Gas Transmission Access Code Development:

Proposed Decisions and Next Steps

February 2017

Contents

1 Introduction and Summary

In November 2016, First Gas released a consultation paper entitled "Gas Transmission Access: Single Code Options Paper" (SCOP2). We received 13 submissions on the paper in December 2016, and we thank submitters for their efforts and insights. The Gas Industry Company (GIC) released a summary of the submissions in January 2017.[1] We agree with the GIC's summary and analysis, and do not repeat their analysis in this paper.

SCOP2 noted that the work programme to develop the new Gas Transmission Access Code (GTAC) would be influenced by stakeholders' feedback. The conclusions we have drawn from stakeholders' submissions enable us to propose the general direction for the GTAC, and the next steps in its development, set out in this paper. Where appropriate, we have also indicated key issues to be explored further in the next stage.

The proposals set out in this paper represent a synthesis of Options 1 and 2 from SCOP2. We believe this will provide the appropriate blend of flexibility, certainty and simplicity that stakeholders called for in their submissions. Consistent with our previous statements, the individual options set out in SCOP2 will not be developed further. We do not have the time or resources to follow every possible pathway, and are conscious that our stakeholders also do not have unlimited time to devote to the GTAC's development.

The table below summarises our provisional decisions and the further work required to resolve issues identified to date. We call these decisions "provisional" because we welcome feedback on the proposals contained in this paper. While we are not calling for submissions on this paper, we are happy to receive any comments that stakeholders have and we retain an open mind on how best to move forward. Further detail relating to these decisions is provided in the remainder of this paper (including Appendix B).

Issue	Provisional Decisions	Further Work Required
Objectives (Section 2)	• As proposed in SCOP2 paper, with minor amendments	None. Objectives applied in evaluation are set out in Appendix A and will help to direct detailed design
Form of Code (Section 3)	• All code terms to be incorporated by reference into each Transmission Service Agreement (TSA) • Some code terms to be reflected in each Interconnection Agreement (ICA)	• Specify provisions that must be incorporated into ICAs • Engage with Maui interconnected parties on the form and content of replacement ICAs • Engage with counterparties to current VTC Supplementary Agreements (SAs), where changes may be required to align with the GTAC • Prepare accompanying documents, e.g. relating to a new transmission pricing methodology, and consult with stakeholders

[1] All of these documents are available on the GIC website: www.gasindustry.co.nz

Issue		Provisional Decisions	Further Work Required
Capacity Product Design (Section 4)	Access Products (Section 4.1)	• Access to transmission will be via Daily Nominated Capacity (DNC) • Priority rights to DNC will be offered through periodic auctions	• Finalise design of priority rights (definition, duration, frequency of auctions) • Design auction process for priority rights (including bidding, price setting, secondary trading)
	Zone-based Access (Section 4.2)	• The transmission system will be divided into zones (probably with a single receipt zone and multiple delivery zones)	• Develop criteria for defining zones
	Nominations Design (Section 4.3)	• There will be separate receipt and delivery nominations • Receipt nominations will be for gas • Delivery nominations will be for transmission capacity (i.e. DNC)	• Explore how nominations system can provide most operational value to First Gas and other parties • Define nomination cycles (e.g. week ahead, day ahead, intra-day) • Consider value of additional cycles at receipt points
Pricing (Section 4.4)		• Price of DNC will be set for each zone (i.e. “postage stamps” of different value) • Price of priority right will be determined via periodic auctions, with a reserve price • There will be an overrun charge for exceeding DNC	• Determine approach to setting prices for DNC in each zone • Design auction process for priority rights, including how reserve prices should be set • Explore the need for and feasibility of underrun charges • Determine how any excess revenue will be recycled or under-recovery made up

Issue	Provisional Decisions	Further Work Required
Code Governance (Code Change Process and Dispute Resolution) (Section 5.1)	• First Gas and all shippers will be able to propose code changes • All parties will have opportunity to comment on any proposed code change • A streamlined change process will exist for non-material code changes • GIC will be responsible for assessing any proposed code change and recommending approval, rejection, or amendment	• Define the GIC's role in the code change process • Map out distinct processes for substantive and non-material code changes
Balancing (Section 5.2)	• Shippers will be required to balance receipts and deliveries across the transmission system as a whole on a daily basis • Where an Operational Balancing Agreement (OBA) applies at a receipt or delivery point, the relevant interconnected party will have a contractual obligation to match its injection or offtake to the approved nominated quantity • An incentive is required to motivate shippers to balance	• Explore options for pricing daily cash outs • Explore the feasibility of/interest in a "park and loan" service that allows shippers to notify upcoming imbalances and pay a lower cost for an authorised imbalance
Allocation (Section 5.3)	• Existing MPOC and VTC receipt point arrangements will continue to be available • An Operational Balancing Agreement (OBA) will be an option at each receipt point (probably incorporated in the ICA) • An OBA will be an option at each single-user delivery point (probably incorporated in the ICA) • Downstream Reconciliation Rules (as modified by the D+1 Agreement) to continue at shared delivery points	• Investigate the impact of different allocation methods at receipt and delivery points

Issue	Provisional Decisions	Further Work Required
Gas Quality (Section 5.4)	• Reflect current code provisions	• Draft new code provisions
Non-standard Agreements (Section 5.5)	• New code will provide for non-standard agreements in prescribed circumstances	• Draft new code provisions

At this stage we have divided the GTAC development process into ten workstreams. The definition of these workstreams and an initial sequence of work are set out in Section 6 of this paper. The process provides for GIC input throughout the next phases of work, and the use of exposure drafts and industry workshops at regular intervals.

The process of terminating the current operating codes and adopting the GTAC also needs careful consideration. We propose to issue change requests in March 2017 that provide for the expiry of both the VTC and the MPOC once a suitable replacement (i.e. the GTAC) has been determined.

2 Objectives

The SCOP2 paper listed 5 objectives that were intended to complement and expand on the regulatory objectives described in SCOP1 as well as the government policy objectives in the Gas Act and GPS.

A substantial majority of submitters generally supported the objectives proposed in SCOP2. While not all submitters agreed on which objective was the most important, there was wide support for "enable the use of gas" and for pursuing efficient outcomes. There was also substantial agreement that the stated objectives were compatible with the regulatory objectives set out in SCOP1 (an earlier consultation paper released by the GIC).

With this in mind, we have concluded that the objectives set out in SCOP2 are generally appropriate. Accordingly, they have been used to inform our decisions on high-level issues (see Appendix A) and will continue to provide a touchstone in the detailed GTAC design work to come.

- **Enable the use of gas (primary objective).** This includes ensuring that the system is reliable.
- **Ensure the efficient transmission of gas.** Make First Gas' part of the gas supply chain as efficient as possible. This includes by maximising the usage of gas pipelines and efficiently investing when required.
- **Keep it simple**
- **Promote flexibility**
- **Promote transparency.**

Appendix A provides an evaluation of how the options presented in SCOP2 evaluate against these objectives.

3 Form of the Code

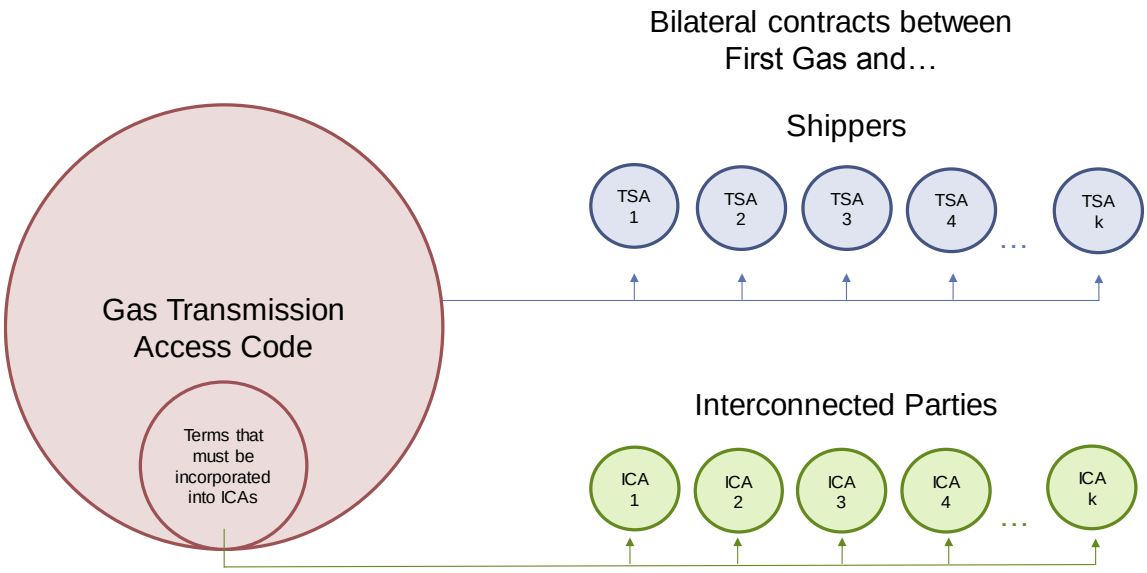
The GIC analysis of submissions states that "the current contract structure, where code provisions are incorporated into bi-lateral contracts by reference, has served the industry well". There seems to be a consensus that the GTAC should contain the main obligations of shippers and interconnected parties.

Transmission Service Agreements (TSAs) will therefore require shippers to be bound by all provisions of the GTAC, as is the case in relation to the existing codes.

Interconnection Agreements (ICAs) will continue to be bilateral agreements between First Gas and the relevant interconnected party, with the GTAC specifying any provisions that must be included in every (new) ICA. Work is required to determine the provisions to be included in any ICA where the interconnected party agrees to take responsibility for their own mismatch, i.e. where the ICA incorporates an Operational Balancing Agreement (OBA). ICAs will not be confidential and will be disclosed.

Figure 1 provides an overview of how we see the GTAC, TSAs and ICAs working together.

Figure 1: Overview of relationship between GTAC, TSAs and ICAs



There was substantial agreement that the relationship between the GTAC and other instruments set out in the SCOP2 document was appropriate. We consider that development of the GTAC creates an opportunity to simplify arrangements by specifying certain operational policies and standards in separate documents that provide appropriate levels of flexibility for all parties. In such cases, there should be adequate provisions for consultation when they are prepared and the resulting documents will be published.

4 Capacity Product Design and Pricing

The main purpose of the GTAC is to facilitate access to the high-pressure gas transmission system, a critical part of New Zealand's energy infrastructure. Key criteria for such access include that it should be made available in a non-discriminatory manner in ways that promote its most efficient use, facilitate upstream and downstream competition, and on terms and conditions that are transparent and as simple as possible. This section summarises how we intend to design access products and set prices that help to achieve these outcomes.

4.1 Access Products

We noted the following three key themes in stakeholders' submissions on the options presented in our SCOP2 paper:

- A majority favoured either Option 1 (menu of capacity products, including DNC) or Option 2 (DNC alone). While there was some support for Option 3, several parties expressed concerns about its workability. Options 1 and 2 share key features (such as nominations and scheduling processes), with the main distinction being the availability of additional transmission products under Option 1.
- Parties who favoured Option 2 generally recognised the need for means to allocate capacity should congestion arise. We believe that congestion should be addressed explicitly in the GTAC, not left until the problem arises. The availability of priority rights and interruptible capacity will facilitate this.
- A substantial majority favoured designing any firm capacity right as an option (unlike the present reserved capacity), where unused priority rights on a day are made available for use by other shippers. We also favour this design as it both militates against capacity hoarding and promotes utilisation of the gas transmission system.

Having reflected on these themes, we propose that the GTAC provide for a synthesis of Options 1 and 2.

We propose that the core gas transmission access product be daily nominated capacity (DNC), supplemented by:

- Tradeable priority rights, to be offered periodically (every 6 months is proposed initially). Priority rights will place shippers at the front of the queue for DNC. Holders of priority rights will still need to nominate and pay for DNC.
- Interruptible capacity products, to be offered at First Gas' reasonable discretion.

We further propose that both DNC and priority rights be available for defined zones (discussed in more detail below).

We believe that this multi-product offering will provide shippers (in particular) with a number of benefits, including:

- Uniform access terms across the entire transmission system, replacing the very different Maui and non-Maui regimes
- Increased flexibility in that the DNC product can be nominated to any delivery point without any need to make prior arrangements with the pipeline operator
- Greater product choice than either of the current regimes provides
- The ability to obtain varying amounts of transmission capacity for different time periods at short notice

- Greater certainty, via priority rights, that transmission capacity will be available during congestion for customers who require it
- Greater certainty, via priority rights, of access to transmission capacity to secure approval for new gas using facilities
- The flexibility to determine the level of priority rights required for each user's needs and demand characteristics
- Better control over transmission costs.

Some concerns were expressed that a multi-product offering could lead to a significant increase in transaction and administration costs. We are confident that will not be the case with the direction we propose for the new code. All parties who use the Maui pipeline already nominate for capacity, including at interconnection points between the Maui and non-Maui pipelines. Parties do not currently nominate at delivery points beyond the Maui pipeline. However, any additional administrative effort in that regard will be mitigated by:

- Requiring nominations for delivery zones, rather than all individual delivery points
- No longer having to secure and manage the optimal amounts of reserved capacity
- The use of a new and improved IT platform to manage transactions.

Further, we presume that shippers are likely to use priority rights only to the extent they believe that the benefits will exceed the cost of any additional administrative effort.

Appendix C contains a high-level description of how gas transmission access is obtained and used under the current MPOC-VTC regimes and how the GTAC is intended to simplify access arrangements.

We plan to investigate the feasibility of a park and loan service, where shippers could pay to have authorised access to linepack (either to "park" gas in our system for later delivery or to "borrow" gas from our system pending later injection). This is discussed further in relation to pipeline balancing (Section 5.2).

4.2 Zone-based Access

First Gas proposes to design access around defined zones. Zones were strongly supported in submissions as a means of promoting simplicity.

We believe that suitably defined zones will:

- Strike a balance between pricing simplicity and efficient asset utilisation
- Generally reflect the physical characteristics of the transmission system (such as capacity bottlenecks, and linkages or commonalities between specific delivery points)
- Provide some of the benefits of entry-exit systems.

All receipt points are located in Taranaki, and most are located on the largest-capacity pipelines on the transmission system. Gas may flow freely from and between most of them, i.e. there is no compression on the connecting pipelines. We believe this enables a single receipt zone to be defined.

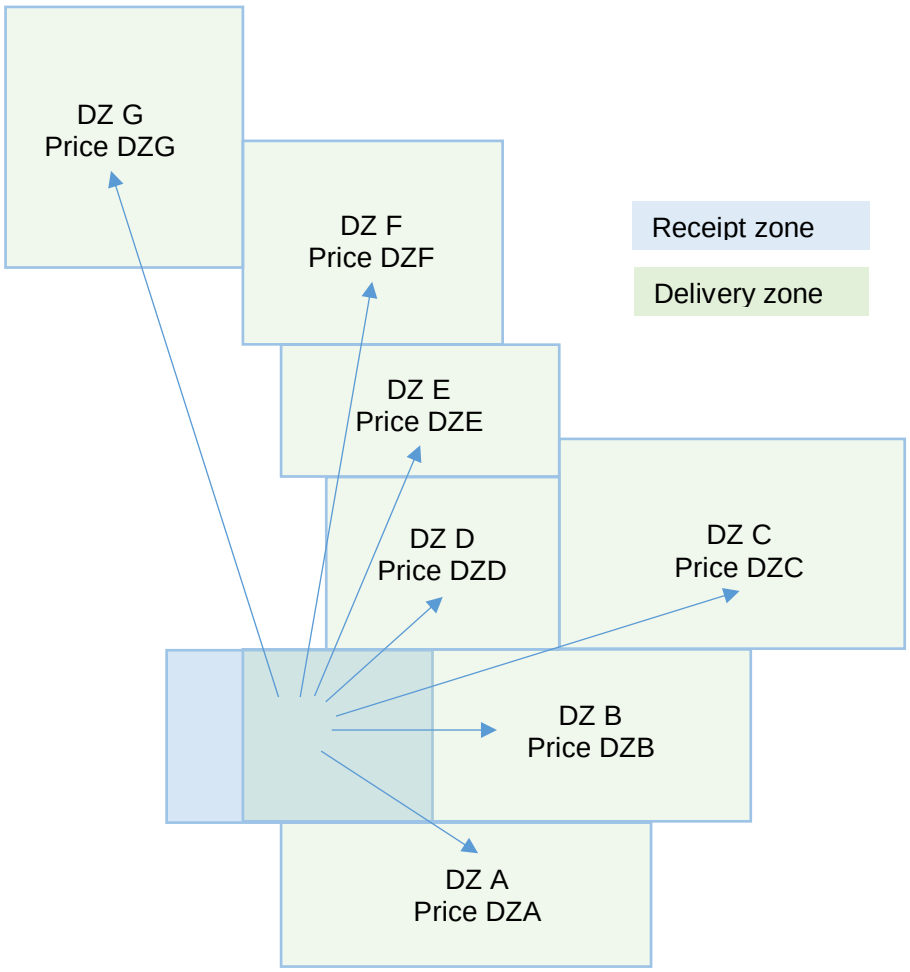
We believe that multiple delivery zones should be defined, comprising one or many delivery points. These delivery zones would not necessarily correspond to existing zones under the VTC, which are influenced by the current pricing methodology (which will change, as described below). We propose that transmission fees for DNC would be the same for all delivery points within a delivery zone.

Transmission access would be from (receipt) zone to (delivery) zone. However, a single receipt zone would make it unnecessary to link specific receipt and delivery points for the purposes of defining capacity or for determining transmission charges.

Analysis is required before we can advise the number of delivery zones and where the boundaries will be.

Figure 2: Illustration of possible receipt and delivery zones

[insert stylised example of zones]



A few submissions expressed interest in an entry-exit approach to allocating capacity. We consider that the zone-based access described above will resemble an entry-exit regime in certain respects. Moreover, making capacity subject to nominations (and re-allocating unused priority rights) will "remove the hard edges" sometimes ascribed to point-to-point regimes.

4.3 Nominations

The GIC has suggested that First Gas design an access regime where parties are required to provide First Gas with receipt and delivery information (such as nominations) only to the extent that it provides material value to the operation of the system. We agree, and believe that both receipt and delivery nominations are required in order to make transmission access under the GTAC work.

Form of nominations

Shippers will lodge both their receipt and delivery nominations in our IT system, as they do at present.

With respect to *receipt* nominations:

- They are about gas, not about transmission
- Where there is an OBA, they are intrinsic to the operation of the relevant receipt point
- Where there is no OBA (as at all non-Maui receipt points currently), the GTAC will require the relevant shippers to provide them.

With respect to *delivery* nominations:

- They are requests for transmission capacity, and are directly relevant to the operation of the transmission system
- They form the basis for our transmission charges
- They are intrinsic to our provision of DNC
- We intend that a shipper need make only a single nomination for capacity at any given time for any delivery zone. Our new IT system will recognise whether the shipper has purchased priority rights in that zone at that time
- In the event there is insufficient transmission capacity to accommodate all shippers' delivery nominations, shippers with priority rights will have their nominations approved to that extent. DNC will then be allocated across all shippers on an equal priority basis. Interruptible capacity (or other congestion management tools) will be employed as required
- Where there is an OBA at a delivery point, the interconnected party[2] may need to approve the shipper's nomination.

As the above points illustrate, we do not see the need to link ("daisy chain") receipt and delivery nominations under the GTAC. While that is a key feature of the MPOC, it is not necessary for the GTAC and adds complexity since a shipper has to make multiple nominations from the same receipt point to many delivery points. That complexity would clearly be magnified if extended to the entire transmission system, where there are many times more delivery points as well as numerous receipts points. We also expect that the new gas transmission pricing methodology (discussed further in section 4.4) will not require receipt and delivery nominations to be linked.

A corollary of separating receipt and delivery nominations is that there will be no ranking of receipts to delivery points as currently exists under the MPOC.

Process for nominations

We are keen to explore improvements to the nominations process, which should be enabled through our new IT system for transaction management. Submitters provided a number of different views on frequency and timing of nomination cycles. A number argued for hourly changes to nominations.

[2] Excluding the current interconnection points between the Maui and non-Maui pipelines, all such parties are end-users.

We recognise that the processes (and parties) involved with nominations at receipt points and delivery points are different. We believe this creates an opportunity to consider whether nomination cycles at receipt and delivery points could be different.

We believe there should be a number of formal cycles at "opposite ends" of the transmission system.

At receipt points, we will not need to approve any nomination (though we may need curtailment rights where nominations are too high). It is up to the relevant gas producer/supplier to approve (or curtail) any nomination, via our IT platform. Provided the relevant gas producer/supplier approves, receipt nominations could probably be allowed at times in addition to the formal cycles. We believe our IT platform should provide such flexibility.

At delivery points, additional flexibility in the number and scheduling of nomination cycles would be desirable. This will be investigated as part of the process of procuring a new IT system, although it will also be necessary to weigh any increase in the number of nominations cycles against the additional operational effort entailed. For example, the time required, particularly where congestion is threatened or is in effect, for First Gas to analyse nominations, determine the available capacity and allocate it. There is also the consideration that, even where the relevant part(s) of the transmission system is not congested, its current state cannot be "instantly" changed.

Ensuring accurate nominations

In respect of receipt nominations, there is clearly a need to ensure that shippers' gas injections into the transmission system equal their offtakes of gas from the system, over a "relatively short" time period. Otherwise, linepack will increase or decrease and, should that continue, First Gas may need to act to correct the aggregate imbalance. Balancing is discussed further in Section 5.2.

In respect of delivery nominations, the need for an incentive to nominate accurately for transmission capacity is discussed in Section 4.4.

4.4 Pricing

Transmission pricing is a vital part of the design of the access regime. We believe the gas transmission pricing methodology (GTPM) under the GTAC should produce simple and efficient prices that recover our regulated transmission revenue.

The GTPM we propose to develop involves:

- Different ("postage stamp") prices for DNC in different delivery zones
- Prices being generally higher in delivery zones further from the receipt zone
- Prices being reset annually to comply with the price-quality path set by the Commerce Commission
- The price of priority rights for each zone being set through auctions (with the price paid for all priority rights purchased being in addition to the charges for DNC in the relevant zone)
- Interruptible capacity (where offered) being priced at a discount to the cost of DNC
- An overrun fee to incentivise shippers to nominate accurately for DNC (and/or interruptible capacity), payable for gas taken in excess of any approved nomination for a delivery zone on a day.

A potential issue with overrun fees under the nominations-based access regime we are proposing is that shippers may feel incentivised to “over-nominate”, to minimise their exposure to overruns if their customers consume more gas than expected. (The reasoning being that the cost of a little extra DNC is worth it.) This could result in the aggregate of a shipper’s delivery nominations exceeding the aggregate of its receipt nominations on a day. That might be seen as conflicting with the shipper’s obligation to balance on that day, or as obscuring the shipper’s intention to do so.

We intend to carry out further analysis to explore various ways in which this issue could be resolved. One option might be to allow some tolerance in relation to delivery nominations Another option might be to provide an overrun fee that increases with the size of the overrun. For example, part of an overrun quantity might cost the same, or little more than the DNC for that delivery zone, while the rest might be substantially more.

We understand that our customers prefer price stability. We therefore intend to err on the side of pragmatism, rather than develop a mechanistic GTPM purely from first principles. In other words, at this stage (before any detailed work has been carried out) we intend to look for ways to avoid or minimise “price shock”, for example through the definition and pricing of delivery zones.

5 Supporting Arrangements

The two supporting arrangements discussed in SCOP2 that received the most attention in submissions were code governance (particularly the code change process) and balancing arrangements. In this section we summarise the direction we propose to take in these areas, as well as in relation to allocation, gas quality and non-standard agreements.

5.1 Code Governance (Code Change Process and Dispute Resolution)

SCOP2 noted that the current codes prescribe very different processes to change code provisions. We believe there is an opportunity to improve on the current code change processes in the GTAC. Two themes emerged from submissions on code changes:

- The code change process should be administered by an independent authority. In nearly all cases the GIC was mentioned as best placed to play this role
- Simple, non-contentious code changes should be able to be implemented quickly, while those with a material impact should go through a full consultative process

We propose that the code change process should incorporate independent review by the GIC, and that the GIC should be able to recommend improvements to any change that is proposed. The process must be jointly determined with the GIC before being incorporated in the GTAC (i.e. we do not plan to have another MOU with the GIC as under the MPOC, but to cover code changes exclusively in the GTAC).

5.2 Balancing

There was substantial support for the general approach to balancing set out in SCOP2, with particular support for proposals to simplify current arrangements and make them more transparent. First Gas has previously expressed a preference to treat the transmission system as a single "pool" for the purposes of calculating each shipper's mismatch[3].

We note, and endorse, the level of support for more accurate and timely provision of information to all parties. First Gas would be responsible for generating some, though not all such information. Ideally, all information should all be available via the new IT platform.

As noted above, each shipper will continue to have the primary obligation to balance each day. As with any such obligation, we believe there needs to be an incentive to stimulate the desired outcome. Currently, MPOC cash-outs provide such an incentive. We intend to explore options for how best an equivalent incentive to balance might be maintained, e.g. in terms of:

- How "strict" the requirement to balance each day should be (or whether, for example, tolerances can be provided, and how they might work)
- What price should apply to imbalances, whether referenced to a market or simply set as a charge to promote efficient behaviour
- Whether parties should be able to trade their imbalances, and how that would be facilitated.

Several submissions supported the concept of introducing a park and loan system, which would interact with balancing arrangements by effectively providing parties with an authorised imbalance. We propose to explore the feasibility of offering shippers the ability to notify anticipated imbalances and pay a lower cost than the standard imbalance charge. This

[3] Mismatch being defined as at present, i.e. aggregate receipts – aggregate deliveries.

will require us to analyse the likely demand for such a service, and the costs of providing the desired level of flexibility (from the transmission pipelines or other sources of storage).

The principal difficulty we perceive with park and loan is that the use of linepack for balancing alone could prejudice the provision of some types of additional transmission services, such as to (further) peak electricity generators. That is of concern to First Gas because the transmission system primarily exists to transport gas to users, not to balance shippers' receipts and deliveries over time.

Many large blocks of load are markedly diurnal, and no-one seriously expects gas producers to follow the same pattern. It is therefore understood that shippers' receipts and deliveries are highly unlikely to balance from moment to moment. Part of First Gas' service is to maintain sufficient linepack to cope with reasonable variations *within a day*. Holding (or providing) gas to balance over longer periods of time is a matter that merits more careful consideration, and discussion with stakeholders.

5.3 Allocation

The GTAC must provide effective and efficient title tracking. Large users of the Maui Pipeline appear to favour the OBA method of allocation, which currently applies only at receipt and delivery points on the Maui pipeline. Other stakeholders do not necessarily agree, and some are opposed.

Our view is that:

- Where a gas producer/supplier (i.e. at a receipt point) is currently party to an OBA and wishes that to continue, that should be possible
- Where a gas producer/supplier is not currently party to an OBA but wishes to enter into one, that should be possible
- At any dedicated (i.e. single end-user) delivery point where the end-user wishes to enter into an OBA, that should be possible, provided that end-user enters into a suitable written agreement with First Gas (probably an ICA). Otherwise the current allocation method (i.e. where the allocated delivery quantity = the metered quantity) should continue.

At all multi-user delivery points the Downstream Reconciliation Rules (amended as necessary to reflect the VTC's termination) will continue to apply. First Gas understands this may require a change to the present D+1 "pilot" agreement, and/or the Downstream Reconciliation Rules.

First Gas is open to the possibility of different allocation methods being available at receipt points or delivery points, provided that any such method reliably and efficiently produces the required outputs and does not constitute a "barrier to entry" for prospective users of the point. However, we intend that allowable allocation methods and their key procedures will be specified in the GTAC.

5.4 Gas Quality

The statements on gas quality in SCOP2 received general approval. We therefore propose to retain the gas quality obligations in the current codes, but with procedural improvements in monitoring and reporting by First Gas.

SCOP2 and submissions referred to issues around liability for loss arising from gas quality issues. Work is required in this area, although there does not appear to be any sense of urgency about when that is completed.

5.5 Non-Standard Agreements

Nearly all stakeholders were comfortable with the treatment of future non-standard agreements outlined in SCOP2. Our intention is therefore that the GTAC will:

- Provide for non-standard agreements
- Set out the circumstances in which non-standard agreements can be offered
- Set out the provisions of the GTAC that a non-standard agreement may amend
- Require the agreements to be disclosed in full.

With regard to existing (bilateral) non-standard agreements negotiated under the VTC, these will continue unless the relevant shipper and First Gas determine otherwise. On expiry they will be replaced either with standard access products, or new non-standard agreements negotiated under the GTAC.

6 Next Steps

6.1 Proposed Process

We propose to break the process of developing and implementing the GTAC into ten workstreams, most of which will proceed in parallel over the next 6-12 months:

1. **Determine direction and process.** The purpose of this work stream 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 of the pricing and access arrangements. Proposed completion March 2017.

2. **Capacity product and access design**. Using the outputs of workstream 1, this workstream will undertake detailed design of the access products, including the auctions required to price and allocate priority rights, and the definition of receipt and delivery zones. Proposed completion August 2017.

3. **Transmission pricing**. In conjunction with the capacity and access product design, a GTPM will be developed to efficiently recover regulated revenue. This will involve designing the standard pricing structure, as well as the methodology to determine actual prices. Proposed completion September 2017.

4. **Code implementation.** This work stream will determine the transition process to adopt the new code, which involves changes to the VTC and MPOC to terminate them once the new code has been finalised. We propose to start this work soon to ensure that it is advanced well ahead of the current expiry date for the VTC (30 September 2017). We also believe it is beneficial for all parties to understand practically how the transition to the new code will work. Our current thoughts on this process are presented in section 6.2 below. Proposed completion July 2017.

5. **Code governance (code change process and dispute resolution).** GIC has advised that it may be prudent to negotiate governance arrangements at an early stage. We see this workstream as having a close fit with the code implementation work (workstream 4) – one dealing with how to move off the current codes, and the other dealing with how the new code should be able to be amended. Proposed completion July 2017.

6. **Balancing and allocation.** Arrangements and incentives to balance gas injections and offtakes (allowing for any tolerances) are practically independent of the capacity and access product design. Hence this work stream has substantial "float". However, it also encompasses investigation of a park and loan scheme, and hence its commencement should not be unduly delayed. Proposed completion October 2017.

7. **Code drafting.** The key purpose of this workstream is to draft the GTAC and pave the way for its adoption and implementation in 2018. We propose to start this workstream early (as suggested by the GIC in its analysis of submissions), starting with general provisions that are largely independent of the access regime, such as prudential requirements, force majeure, etc. Proposed completion October 2017.

8. **Contract development.** Once the code is largely developed, other related agreements (ICAs, supplementary agreements, etc.) will need to be developed and negotiated as required. Proposed completion March 2018.

9. **IT system procurement.** We have already begun exploring options for a new transaction management system to accompany the new code (replacing OATIS). We are keen to involve system users (shippers and other interested parties) in the process to ensure that the benefits of a new IT system are widely understood. Once

the core elements of the new code are well-defined, a tender process to procure an IT system to implement the code will begin. The final contract will be signed once the detailed GTAC provisions have been finalised. Proposed completion December 2017.

10. **IT system design and implementation.** The successful IT system provide with design and implement the new system during 2018 to enable a "go live" date of 1 October 2018. The system will be developed with user input and significant user training. Proposed completion June 2018.

The schedule envisaged for each of these work streams is set out in the diagram on the following page.

While the workstreams will be led by First Gas, we plan to engage stakeholders through:

- GIC input throughout the process
- During initial stages of each work stream critical issues will be determined through a combination of:
    - one-on-one stakeholder meetings (as required),
    - selected involvement of stakeholders in identifying issues and high-level testing of proposals
    - the use of exposure drafts to selected stakeholders, and
    - workshops before a final decision is published by First Gas

6.2 Implementation of the New Code

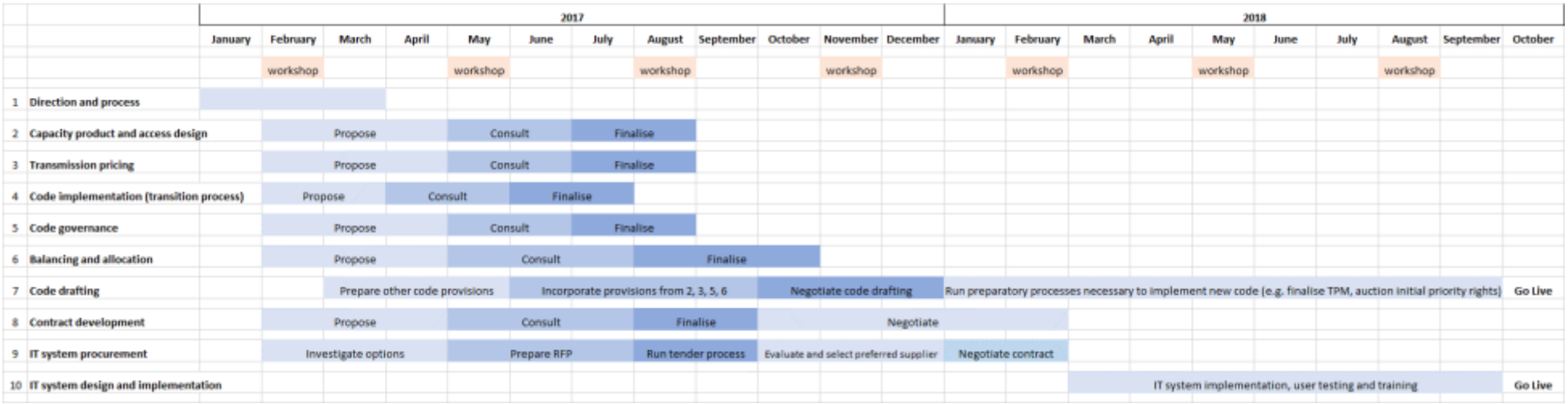
The GTAC must replace the VTC and the MPOC simultaneously. We have considered possible routes for achieving this, including the use of the existing MPOC and VTC change procedures to introduce the new code provisions in place of those currently in force. However, we consider that a "clean break" will lead to fewer complications, e.g. with associated agreements that rely on code wording.

The VTC currently has a termination date of 30 September 2017. The MPOC does not have a termination date. As a result, we plan to develop change requests to:

- Extend the VTC, subject to termination (following notice) effective on the date the GTAC commences
- Terminate the MPOC (i.e. by terminating the TSAs and ICAs that invoke the MPOC, following notice) effective on the date the GTAC commences.

We plan to draft change requests to this effect and will circulate them shortly. An important provision in these requests will be a statement of the conditions that must be met before termination of the existing codes can take effect.

Figure 4: Overview of process for developing and implementing GTAC



Appendix A: Options Evaluation

Objective	1. Menu of capacity products	2. Daily nominated capacity	3. Flow to demand service	Proposed capacity regime
Enable the use of gas. This includes ensuring the system is reliable	Designed to provide the widest range of access options to meet needs of customers while also ensuring First Gas has the capacity nominations it requires to reliably operate the transmission network. Provides the basis for reallocation of capacity should shippers' needs change due to, for example, customer switching, or simply changing demand.	Simplified capacity nomination regime that enables daily nominations and no priority rights. The option assumes there would be little or no need for congestion management. If congestion were to occur the option would need a capacity allocation regime, administrative or otherwise. The option provides capacity information required for First Gas to reliably operate the transmission network during normal operating conditions, and the option to define how it would do so during times of congestion.	From a shipper perspective, this is the simplest option as it requires no nominations. To operate the transmission system efficiently, First Gas would require an accurate forecast of transmission capacity requirements, with regular updates.	Submitters showed a general preference for a range of capacity nomination options with a priority right to ensure higher security should capacity become constrained. This is a mix of options 1 and 2. First Gas believes this will provide flexibility for its transmission customers while also providing adequate information for the reliable operation and management of the system, including allocation of capacity to its highest value uses.

Objective	1. Menu of capacity products	2. Daily nominated capacity	3. Flow to demand service	Proposed capacity regime
Streamline the transmission of gas. Make our part of the supply chain as efficient as possible. This includes maximising the value of the gas pipelines and efficiently investing when required.	The availability of priority rights to those who require them should allow for the efficient allocation of scarce capacity during periods of congestion. Nominations should ensure available capacity is allocated as efficiently as possible during normal operating conditions. This should minimise the potential for contractual congestion and maximise the use of available physical capacity. In combination, this should lead to efficient use of the network under normal conditions and during congestion. The value of priority rights (established by auction) would provide additional information to inform the future requirement for capacity, and hence the need for new investment.	The nominations regime would be the same as for option 1. However, the lack of the priority rights mechanism would deprive First Gas of key information as to the value of capacity. That could hamper the efficient allocation of capacity during times of congestion. Information should be sufficient to allow high operational efficiency to be maintained. This option would lack any signal for new investment such as that provided by option 1. The risk being that new investment could be called for earlier than might be necessary (by comparison with option 1).	This option requires First Gas to operate the system for "flow to demand", hence operational decisions would be made in the absence of advance information from transmission users. First Gas will use all the resources at its disposal to meet demand but will lack information indicating the value of capacity to users during times of scarcity. Operational efficiency is likely to be high, though based on First Gas judgment (informed or not by shipper forecasts). It is possible that economic costs could be incurred during times of congestion as capacity allocation is likely to be at First Gas discretion. It is possible that new investment could be called for earlier than necessary.	Submitters generally expressed a preference to determine their own capacity needs through frequent nominations and to express the value they attribute to scarcity through a priority rights regime. That suits First Gas as this arrangement allows for interactions with shippers more likely to better match capacity supply with demand. This approach also allows for greater efficiency in the operation of and investment in the transmission system.

Objective	1. Menu of capacity products	2. Daily nominated capacity	3. Flow to demand service	Proposed capacity regime
Keep it simple	This option allows shippers to trade off simplicity against certainty of access to transmission capacity, in line with their customers' different requirements. Priority rights are complex but offer the opportunity to provide more secure capacity during times of congestion.	This option is inherently simple but lacks the flexibility of option 1. In the absence of priority rights all capacity would rank equally.	Simple for both shippers and First Gas, at least until any constraint emerged. This option would provide much less certainty for all parties, and may not be appropriate for the New Zealand conditions.	The simplicity of this option is described in section 4.1 and illustrated in Appendix C. The proposed option is a balance between complexity (offering multiple nomination options and priority rights regime) and flexibility for shippers. Shippers can simplify if required.
Promote flexibility	Highly flexible and customisable.	Less flexible but simple.	Inflexible (in the sense of there being only one access option) but the simplest of all for both shippers and First Gas' operation of the system	Highly flexible and customisable.

Objective	1. Menu of capacity products	2. Daily nominated capacity	3. Flow to demand service	Proposed capacity regime
Promote transparency	Nominations, holdings of priority rights and non-standard contracts would be fully transparent. An IT system could support full transparency of this option.	Nominations and non-standard contracts would be fully transparent. An IT system could support full transparency of this option.	Non-standard contracts would be fully transparent, but otherwise there would be no shipper-related information to reveal. There could be greater demand for First Gas to make available operational and capacity information to inform shippers and provide more confidence around the availability of capacity. An IT system might struggle to provide the information required without significant customisation and cost.	Nominations and non-standard contracts would be fully transparent. An IT system could support full transparency of this option.

Appendix B: Summary of Decisions

Ref #	DECISION
1	**Counterparties**
1.1	The GTAC will be between First Gas and parties requiring gas to be transported on the transmission system, i.e. shippers.
1.2	First Gas and shippers will each have an obligation to act as a Reasonable and Prudent Operator in respect of everything they do.
2	**Standard Transmission Service**
2.1	The standard transmission access product under the GTAC will be daily nominated capacity (*DNC*). DNC will: • be defined as a (conditional) right to ship a quantity of gas (GJ) on a day from the receipt zone to a delivery zone • be obtainable only via the standard nomination processes • not be transferable or tradeable • be curtailable by First Gas in the event of congestion, contingency, emergency or force majeure • not be linked to any end-user (except where there is only one such party at a delivery zone), i.e. it will not be compatible with end-user specific capacity provided under a non-standard agreement
2.2	First Gas will also offer a Priority Right (*PR*) in relation to DNC, which shippers may purchase at their option. A PR will function as an "enhancement" to a shipper's DNC. Each PR will: • be defined as the right to a defined quantum of transmission capacity (GJ) on a day from the receipt zone to a delivery zone • make a corresponding amount of the shipper's DNC for the same delivery zone "firm", i.e. curtailable by First Gas only in the event of contingency, emergency or force majeure • be exercisable only via the standard nominations processes
2.3	PRs will be allocated by auction, for a defined period of each year (each such period a *Capacity Round*). initially two Capacity Rounds are proposed, although the GTAC will provide for additional Capacity Rounds. Auction terms and conditions will be outside of the GTAC.

2.4	Priority Rights will: • expire automatically at the end of each Capacity Round • be tradeable at any time during a Capacity Round, for the same delivery zone • not be transferrable to any other delivery zone • be subject to delivery point capacity (i.e. within any delivery zone) as determined and notified by First Gas from time to time • not comprise more (in aggregate) than a percentage of the notional capacity of a pipeline to a delivery zone, as determined and notified by First Gas from time to time	
3	**Congestion Management**	
3.1	First Gas will endeavour to identify and signal physical congestion ahead of time. Nevertheless, congestion may occur unexpectedly, and the GTAC will provide for measures to address that.	
3.2	DNC will be scaled-back at any delivery zone where shippers' nominations exceed the capacity First Gas reasonably considers to be available, provided that: • any PR not fully exercised by the relevant shipper will be used to increase the amount of DNC available • any capacity available under an interruptible agreement at the relevant delivery zone will be curtailed before any DNC	
3.3	Where First Gas indicates that congestion is likely, or the frequency of actual congestion increases, shippers will use all reasonable endeavours to identify those of their customers (i.e. gas end-users) prepared to become interruptible, at First Gas' call.	
3.4	First Gas will consider an "underrun charge", payable for PR not exercised and/or DNC not used, on any pipeline First Gas declares to be congested.	
4	**Allocation (Determination of Gas Quantities and Title to Gas)**	
4.1	Title	Title to gas will be established by the agreements and processes used to determine allocated quantities.
4.2	Receipt Quantities	An Operational Balancing Agreement (*OBA*) may be used at a receipt point provided that, as at the date of the GTAC: • an OBA already exists • the relevant gas provider agrees Gas Transfer Agreements (*GTA*) will be the default at all other receipt points, with a range of allowable rules for determining shippers' receipt quantities. Where an OBA does not apply, the rule will be: ∑shippers' allocated quantities = metered quantity.

4.3	Delivery Quantities	An Operational Balancing Agreement (*OBA*) may be used at a delivery point provided that the party receiving gas (end-user, network owner or other pipeline owner) agrees. The Downstream Reconciliation Rules (*DRR*) (and the "D+1 Agreement", as amended, replaced or incorporated within the DRR) will be the default at all shared delivery points where no OBA applies as at the date of the GTAC, where the rule will be: ∑shippers' allocated quantities = metered quantity. The same rule will apply at all delivery points supplying a single end user or delivery points used by a single shipper, where there is no OBA.
5	**Nominations**	
5.1	Nominations will be required at all receipt points, i.e. for shippers' proposed gas injections. Nominations will be required at all delivery zones, being shippers' requests for DNC (or interruptible capacity).	
5.2	Standard week-ahead, day-ahead and intra-day nominations cycles will be available, at both receipt points and delivery zones. The GTAC will provide for additional cycles, and changes to cycles. The possibility of additional nomination cycles at receipt points will be explored, i.e. subject to the relevant gas producer's agreement.	
5.3	A nominated quantity will apply first to a shipper's PR (if any) for a delivery zone, with any quantity in excess of PR deemed to be a request for additional DNC.	
5.4	Interruptible Capacity will be subject to the same nominations process as for DNC.	
6	**Transmission Fees and Charges**	
6.1	The transmission fees payable by shippers will be described. Subject to further investigation, First Gas envisages that amounts will be payable by shippers for:	
	PR	• the amount ($) as determined by auction for the relevant PR, subject to the auction terms and conditions • First Gas may set a reserve
	DNC	• each GJ of approved capacity for a day, i.e. First Gas' standard fee the relevant delivery zone ($/GJ.DNC)

		• each GJ actually delivered, i.e. First Gas' standard throughput fee ($/GJ)
	Capacity Overrun	• each GJ taken at a delivery zone in excess of the shipper's DNC for the day • First Gas' standard overrun fee will be a multiple of the standard $/GJ.DNC fee for the relevant delivery zone in order to incentivise accurate capacity nominations • First Gas will consider the need for the overrun fee to be graduated
6.2	First Gas will determine and notify standard transmission fees ahead of each Capacity Round.	
6.3	The gas transmission pricing methodology (*GTPM*) will be outside of the GTAC: • the GTPM (and transmission fees) will not be subject to GTAC dispute resolution provisions, provided that First Gas can reasonably demonstrate that it complies with regulatory requirements, e.g. its default price path and the Pricing Principles • First Gas' information disclosures will generally be deemed sufficient to establish such compliance • shippers may dispute incorrect invoices (i.e. transmission fees incorrectly applied or charges incorrectly calculated)	
7	**Supporting Documents Outside the GTAC**	
7.1	These will include: • non-standard transmission agreements • Interconnection Agreements (*ICAs*) • Downstream Reconciliation Rules (*DRR*) and the "D+1 Agreement" (as amended, replaced or incorporated within the DRR) • Critical Contingency Regulations • Metering Requirements • First Gas' internal operating policies and procedures	
8	**Balancing and Line Pack Management**	
8.1	The GTAC will require each shipper to use all reasonable endeavours to ensure its aggregate receipts and aggregate deliveries match on a day.	
8.2	Balancing will apply to the transmission system as a whole, provided that First Gas may (subject to consultation with, and notice to shippers) define specified sub-sections of the transmission system as individual "balancing zones" should it reasonably consider that to be necessary.	
8.3	First Gas will manage line pack, by: • setting (and publishing) upper and lower line pack limits from time to time	

	• moving gas from one part of the transmission system to another • buying or selling gas to correct for the impact of the aggregate of shippers' mismatches (= "balancing gas") • buying or selling gas to provide for (or increase the provision of) transmission services
8.4	First Gas will reasonably attempt to provide shippers with time to balance themselves (and therefore the transmission system) before buying or selling gas itself.
8.5	The cost of balancing gas will be allocated to shippers in proportion to their running mismatch.
8.6	First Gas will be responsible for its own mismatch (e.g. the difference between gas purchased for, and actually used for fuel/own use) as if it were a shipper.
8.7	First Gas will be transparent in relation to its sales and purchases of gas for line pack management.
9	**Gas Quality and Odorisation**
9.1	The GTAC will require: • First Gas to warrant that it will not knowingly allow any party to inject non-specification gas into the transmission system • Each shipper to warrant that it will not enter into any agreement with any party that allows that party to inject non-specification gas into the transmission system
9.2	First Gas will require the interconnected party at each receipt point to: • undertake monitoring and testing (in compliance with NZS 5442) to establish that the gas it injects into the transmission system is specification gas • be reasonably able to demonstrate that it has plant, procedures and processes in place to reasonably demonstrate that it injects only specification gas into the transmission system
9.3	First Gas will install equipment at Delivery Points to reasonably prevent contaminants that may arise from within the transmission system (such as dust and/or compressor oil) from causing harm when gas is delivered
9.4	Where First Gas currently odorises gas in a pipeline it will continue to do so, in accordance with NZS 5263. First Gas will maintain the right to discontinue odorisation, subject to providing shippers (and relevant interconnected parties) with adequate notice.

10	**Metering**
10.1	All gas injected into the transmission system must be metered. All gas taken from the transmission system must be metered, except where First Gas reasonably considers accurate measurement to be impractical. For example, where the flow at a Delivery Point is so low that it would be more accurate for shippers to notify First Gas of the aggregate of their customers' consumption.
10.2	The GTAC will call up the "Metering Requirements for Receipt and Delivery Points", which document (as noted above) will sit outside the GTAC.
11	**Non-standard Agreements**
11.1	The GTAC will set out the criteria First Gas will apply in determining whether to offer a non-standard transmission agreement.
11.2	Deviations from standard terms and conditions allowed in non-standard agreements will be set out in the GTAC.
11.3	First Gas will reasonably endeavour to use similar contract forms for non-standard agreements, but customisation will be allowed.
11.4	Non-standard contracts will be published in full (i.e. no part of them will be confidential).
12	**Interconnection Agreements**
12.1	No party will be permitted to connect to the transmission system after the date of the GTAC unless that interconnection is covered by an ICA.
12.2	First Gas will use reasonable endeavours to bring existing interconnections under an ICA, e.g. whenever an interconnected party requests a change to at a delivery point that would require material modifications to such point.
12.3	The GTAC will generally set out the matters that an ICA will cover, provided that: • the ICA itself will be external to the GTAC • First Gas may use different forms of ICA (e.g. for a receipt, delivery or bi-directional Point) • First Gas will reasonably endeavour to use similar forms of ICA, but customisation will be allowed

Appendix C: Present and Future Transmission Access

The table below is intended to illustrate at a high level, in the case of a hypothetical party wishing to have gas transported from Taranaki to Auckland, the commercial agreements required and the operational processes involved with those agreements, under the existing codes and the proposed GTAC. For the purposes of this example the receipt point is assumed to be located on First Gas' Frankley Road pipeline. For simplicity it is assumed that gas shipped on the Maui pipeline "goes direct", ie not via the gas market.

1. Commercial Agreements Required

Access Required	MPOC and VTC Agreements	GTAC Agreements
Use of non-Maui Pipeline	• Become a VTC shipper by signing a TSA under the VTC (meeting any requirements, eg prudential)	• Become a shipper by signing a TSA (meeting any requirements, eg prudential) • Sign a GTA for the receipt point
Receipt of gas on non-Maui Pipeline	• Sign Gas Transfer Agreement (GTA) for the receipt point (must be a VTC shipper)	
Ship gas from receipt point to Frankley Road Welded Point (FRD)	• Sign GTA for Frankley Road (must be a VTC shipper)	
Use of Maui Pipeline, to ship gas from FRD to Rotowaro	• Become a Maui shipper by signing a TSA under the MPOC (meeting any requirements, eg prudential)	
Ship gas to	• Sign GTA for Rotowaro (must be a VTC	

Auckland	shipper)	

2. Operations under the Commercial Agreements

Process	MPOC and VTC Access Regimes	GTAC Regime		
		Process	Using DNC Only	DNC + Priority Rights
Receipt of Gas	• Provide information to Gas Transfer Agent	Receipt of Gas	No change	No change
Ship gas from receipt point to FRD	• Pay transmission charge (under the VTC a fully variable fee applies)	Ship gas from receipt point to Auckland	• Nominate for DNC in the delivery zone in the Auckland delivery zone • Pay GTAC transmission charges • Accounting for trading on the Gas Market is described under balancing below	• If desired, bid at auction for priority rights in the Auckland delivery zone • Nominate for DNC in the Auckland delivery zone • Accounting for trading on the Gas Market is described under balancing below
Ship gas from FRD to Rotowaro	• Nominate a receipt quantity of gas into the Maui pipeline at FRD • Nominate (the same) delivery quantity from the Maui pipeline at Rotowaro • Pay (MPOC) Tariffs1 and 2			
Ship gas from Rotowaro to Auckland	• Obtain reserved capacity for Rotowaro – Greater Auckland Delivery Point via the VTC's annual provisional and confirmed reservation processes • Transfer capacity around (non-Maui) transmission system to optimise capacity vs overrun charges • Pay (VTC) capacity reservation, throughput and overrun charges (if any)			

3. Allocation of Receipt and Delivery Quantities

Process	MPOC and VTC Access Regimes	GTAC Regime		
		Process	Using DNC Only	DNC + Priority Rights
Receipt of Gas	• Quantity determined by the Gas Transfer Agent, applying rules under relevant GTA (+/- any trades)	Receipt of gas	No change (unless an OBA is introduced)	No change (unless an OBA is introduced)
Delivery quantity at FRD	• Equals the approved nomination (under the MPOC)	Delivery Quantity at Auckland	• Quantity allocated to shipper at Auckland via Downstream Reconciliation Rules • Adjustments for trading on the Gas Market is detailed in the balancing stage below	
Delivery quantity at Rotowaro	• Equals the approved nomination (under the MPOC)			
Receipt quantity at Rotowaro	• Quantity determined by the Gas Transfer Agent, applying rules under relevant GTA (+/- any trades)			
Delivered Quantity at Auckland	• Quantity allocated to shipper at Auckland via Downstream Reconciliation Rules			

4. Balancing

<table>
<tr><th rowspan="2">Process</th><th rowspan="2">MPOC and VTC Access Regimes</th><th colspan="3">GTAC Regime</th></tr>
<tr><th>Process</th><th>Using DNC Only</th><th>DNC + Priority Rights</th></tr>
<tr><td>Shipper Mismatch on SKF pipeline</td><td>• Shipper mismatch =

Receipt quantity minus FRD (MPOC) nomination</td><td rowspan="4">Shipper Mismatch on transmission system</td><td colspan="2" rowspan="4">• Shipper mismatch =

receipt quantity
plus any gas purchased on Gas Market
minus any gas sold on Gas Market
minus delivery quantity</td></tr>
<tr><td rowspan="2">Welded Party Operational Imbalance (OI) on Maui Pipeline</td><td>• Frankley Road OI =

Frankley Road MPOC nomination minus actual quantity flowed at FRD from SKF pipeline to Maui pipeline</td></tr>
<tr><td>• Rotowaro OI =

Rotowaro MPOC nomination minus actual quantity flowed at Rotowaro from Maui pipeline to North Pipeline</td></tr>
<tr><td>Shipper Mismatch on North pipeline</td><td>• Shipper mismatch =

Rotowaro receipt quantity (+/- any trades there) minus allocated delivery quantity at Greater Auckland</td></tr>
</table>