Based Balancing (*MBB*) regime in place since 1 October 2015 generally supports the above.
- 5.18. First Gas sees an opportunity to reframe Balancing away from a “breach” of obligation towards a service that is provided by the pipeline (similar to a “park and loan” service). This would essentially reflect the reality that on a day the quantity of gas injected into the transmission system is different to the quantity of gas taken from the transmission system. First Gas believes this reality has never been adequately reflected in the current arrangements.

- 5.19. Decisions are required on the nature of the daily incentive:
- 5.19.1. On a rolling basis or settled after a defined period (e.g. day, week, month)?
  - 5.19.2. Incentive placed on Shippers, interconnected parties or a combination?
- 5.20. If applied solely to shippers, the incentive could be based on the difference between aggregate receipt quantities and aggregate delivery quantities (similar to mismatch under the VTC). An incentive of this nature has two benefits, it can be used for gas title tracking and for the application of a park and loan service.
- 5.21. If applied solely to connected parties, the measure could be based on the difference between the aggregate nominations and aggregate flow for all of a connected party's connection points (similar to operational imbalance under the MPOC). This would require an OBA like arrangement for connections currently under the VTC. This may not be practical for all delivery points. Gas title tracking and any park and loan service would be separate from these arrangements.
- 5.22. If OBA arrangements and incentives are preferred but are not practical for delivery points with multiple Shippers, then an alternative for those points would need to be considered. Options for those points include treating those points in aggregate and then allocating any passed through costs/credits to the relevant Shippers or treating the aggregate of each Shipper's activity separately. Gas title tracking and any park and loan service would be separate from these arrangements.
- 5.23. At least one party has expressed some concern about "title tracking" of gas under the new code. First Gas' view is that nothing substantive need change in that regard. Shippers must continue to warrant they have good title to gas at the time (and place) they receive it into the transmission system.<sup>10</sup>
- 5.24. A fundamental principle of transmission access is that a shipper is entitled to take out of the system on a day the GJ equivalent of what it puts in. This might be considered to have implications for title transfer in the event a shipper is out of balance. For example, on any day a shipper takes out more GJ than it receives it could be seen as "abstracting" gas, either from line pack or from other shippers; if it takes out less it could be seen as "donating" gas to line pack or other shippers.
- 5.25. At present no shipper may deliberately borrow gas from, or park (store) gas in the transmission system without the prior agreement of First Gas. First Gas does not offer such services at the present time, but may examine the feasibility of doing so in the future. When shipper mismatch occurs, First Gas is able to reduce it by buying or selling gas from the relevant shipper. This process accomplishes the necessary title transfer.
- 5.26. In the meantime, it is most efficient that First Gas simply continue to manage line pack, buying and selling gas from time to time in order to do so. Along with allocating

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<sup>10</sup> This is currently established by gas transfer agreements on the non-Maui part of the transmission system, and the nominations process (which links to OBA and the relevant interconnection agreement under the MPOC) on the Maui pipeline.

the costs (or credits) of mismatch to shippers, First Gas will transfer GJ accordingly, which will deal with issues around title to gas.

- 5.27. First Gas will continue to have “control and possession” of gas while it is in the transmission system, progressing between receipt points and delivery points. Should any gas escape, First Gas will replace it.

Q28: Do you agree with the comments on balancing and linepack management above? If not, why not?

Q29: Are there any particular arrangements for balancing and linepack management that are not discussed in this paper that you consider critical to include in the new code?

## Non-standard agreements

- 5.28. Users may need to be able to enter into agreements on terms that differ from the standard in certain circumstances. The conditions for, and the variations permissible in non-standard agreements should be set out in the new code.

### The value of non-standard agreements

- 5.29. At one extreme, non-discriminatory access to shared transmission infrastructure would not allow any differentiation of the terms and conditions of access applicable to different shippers. Having one set of terms for all customers tends to promote fairness, and also avoids any expenditure of effort from seeking deals different from the standard available. The MPOC currently reflects this philosophy, with limited ability to negotiate different terms or prices for welded parties.
- 5.30. At the other extreme, having the ability to vary standard terms and conditions allows the system owner (First Gas) to accommodate different customer characteristics, particularly around their ability to contribute towards the fixed costs of the system. Our experience suggests that different users have differing fuel substitutes and sometimes alternative pipeline options available to them, which drives their willingness to pay our standard transmission fees. Without the ability to reflect those differences in prices, we may cause some shippers to opt to use other supply options – even where that is not the lowest cost solution overall. We therefore consider that the ability to negotiate non-standard agreements promotes the use of gas. The VTC currently reflects this philosophy, where section 2.7(e) empowers us to enter into non-standard agreements on certain terms.<sup>11</sup>
- 5.31. Through our discussions with stakeholders, we have found that most parties appear largely supportive of First Gas having the ability to negotiate non-standard

<sup>11</sup> First Gas has inherited Vector’s “Supplementary Agreements Policy, which is published on OATIS. This policy will be reviewed and updated.

agreements. However, this support depends on the conditions that apply to non-standard agreements (discussed immediately below).

### **What conditions should apply to non-standard agreements?**

- 5.32. While there seems to be a general consensus that non-standard agreements should be possible, several stakeholders have urged that non-standard agreements need:
- 5.32.1. Tightly defined criteria for their availability, with limits on the parts of the Code that can be varied
  - 5.32.2. Transparency as to their terms and conditions.
- 5.33. First Gas is subject to relevant regulation in this area under the Gas Transmission Information Disclosure Determine 2012, which requires us to publish a non-standard pricing policy.<sup>12</sup>
- 5.34. Our current view is that the policy for non-standard agreements under the Gas Transmission Access Code should apply clear, reasonably restrictive/deterministic criteria to determine when a non-standard agreement will be available. The criteria should be limited to situations where:
- 5.34.1. A customer has a bypass opportunity which, if employed, would be detrimental to users of the transmission system, or
  - 5.34.2. A customer proposes to use more gas and that requires material specific investment by First Gas, and recovery of the cost of that investment in addition to standard prices would make the entire project uneconomic.
- 5.35. We would propose to require parties seeking a non-standard agreement to provide adequate supporting information to justify the charging of non-standard or discounted fees. We think this will help to explain the rationale for non-standard agreements to other interested parties (some of who may be paying higher prices), and will also help to prevent excessive requests for non-standard agreements. Transpower's current prudent discount policy provides an example of such an approach – although the technical requirements that need to be demonstrated are likely may be too restrictive for a gas equivalent.
- 5.36. We also propose to make non-standard agreements (including prices) publicly available in full on our website once they have been executed. This is consistent with our philosophy of transparency, and should help to alleviate any concerns about fairness. While we do not expect all parties to be happy with every non-standard agreement negotiated, we are confident that having the ability to negotiate non-standard agreements that reflect the conditions set out above is in the collective interests of our customers.
- 5.37. Notwithstanding the above, First Gas does not believe that it should be obligated to offer a non-standard agreement where it believes that doing so would not be in its

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<sup>12</sup> Gas Transmission Information Disclosure Determination 2012, clause 2.4.5

own interest or in the interests of other shippers. First Gas believes the new code should reflect that position.

Q30: Do you agree with the comments on non-standard agreements above? If not, why not?

Q31: Are there any particular arrangements for non-standard agreements that are not discussed in this paper that you consider critical to include in the new code?

## Gas quality

5.38. First Gas recognises that maintaining gas quality is important to the safe operation and good reputation of the gas industry. In this new code development context, First Gas considers “gas quality” to cover gas specification and odourisation. Pipeline pressures, which are sometimes included as a third component of gas quality, will be addressed elsewhere in the new code development process.

### Statutory and contractual obligations v process and policy

- 5.39. First Gas considers that the current "core" statutory and contractual obligations applicable to a Transmission System Owner (TSO) and its customers in the area of gas quality are adequately addressed through the existing contractual framework. The MPOC, VTC and receipt point ICAs currently include provisions that require an injecting party (among other things):
- (a) comply with the Gas Specification (NZS 5442) at all times;
  - (b) monitor gas injected into the transmission system at prescribed minimum frequencies so as to demonstrate compliance with the Gas Specification;
  - (c) demonstrate they have facilities, systems, and procedures sufficient to comply with the above obligations, and be able to demonstrate that to First Gas (including at the request of a shipper); and
  - (d) notify First Gas of any injection of non-specification gas (requiring First gas to in turn notify shippers and affected parties).
- 5.40. These core principles and requirements will also be carried through into the new code.
- 5.41. The areas where First Gas does see potential opportunity for improvement in the area of gas quality are more "process" related and revolve around how the parties give effect to some of the core principles and requirements. Indeed, First Gas has already indicated that it intends to continue the work begun by Maui Development Limited (MDL) in this area. Its current view is that a number of the possible improvements identified by MDL that are "process" based could be progressed independently of the new code development process. For example:

- (a) Formalising and standardising the process for injecting parties to demonstrate compliance with the Gas Specification;
- (b) Working with injecting parties to formalise and record the frequency of testing for gas components that are tested less frequently than the prescribed default intervals; and
- (c) Developing agreed approaches to notify and manage Non-Specification Gas events.

### **Odourisation**

5.42. The only physical process that First Gas deliberately undertakes (in some pipelines) to “alter” the gas it transports is to inject odorant. First Gas undertakes this activity in effect on behalf of gas retailers. We consider that the current provisions of the VTC in this regard are adequate and we would expect the same to appear in the new code.

### **Gas contaminants**

5.43. While gas is in a transmission pipeline, contaminants can enter into the gas stream in the form of dust accumulated in the pipeline and oil from compressor stations, adding to any contaminants that may have been introduced from production stations. Dust and oil can be carried by gas as it is transported through the pipeline but filters and separators installed at delivery points and other locations are designed to control the level of (or remove) such contaminants.

5.44. First Gas intends to retain the previous Vector undertaking to take reasonable steps to ensure that contaminants which gas may take up as it passes through First Gas’ pipelines (including dust and compressor oil) are not delivered at a delivery point to the extent that would cause harm.

### **Confidentiality**

5.45. The existing transmission codes do not clearly specify how confidential or commercially sensitive information obtained through either the notification process for gas quality excursions or the demonstration of compliance process for Gas Producers should be handled. First Gas intends to examine this area as part of the new code development process and take the necessary steps to ensure that confidential or commercially sensitive information is treated appropriately.

### **Commerce Commission Information Disclosures**

5.46. Part 4 of the Commerce Act requires the Commerce Commission to set default price-quality paths and information disclosure requirements for regulated businesses, including the disclosure of Asset Management Plans (AMPs). From 1 July 2013, price-quality regulation was introduced for the transmission systems of MDL and Vector. Currently, gas quality does not feature as one of the quality standards required by price-quality regulation, but it is possible that future quality standards could include aspects of gas quality. Previous Commerce Commission papers have noted that metrics related to reliability, system integrity, quality of gas, and customer

service could all be useful. First Gas will obviously continue to be involved in this dialogue about quality standards with the Commission.

- 5.47. Our AMP sets out our view of the on-going investment, maintenance and operational requirements of the transmission system. The AMP deals with the maintenance and replacement of transmission equipment associated with gas quality (gas chromatographs, filters, separators etc).
- 5.48. In considering what aspects of gas quality need to be covered as part of the new code development process, and to avoid any unnecessary duplication or expense, First Gas will be mindful of what information is already available through its compliance with mandatory regulatory requirements.

### **Gas quality monitoring**

- 5.49. First Gas intends to maintain the current position that it will not be required to undertake any monitoring of gas quality at any interconnection point.
- 5.50. First Gas uses gas chromatographs (GCs) at selected locations on the transmission system, though these GCs are primarily intended to provide information for metering purposes rather than to monitor compliance with Gas Specification.
- 5.51. First Gas is not closed to the idea of installing facilities to monitor the composition of the co-mingled gas-stream at certain downstream locations on the transmission system. However, how those facilities are funded, managed and maintained would need to be subject to further industry discussion.

### **The Gas (Safety and Measurement) Regulations 2010**

- 5.52. Regulation 41 of the Gas (Safety and Measurement) Regulations 2010 (the Safety Regulations) states that gas wholesalers and retailers are responsible for ensuring that gas supplied at a consumer's point of supply for use in gas installations and gas appliances complies with Gas Specification.
- 5.53. First Gas acknowledges that this poses somewhat of a challenging dilemma: how gas retailers can demonstrate that they have complied with obligations in relation to gas quality when they have no direct ability to control gas quality. This is where transparency and availability of information becomes important with retailers and wholesalers needing to be confident that:
  - (a) First Gas has systems and processes in place (such as a Pipeline Management System Manual in compliance with AS2885.3 (2012)) that properly acknowledge the risk of non-specification gas, and have appropriate arrangements (where possible) to reduce the risk, and procedures for dealing with any non-specification gas incidents that may occur;
  - (b) First Gas has periodically exercised their rights to seek a demonstration of compliance with the Gas Specification from the parties that inject into the transmission system;

- (c) First Gas' AMP deals with the maintenance and replacement of equipment associated with gas quality (gas chromatographs, filters, separators etc); and
- (d) non-specification gas events will be promptly reported and dealt with.

5.54. First Gas considers that the impacts of the previously mentioned “challenging dilemma” brought about by the Safety Regulations can be mitigated by the adoption of a number of process-related opportunities for improvement referred to above, as well as increased transparency and availability of certain gas quality-related information.

### **Liabilities and indemnities**

- 5.55. First Gas acknowledges there is a view that the existing contractual provisions (throughout the entire gas supply chain) regarding losses or damage caused by non-specification gas could be improved. The GIC has previously indicated that the proposed regulatory objectives would be best met if liability for such losses or damage passes to the causer of the issue or to those participants best able to manage the risk.
- 5.56. It is considered there is a risk that the current framework could result in situations where compensation for gas quality losses may be irrecoverable and liability cannot be passed to the appropriate party.
- 5.57. One perceived cause of this risk relates to the current gaps in the contractual chain e.g. an absence of ICAs at most delivery points supplying distribution networks. First Gas has already taken steps to address this issue.
- 5.58. Limits on liability for damage and financial “caps” for loss (not just in a gas quality context) were also viewed as being limitations within the applicable contractual framework. These matters will be reviewed by First Gas as part of the new code development process. At this stage, we believe that the current liability caps remain appropriate. We also believe that the principle whereby a shipper (or interconnected party) can only claim against First Gas to the extent it can demonstrate that we failed in our obligation to act as a reasonable and prudent operator is sound, and should be maintained in the new code.
- 5.59. Under the current MPOC, if an injecting party injects non-specification gas or fails to meet the monitoring requirements, that party is exposed to potential liability claims. Injecting parties indemnify First Gas for any losses incurred as a result of non-specification gas injections. MDL indemnifies other pipeline users for losses they incur as a result of non-specification gas being injected. To the extent that Non-Specification Gas is caused by the acts or omissions of a third party, First Gas' role in the MPOC context is only to act as a clearing-house for claims and First Gas does not have any liability for any amounts above what it actually recovers from Injecting Parties. First Gas intends to examine whether such a “back-to-back indemnification” (or similar) approach should be included as part of the new code development process. One potential difficulty is that any “back-to-back” indemnification approach would require review of, and possible amendment to, the number of contracts that

make up the gas supply chain from producer to end-user. Accordingly, this issue may be difficult to resolve solely in the new code development context.

### **Gas quality in the new code framework**

5.60. This paper acknowledges that there are certain matters that must fall within the ambit of the new code, while others are better covered in subsidiary instruments such as operating procedures or policies. It is First Gas' view that Gas Quality will have components that need to be captured in the new code, ICAs, as well as aspects that are best addressed through processes or policies recorded in subsidiary instruments. As noted earlier, exactly where each matter falls within this spectrum will be established as the new code work-stream progresses.

Q32: Do you agree with the comments on gas quality above? If not, why not?

Q33: Are there any particular arrangements for gas quality that are not discussed in this paper that you consider critical to include in the new code?

## 6. NEXT STEPS

### How to make a submission

- 6.1. This paper has covered a lot of ground that will help to set the direction for the GTAC.
- 6.2. We look forward to receiving submissions on this paper before the deadline of 5pm on 23 December 2016. A template listing the questions posed throughout the paper is provided as Appendix A. We also welcome any feedback or commentary that does not directly respond to these questions. Submissions can be uploaded to the GIC website at [www.gasindustry.co.nz](http://www.gasindustry.co.nz) or sent to [info@gasindustry.co.nz](mailto:info@gasindustry.co.nz).

### Next steps in the process of developing the new code

- 6.3. Throughout the process, stakeholders have asked for clarity on the next steps in developing the new code. We appreciate that stakeholders are keen to understand how much time will be required from them, and when that time will be required to manage their input to this process alongside their other workloads.
- 6.4. The work program will depend to some extent on the feedback received on this paper. In the event that stakeholder views coalesce around a particular option or direction for the new code, this will allow us to move to detailed design of arrangements that are consistent with that option. However, if views are more polarised or diverse, then we will need to consider how to resolve competing positions.
- 6.5. Either way, we expect that the work carried out in 2017 will focus on the detailed design and legal drafting of the new code. As summarised in the table below, we plan to separate this into several workstreams concentrating on the main elements of the code before bringing the outputs from those workstreams together into a complete draft of the new code.
- 6.6. Each of the workstreams will involve the First Gas new code project team to ensure that the arrangements fit together. We will also be working closely with the GIC through this next stage of work. At this stage, we are also interested in having shipper input into the process of preparing and refining exposure drafts of the new code. This may be best facilitated by having a small number of shipper representatives directly involved in the drafting process. We would then consult with all stakeholders (including other shippers) on the draft code provisions.
- 6.7. The number of workstreams involved suggest that stakeholders should expect to be considering around 1 set of exposure drafts and supporting working papers per month from March to August 2017.

Timing	Stage	Content and outputs
Jun - Sept 2016	Develop process	Agree timelines and responsibilities of First Gas and GIC

Timing	Stage	Content and outputs
Oct 2016 - Feb 2017	Scope possible options	<ul style="list-style-type: none"> <li>Describe high-level options for new code (e.g. contract approach v common carriage) (this paper)</li> <li>Seek information from stakeholders on direction for code access regime (submissions)</li> </ul>
Mar - Aug 2017	Detailed design working papers and IT procurement	Work through detailed proposals for main elements of code (code exposure drafts and working papers): <ul style="list-style-type: none"> <li>Code governance</li> <li>Access products</li> <li>Pricing methodology</li> <li>Balancing and allocation</li> <li>Technical requirements (metering, gas quality)</li> </ul>
Sept - Dec 2017	Finalisation of code	Consult on full draft of new code and negotiate final text with shippers

6.8. At the same time as preparing detailed design working papers, we will be initiating the procurement process for the new IT system to support the new code (the OATIS replacement). The formal procurement process can only begin once the access arrangements are known in sufficient detail to understand the requirements for the new system. We have already begun to identify possible software vendors and to understand the functionality that their products offer to prepare for this competitive procurement process.

6.9. The final stage in the code development process will be to consult on full draft of new code and negotiate final text with shippers. Given the degree of consultation and interaction with shippers throughout the process, we expect any areas of disagreement with the proposed code will be known before this stage begins.

Q34: Do you have any comments or concerns on the process for developing the detail of the new code throughout 2017?

Q35: Are there particular issues or aspects of the new code that you would particularly like to be more closely involved in, including by participating in workstreams to prepare code exposure drafts and working papers?

## TEMPLATE FOR SUBMISSIONS

Question	Response
<b>Objectives for the Gas Transmission Access Code</b>	
Q1: Do you agree with the objectives proposed in this paper? Are there any other objectives or outcomes that we should be aiming for that are missing?	
Q2: Which objectives do you see as most important?	
Q3: Do you agree that the objectives proposed in this paper are compatible with the regulatory objective presented in SCOP1?	
<b>Scope of the Gas Transmission Access Code</b>	
Q4: Do you agree that the five other legal or subsidiary instruments presented above are all relevant to establishing the boundaries of the new code? Are there any other legal or subsidiary instruments that are missing?	
Q5: Do you agree with the way that we have described what should sit inside the code, and what should fall outside? Are these particular elements of the arrangements that we have described as sitting outside the code that you consider should be covered by the code (or vice versa)?	
Q6: Are there any other elements to the scope of the code that we should consider?	
<b>Overview of options for the access regime</b>	
Q7: Are there other code options that you believe should be considered in the process of developing a new code in addition to those described above?	
Q8: Are there particular lessons from international experience that you consider First Gas should seek to learn from when designing and implementing the new access code?	

Question	Response
<p>Q9: How much focus do you think should be placed on ensuring that transmission access arrangements facilitate further development of the wholesale gas market? Are there particular features of a new access code (in addition to short term availability of capacity) that are important?</p>	
<p><b>Option 1: Menu of capacity products</b></p>	
<p>Q10: Do you have a view on whether the priority right product should be designed as an option (subject to nominations) or a fixed property right?</p>	
<p>Q11: Do you consider that there would be sufficient interest in priority rights to justify the effort in administering this product?</p>	
<p>Q12: Do you have any views on the broad features of the priority right product, such as the length on the contract, the frequency of booking rounds, etc?</p>	
<p>Q13: Do you have any views on the frequency and timing of nomination cycles, and the role of nominations?</p>	
<p>Q14: Do you have any preferences on the allocation methodology at receipt points and delivery points (OBAs, rules based approaches, or a combination of different approaches)?</p>	
<p>Q15: Are there any aspects of the menu of capacity products option that you see as particularly valuable, or particularly concerning?</p>	
<p><b>Option 2: Daily nominated capacity</b></p>	
<p>Q16: Do you have any views on how scarcity should be signalled if a daily nominated capacity option was developed?</p>	

Question	Response
Q17: Are there any elements of the daily nominated capacity option that you consider should differ from capacity nominated as part of a menu of capacity products (option 1), such as the frequency and timing of nomination cycles, and the role of nominations?	
Q18: Are there any aspects of the daily nominated capacity option that you see as particularly valuable, or particularly concerning?	
<b>Option 3: Flow to demand service</b>	
Q19: What information do you think it would be realistic for shippers to provide as forecasts for managing the transmission system under a flow to demand service option?	
Q20: What information would you require from First Gas to provide you with confidence in security of supply both in the short and long term under this approach?	
Q21: How dynamic do you think pricing should be under a flow to demand service approach?	
Q22: Are there any aspects of the flow to demand service option that you see as particularly valuable, or particularly concerning?	
<b>Link between access options and system characteristics</b>	
Q23: Do you believe that the new code access arrangements should reflect the physical constraints on the transmission system? If so, which option does this support in your view?	
Q24: Do you have any views on how capacity on the system should be defined and priced (i.e. between points or between zones or between points and zones), and why?	
Q25: Of the options described in this paper, which do you prefer and why?	

Question	Response
<b>Code governance</b>	
Q26: Do you have any preference on the legal form for the new code, and who should be counterparties to the new code?	
Q27: Are there particular code change processes or features that you consider important or valuable for the new code?	
<b>Balancing, linepack management and allocation</b>	
Q28: Do you agree with the comments on balancing and linepack management above? If not, why not?	
Q29: Are there any particular arrangements for balancing and linepack management that are not discussed in this paper that you consider critical to include in the new code?	
<b>Non-standard Agreements</b>	
Q30: Do you agree with the comments on non-standard agreements above? If not, why not?	
Q31: Are there any particular arrangements for non-standard agreements that are not discussed in this paper that you consider critical to include in the new code?	
<b>Gas quality</b>	
Q32: Do you agree with the comments on gas quality above? If not, why not?	
Q33: Are there any particular arrangements for gas quality that are not discussed in this paper that you consider critical to include in the new code?	
<b>Next steps</b>	

Question	Response
Q34: Do you have any comments or concerns on the process for developing the detail of the new code throughout 2017?	
Q35: Are there particular issues or aspects of the new code that you would particularly like to be more closely involved in, including by participating in workstreams to prepare code exposure drafts and working papers?	