



Final Assessment of October 2018 Gas Transmission Access Code (GTAC)

ISSUED ON 27 FEBRUARY 2019

Executive Summary

This is Gas Industry Co's final assessment paper (FAP) on the Gas Transmission Access Code (GTAC, or New Code) submitted to us for assessment¹ on 31 October 2018. Our preliminary assessment paper (PAP) was issued on 5 December 2018 for consultation and concluded that the New Code was materially better than the existing arrangements. Since then, stakeholder submissions on the PAP provided further input for us to consider. These submissions are summarised and considered in this FAP. While they have caused us to revise some aspects of our analysis, our final determination is that the New Code is materially better than the existing arrangements.

Significance of this FAP

The process of replacing the MPOC and VTC with a new transmission code requires that the TSAs under the VTC are terminated by allowing the VTC to expire, and the TSAs and ICAs under the MPOC are terminated. The expiry date of the VTC is 30 September 2019 (unless the VTC is extended further). In the case of the MPOC, termination can only occur when First Gas notifies that a series of preconditions have been satisfied. The substantive condition is that:

...following an appropriate consultation process which includes GIC publishing a draft determination and asking each Shipper and Welded Party whether it supports the New Code, GIC has published a final determination that the New Code is materially better than the current terms and conditions for access to and use of gas transmission pipelines having regard to the objectives in section 43ZN of the Gas Act 1992 and any objectives and outcomes the Minister has set in accordance with section 43ZO of the Gas Act 1992²

This FAP is the "final determination" referred to above.

Gas Industry Co's approach

The assessment process in the FAP follows the three-step process used in the PAP but is supplemented by consideration of the feedback provided in nine submissions from stakeholders. That feedback is evaluated in Chapter 2, where we examine the relevance to aspects of our analysis and indicate where we consider amendments to our PAP analysis are warranted.

The three-step assessment process is described in section 3.4 and comprises: a detailed "bottom-up" analysis of the components of the New Code relative to their equivalents in the existing Codes; a "top-down" analysis comparing the expected performance of the New Code against the MPOC and VTC in each dimension of the objectives; and an overall assessment of whether, considered as a whole, the New Code would be materially better than the current terms and conditions for access to and use of transmission pipelines.

¹ Under section 22.16(b) of the MPOC, Gas Industry Co is tasked with preparing a comparative assessment of the proposed New Code against the current terms and conditions for access to and use of the gas transmission pipelines. In making that evaluation, Gas Industry Co must use the objectives in s43ZN of the Gas Act 1992 together with the objectives and outcomes set for Gas Industry Co in the Government Policy Statement on Gas Governance dated April 2008 (GPS).

² Section 43ZO of the Act refers to the Minister of Energy's ability to set objectives and outcomes for Gas Industry Co by publishing a Government Policy Statement.

Is the New Code materially better than the status quo?

Based on the analysis set out in chapters 2-6, together with the supporting appendices, we conclude that the GTAC taken as a whole is materially better than the current terms and conditions for access to and use of gas transmission pipelines.

Stakeholder contributions

The process of developing the GTAC that was submitted to Gas Industry Co on 31 October last year commenced in August 2016. First Gas announced that it was committed to designing a new, single transmission code that would replace the MPOC and VTC. First Gas aimed to provide its customers and other stakeholders with a seamless solution to transporting gas from the injection points to the various delivery points in the North Island. Its vision also included a modern information system to support the new code. At the initial workshop First Gas stated its intention that development of the new code would be open, collaborative, effective, and timely.

Gas Industry Co has attended and hosted most of the workshops that have formed the core of stakeholder involvement and we have been impressed at the level of commitment and the quality of the input from all quarters. First Gas and its stakeholders are to be commended for their respective efforts and there is no doubt that the GTAC has benefitted greatly from the open and collaborative development process.

In addition, we have greatly appreciated the effort and thought that submitters have put into their submissions on the versions of the GTAC and our assessment papers. Our assessments have gained enormously from the challenges and different perspectives delivered in those submissions.

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1. Introduction and purpose

1.1 The purpose of this Final Assessment Paper (FAP)

The open access gas transmission systems, previously owned by Maui Development Limited (MDL) and Vector Gas Limited (Vector), are now owned by First Gas. First Gas wishes to replace the Maui Pipeline Operating Code (MPOC) and Vector Transmission Code (VTC) with a single set of access arrangements covering the combined gas transmission systems. Most stakeholders recognise the efficiencies this could bring, and support First Gas's aspirations. First Gas and stakeholders began working in earnest to develop a single set of access arrangements (GTAC, or New Code) in August 2016.

Gas Industry Co's assessment role

MPOC s22.16³ provides for termination of contracts incorporating the MPOC provided certain conditions are met. The full text of MPOC s22.16 is set out in Appendix A. The analysis in this FAP is pursuant to MPOC s22.16(b), which requires Gas Industry Co assess the proposed new access arrangements, by:

- Following an appropriate consultation process, including:
 - publishing a draft determination; and
 - asking each Shipper and Welded Party whether it supports the New Code.
- Publishing a final determination that the New Code is materially better than the current terms and conditions for access to and use of gas transmission pipelines, having regard to the objectives in section 43ZN of the Gas Act 1992 and any objectives and outcomes the Minister has set in accordance with section 43ZO of the Gas Act 1992.

In the MPOC, the term "New Code" is defined (in MPOC s22.15(a), and s22.16(a)) as the set of terms and conditions that provide for:

- (i) All Shippers using the Maui Pipeline, and VTC Shippers using the Transmission Pipelines governed by the VTC, may continue to transport gas through those pipelines; and
 - (ii) All Welded Parties may continue to connect their respective Pipelines to the Maui Pipeline
- (MPOC s22.16(a))

The VTC has no provision equivalent to MPOC s 22.16(b). The VTC and associated TSAs will expire on the date specified in VTC s20.2, currently 30 September 2019.

PAP submissions

The submissions we received on the PAP are summarised in Appendix B and considered in Chapter 2.

³ MPOC s22.16 was introduced by an MPOC change proposed by First Gas on 14 July 2017, known as the Transition Change Request. Full details can be found on the Gas Industry Co website at: <http://gasindustry.co.nz/work-programmes/mpoc-change-requests/14-july-2017-mpoc-transition-change-request-tcr/>

Relevance of previous GTAC and its development

First Gas submitted a previous GTAC to Gas Industry Co for assessment on 8 December 2017 (GTAC1). Gas Industry Co issued a Preliminary Assessment Paper in relation to GTAC1 on 13 February 2018 (PAP1), and a Final Assessment Paper on 25 May 2018 (FAP1). This earlier process culminated in Gas Industry Co concluding that GTAC1 was not materially better than the existing terms and conditions of access.

This FAP only assesses the matters required by MPOC s22.16 (that is, whether the latest GTAC is materially better than the two existing Codes), so we do not consider how the GTAC addresses the FAP1 findings. However, some readers will be curious about how the current GTAC assessment compares to the assessment of GTAC1. For their convenience we provide a cross-reference in Appendix E. We also occasionally refer to GTAC1, PAP1 and FAP1 in this assessment to help explain different perspectives on a matter.

Also, MPOC s22.16 does not require us to consider the process that was followed to develop the GTAC.

1.2 31 October 2018 GTAC

On 31 October 2018, First Gas submitted the GTAC to Gas Industry Co for assessment. The package comprised:

- GTAC Submission Covering Letter;
- Final GTAC (clean version);
- Final GTAC marked up with changes in relation to GTAC1;
- Balancing and Line Pack Standard Operating Procedure (Balancing SOP);
- Curtailment and Operational Flow Order Standard Operating Procedure (Curtailment SOP);
- Metering Requirements document; and
- Interconnection Policy.

1.3 Guide to this Final Assessment

Chapter 1	explains the purpose of this FAP, lists the GTAC documents First Gas submitted to us for assessment, and provides a guide to the content of the FAP
Chapter 2	considers the submissions received on the PAP and lists all items where we have changed our assessment between the PAP and this FAP
Chapter 3	details the assessment methodology used in this FAP
Chapter 4	contains the bottom-up analysis (Step 1)
Chapter 5	contains the top-down analysis (Step 2)
Chapter 6	contains the overall assessment (Step 3)
Appendix A	MPOC S22.16
Appendix B	provides a summary of submissions on the PAP
Appendix C	provides supporting analysis
Appendix D	lists the key GTAC documents and workshops that comprised the GTAC development
Appendix E	provides a comparison of the assessments made in this FAP against those made in FAP1

A full glossary of common terms and acronyms is provided at the end of this FAP.

Commonly used acronyms

Many acronyms are in common use in the industry. Those used in this document are fully described in the glossary at the end of this document. The most common are:

GTAC Gas Transmission Access Code

MPOC Maui Pipeline Operating Code

VTC Vector Transmission Code

IP Interconnected Party

ICA Interconnection Agreement

RP Receipt Point

DP Delivery Point

OR Overrun

UR Underrun

Use of capitals

Terms are capitalised where they have a particular meaning in the relevant code. However, to spare the reader capitalisation fatigue, we try not to overuse capitals.

2. Consideration of submissions on PAP

In this chapter we discuss stakeholder feedback on the 5 December 2018 PAP. A summary of submissions on the PAP is provided in Table 28 and Table 29 of Appendix B.

Separate from our assessment, MPOC s22.16(b) requires that we ask whether stakeholders support the New Code. Table 1 summarises the responses from those who provided submissions and shows general support for the New Code.

Table 1 Support for the GTAC

Submitter	PAP Q12: Do you support the GTAC?
emsTradepoint	Has a positive view of the New Code but considers it would be further enhanced by a clear statement on confidentiality from First Gas
First Gas	Yes
Genesis	Yes
Greymouth	No
MGUG	Yes
Methanex	No
OMV	Does not answer directly. Accepts that the code may be workable but remains concerned at the non-RPO deeming in GTAC Sch 5 s6.17
Todd/Nova	Yes, but shares OMV's concern re the non-RPO deeming provision
Vector	Yes

2.1 Transmission products

Workload from GTAC nominations

The PAP⁴ concluded that:

Feedback received during our consideration of GTAC1 persuaded us that the GTAC1 nominations regime would increase the workload for some Shippers without any significant operational benefit. That view was based on the reasoning that a Shipper will pitch the level of administrative effort it invests in producing good nominations at a level that matches the pay-off in reduced incentive charges.

First Gas⁵ submits that the PAP overstates the additional workload from GTAC shipper nominations. It believes work needed to match gas receipts and deliveries must be done at present, and the GTAC provides more flexibility in how the workload is allocated by:

- allowing, but not mandating, OBAs at all RPs and Individual DPs;
- providing more nomination cycles to choose from; and

⁴ PAP p24, "Nomination work load" section of the PAP Gas transmission products Efficiency assessment

⁵ First Gas, 18 January PAP submission, Q1

- offering auto-nominations for mass-market load.

GIC response

We believe our analysis does recognise the benefit of optional OBAs and more nomination cycles. Also, from discussions we have had with Shippers, we accept that the auto-nomination service would lessen concerns about the nomination work load. However, when we consider the GTAC arrangements, a stand-out feature is the increased requirement for nominations on the non-Maui pipelines. We assessed that the work associated with those increased nominations would be at a modest cost, and we are not persuaded that it should be regarded as negligible.

SAs could create two classes of capacity

Greymouth⁶ is concerned that currently there is *"either reserved capacity, or something akin to it"* whereas, *"section 7.4 of the GTAC allows First Gas to choose between DNC or some other type of capacity and rank it above or below DNC."*

GIC response

Greymouth considers that a GTAC SA could create capacity that ranks ahead of DNC (firm) capacity, while it is not possible for a VTC SA to create such preferential rights. However, we doubt that this distinction can be drawn. For example, a VTC SA can give a capacity entitlement for a term of several years. In that case, such SA capacity would rank at the head of the capacity reservation queue for the duration of its term. So the VTC already permits the creation of capacity that ranks ahead of the standard product.

However, while the VTC and GTAC both allow for SAs that could give priority over the standard service, we do not think that it would be in First Gas's interest to undermine its standard product without good reason. Unlike the VTC, the GTAC provides greater transparency in that regard by requiring:

- Publication of an SA policy (GTAC s7.2);
- Evaluation of whether the SA would affect Available Operational Capacity to the extent of impeding or forestalling opportunities more beneficial to First Gas and other system users (GTAC s7.1(a));
- Publication of both the information provided by the Shipper and First Gas's GTAC s7.1 evaluation (GTAC s7.2); and
- Publication of any resulting SA (GTAC s7.6).

We recognise those as improvements on the VTC arrangements.

Peaking

The PAP hypothesised that there might be an opportunity for a peaking party to shave its DNC charges if it were able to accurately manage its hourly flows and consistently under-nominate hourly quantities (the opportunity arises from the $\pm 25\%$ safe harbour before hourly OR and UR charges take effect). However, the PAP was equivocal on this potential issue, as we were not completely confident that the opportunity wasn't forestalled elsewhere in the GTAC.

Greymouth⁷ considers that the presence of such an opportunity *"should have been factored into [the] arrow analysis"* and, had that been done, the red arrow in that section of the PAP would have been much greater.

⁶ Greymouth, 18 January submission, Q14

⁷ Greymouth, 18 January PAP submission, Q17

First Gas⁸ agrees with the PAP except that the analysis did not correctly interpret the applicability of GTAC s11.6.⁹ First Gas considers that the effort required to successfully game the peaking regime is unlikely to be worthwhile. Additionally, First Gas considers that the main counter to parties attempting to game would be that they would be submitting capacity nominations that were not a genuine estimate of their capacity usage and such nominations would be contrary to the obligations in GTAC s2.12 to act as an RPO.

GIC response

Given the light shed on this potential issue we are satisfied that First Gas would be aware of the gaming possibility and have a clear RPO incentive to be on alert. We are also satisfied that the RPO obligation in GTAC s2.12 should be sufficient for First Gas to address deliberate, sustained, on-going gaming of AHP nominations. Gas Industry Co believes, as a matter pertinent to various points made in submissions, that the RPO obligation is an enforceable obligation and hence is of substantive value, even if it does not afford a bright line test for any given behavioural requirement. While the RPO obligation will always need a degree of interpretation in its application, it does provide a provable yardstick against which to monitor performance where relevant.

Survival of the VTC Supplementary Agreements (SAs).

VTC s2.7 entitles First Gas to enter into an SA that supplements and amends an underlying TSA in relation to a limited range of matters. VTC s2.7(e)(i) provides that SAs under the VTC will survive the expiry or termination of that code and will incorporate the provisions of a replacement code.

The fairness of VTC SAs surviving while all contracts incorporating the MPOC are terminated was discussed in PAP p32. There we concluded that it was modestly unfair that only the SAs would survive. We also noted the limited scale of the issue, since only between 2 and 8 such VTC SAs were expected to survive.

First Gas⁸ does not agree that the survival of these contracts is unfair. It notes that it has sought to minimise the potential for legacy arrangements wherever practicable and that honouring existing arrangements is the fairest approach available to it.

Vector¹⁰ agrees with First Gas and also notes that honouring the VTC SAs would be similar to the treatment of legacy gas agreements when the MPOC was introduced.

GIC response

We agree that there are few options available to First Gas given that the current terms of the VTC provide that SAs under the VTC will survive the expiry or termination of that code and incorporate the terms of a replacement code. We also recognise that the VTC SAs would be changed to the extent of incorporating the GTAC terms, which may in itself prompt SA holders to re-negotiate or abandon their SAs. In any case, 8 or fewer SAs are expected to transfer. We continue to believe that the outcome is modestly unfair on MPOC users whose contracts would not survive.

Continuation of some ICAs on the non-Maui pipeline.

Methanex¹¹ considers that there are significant negative implications of some existing ICAs continuing under the GTAC, while ICAs under the MPOC will terminate.

⁸ First Gas, 18 January PAP submission, Q1

⁹ First Gas considers that the relief from overrun charges under s11.6 only applies to a Peaking Party in relation to a maintenance profile.

¹⁰ Vector, 18 January PAP submission, Q14

¹¹ Methanex, 18 January PAP submission, p5, items 12-14

The existing ICAs that Methanex refers to are bilateral agreements between First Gas and the relevant interconnected party that are separate from the MPOC and the VTC. Those ICAs cannot be terminated through the existing codes or a change to the terms of the existing codes but only in accordance with their own contract terms.

Methanex also considers that the need for MPOC interconnected parties to negotiate new ICAs, should be assessed as a deterioration for MPOC interconnected parties compared with the status quo.

GIC response

Regarding the continuation of some ICAs, we believe there are good reasons to doubt that significant negative implications would arise. While the current arrangements would be preserved and operate in a new context (in the GTAC environment rather than that of the MPOC/VTC):

- the aspects of these stand-alone ICAs that have the potential to affect other IPs (the obligations relating to non-specification gas and pressure) would not change. Also, we would not expect the operation of these provisions to be affected by other aspects of the access environment (for example they would not operate any differently alongside a DNC regime than they would in an annual capacity reservation regime); and
- Similar concerns about existing non-code ICAs would have arisen when the MPOC and VTC were first introduced, but non-code ICAs were not altered in those occasions, and we are not aware of any adverse effects arising.

Regarding the need of existing MPOC ICAs to be replaced by new ICAs aligned with GTAC Sch 5 and GTAC Sch 6 (i.e. the common terms of interconnection), we have acknowledged that there would be a cost associated with this, but we have no reason to believe that IPs would be disadvantaged during those negotiations.

We continue to hold the view (as expressed in the PAP) that the cost of contract renegotiations would be modest and transient and that any unfairness for parties who will be required to enter into new ICAs is also modest.

2.2 Pricing

Zone-to-zone v point-to-point pricing

Greymouth¹² is concerned zonal-based pricing (pricing from a Receipt Zone rather than from each RP) will create allocative inefficiency. It states that within a Receipt Zone, the RPs furthest away from the Delivery Zone will receive subsidised transmission compared to RPs located closer to that Delivery Zone. It states there is a similar concern in respect of Delivery Zones.

GIC response

In regard to gas deliveries, the great majority of these by value occur on the Non-Maui system. This system currently uses a form of zonal pricing because DPs are grouped into areas with a common charge for all points in each area. The current grouping of DPs is largely preserved in the pricing structure proposed under the GTAC. Hence, we would not expect any appreciable change in efficiency in relation to pricing of gas deliveries.

For gas receipts, there would be less pricing 'granularity' in the Taranaki receipt zone under the GTAC than at present. Arguably, this reduction in granularity could make prices less cost reflective. However, this argument assumes that current prices reflect real differences in the cost of transporting gas from different RPs. In strict terms, this argument is unlikely to hold, as most

¹² Greymouth, 18 January PAP submission, p2, Q1.

transmission costs are fixed given that the pipeline is already built. Hence, a reduction in the locational granularity of pricing is not expected to cause allocative inefficiency in this instance.

Effect of transmission incentive charge structures on retail competition

Greymouth disagrees with the PAP's assessment that retail competition effects under the VTC and GTAC would be similar.¹³ Greymouth considers retail competition would be harmed because the GTAC's transmission incentive charge structure would more strongly favour retailers with established, diverse customer bases. Greymouth says Shippers under the VTC can control their exposure to overrun charges, because they decide how much reserved capacity to book. By contrast, Greymouth considers Shippers cannot control the accuracy of their daily nominations under the GTAC. It also says there is no exposure to underruns in the VTC, unlike the GTAC which includes underrun charges.

GIC response

Dealing first with Shippers' discretion, our view is that both the VTC and GTAC allow Shippers to influence their exposure to incentive charges. Under the VTC, Shippers decide their level of annual reserve capacity bookings. Under the GTAC, they decide their level of daily capacity nominations.¹⁴ Further, the analysis in section B.4 of the PAP suggested that the two codes provide broadly similar levels of incentives when expressed on a like-for-like basis.

Turning to underrun incentives, Greymouth is correct the VTC does not include any underrun charges, unlike the GTAC. However, despite the absence of any specific underrun charges, Shippers using the VTC do face costs for underruns. This is because capacity reserved by a Shipper must be paid for, irrespective of whether it is used. Hence, any Shipper with reserved capacity that is unutilised will bear the associated cost.

For the reasons set out above, we consider that both the VTC and GTAC have incentive charge structures which tend to favour retailers who are best able to estimate their capacity requirements; i.e., retailers with established, diverse customer bases. As a result, we do not expect the transmission incentive charge structure in the GTAC to have a discernible effect on retail competition as compared with the VTC.¹⁵

Gas Transmission Pricing Methodology (GTPM)

Methanex¹⁶ is concerned that excluding the Gas Transmission Pricing Methodology (GTPM) from the GTAC will restrict discussion of First Gas's approach to tariff setting and revenue recovery. Methanex notes that under MPOC any changes made to the tariff principles in MPOC Sch 10 need to go through the code change process. The GTAC is silent on how the GTPM is to be developed.

GIC response

We acknowledge that transmission pricing is an important issue for pipeline users and note that transmission pricing remains subject to oversight by the Commerce Commission. This includes a requirement for First Gas to disclose annually the prevailing GTPM to users, and to report on how consistent the GTPM is with four pricing principles developed by the Commerce Commission.¹⁷ Of particular relevance to Methanex's concerns, the fourth principle is that the *"development of prices is transparent, promotes price stability and certainty for consumers, and*

¹³ Greymouth, 18 January PAP submission, p2, Q1.

¹⁴ In both cases, this assumes there is no congestion.

¹⁵ For completeness, we note that pro-competitive effects are expected to arise from other aspects of the GTAC pricing structures.

¹⁶ Methanex, 18 January PAP submission, pp6-7.

¹⁷ Gas Transmission Information Disclosure Determination 2012, clauses 2.4.1 and 2.4.3 (2).

*changes to prices have regard to the effect on consumers”.*¹⁸ Neither the VTC nor the GTAC prescribes how a GTPM is to be developed (except that the GTAC requires First Gas to comply with the Commerce Commission’s pricing principles as far as practicable), but both allow users to dispute whether fees are consistent with the relevant GTPM.

In relation to the MPOC, Methanex is correct that transmission prices must conform with the MPOC Sch 10 tariff principles. These effectively ‘hardwire’ a GTPM within the MPOC which can only be changed via a code amendment. We note that First Gas has assessed the MPOC pricing as being inconsistent with, or not satisfying, three out of the four pricing principles issued by the Commerce Commission.¹⁹

We consider that the requirements imposed by the Commerce Commission under Part 4 of the Commerce Act in respect of gas transmission pricing and pricing methodologies mean that the absence of the tariff principles equivalent to Schedule 10 of the MPOC would have no material impact.

SAs could create price inequality

In Greymouth’s response to PAP Q2, it references points 2.10 and 2.11 of its 23 October 2018 submission. In essence, Greymouth considers that there is an inconsistency between First Gas’s ability to strike special SA prices and its obligations not to give preferential prices. It believes this is also a problem for existing SAs. Greymouth suggests both these matters require an independent party to check that pricing is subsidy-free.

GIC response

The general no preference or priority provision in GTAC s2.6 states that it is subject to anything in the rest of the GTAC. However, the special arrangements that may apply to SAs are specifically contemplated in the GTAC. This is sensible because the purpose of SAs is to allow for exceptions where it is rational to do so. An SA may be used, for example, to forestall inefficient bypass of the transmission pipeline. Clearly it should be beneficial in such situations for a special price to be struck. Also, “preference” implies favouring one user over another like user in similar circumstances. However, a special SA price would only be struck where there were exceptional circumstances; i.e., where the circumstances were not alike.

Like the GTAC, the current codes do not provide for independent assessment of SA provisions, so this FAP finds no detriment on that issue either.

2.3 Energy quantity determination

Timing of information availability

Vector²⁰ and Greymouth²¹ both point out that, since the publication time for Gas Composition Data remains at 12:00, there will be no improvement on the provision of information into the downstream D+1 process.

GIC response

We accept that there is no reason to suppose that the processing time of mass-market DDRs will improve.

On PAP p63, we noted *“...the GTAC timing for publication of validated DDRs is midday, which is two hours earlier than the time required by the VTC. We consider that earlier delivery (assuming*

¹⁸ Gas Transmission Services Input Methodologies Determination 2012, clause 2.5.2 (4).

¹⁹ See www.firstgas.co.nz/wp-content/uploads/First-Gas-GTB-pricing-methodology-PY2019.pdf. First Gas assessed pricing on the non-Maui system as being consistent with two principles, and “not fully consistent with” two other principles.

²⁰ Vector, 18 January PAP submission, Q3

²¹ Greymouth, 18 January PAP submission, Q4

it is matched by earlier delivery of D+1 and Shipper mismatch) will improve efficiency by enabling Shippers to make earlier self-balancing decisions.” However, it is only the DDRs for meters with telemetry that would be available sooner than at present. While this is an improvement, we accept that it is slight. However, we still consider that the modest improvement assessment we gave for Energy Quantity Determination is reasonable given the other matters considered: i.e., the potential for reducing costs resulting from a single set of technical standards, testing requirements and correction methodology.

2.4 Energy allocation

Wash-ups and allocations at bidirectional points

In relation to the wash-up arrangements (GTAC Sch 8), Greymouth²²:

1. disagrees that the presence of wash-up arrangements within the GTAC is an improvement over the VTC;
2. considers that some definitions cause confusion;
3. calls for Gas Industry Co to undertake a comprehensive technical analysis of the workings of GTAC Sch 8; and
4. suggests that because a bidirectional point could be both an RP and a DP on the same day, the only GTAC allocation arrangements that would work there is an OBA. However, for the Stratford 3 bidirectional point (the Ahuroa storage facility) the IP (Gas Storage New Zealand Limited (GSNZ)) is not willing to be party to an OBA, so the GTAC is unworkable.

GIC response

To consider these matters some context is helpful. Prior to the implementation of MBB the wash-up arrangements were relatively straightforward: all that was required was to adjust Shippers' Running Mismatch (RM) positions as a result of changes in allocations. With MBB the requirements became more complex, with Shippers requesting that volume wash-ups be applied across a month rather than in a single adjustment (as well as wanting daily cash-out information throughout the month).

Although the VTC was amended to allow for MBB, those amendments did not provide for a more comprehensive wash-up arrangement. To accommodate Shippers' needs, Vector entered into an agreement with them – the “MBB D+1 Pilot Agreement” – which obliged Vector to calculate each Shipper's RM on a day-in-arrears basis, allocate cash-outs, and after any interim or final allocation apply the changes throughout the month following that allocation. The MBB D+1 Pilot Agreement is an arrangement that sits outside of the VTC. That agreement was established as a stop-gap measure to meet the needs of Shippers, and the activities that it mandates have never been migrated into the VTC by a change request. The temporary nature of the Pilot Agreement is underscored by the fact that it was able to be terminated by Vector (and, now, by First Gas).

So, in relation to point 1 above, we consider the inclusion of the wash-up arrangements in the GTAC would be an improvement over the status quo as the obligations are set out under GTAC Sch 8 and any change would be subject to the GTAC governance arrangements. The current wash-up arrangements are not subject to VTC governance.

With respect to points 2 and 3, we consider that the intent of the wash-up schedule is clear, the various formulae recalculate RM positions to reflect changes in allocations, and the accuracy of those equations would be comprehensively checked as a part of the IT implementation project. The industry participants are best placed to address these matters and at this stage we do not think that it would be necessary or helpful for Gas Industry Co to be involved in the detail. We

²² Greymouth, 18 January PAP submission, Q4

expect any adjustments would almost certainly be minor and technical and agreed among the parties or subject to a code change shortly after go-live.

In relation to point 4, the allocation of quantities at the Stratford 3 bidirectional point, we agree with Greymouth that the GTAC could provide more direction. However, as Greymouth notes, bidirectional point allocations are also not well dealt with under the VTC. Currently, a work-around arrangement is in place that allows Stratford 3 to be allocated under the VTC without the need for GSNZ becoming party to an OBA. Under the GTAC, this work-around could be carried forward, or GSNZ could overcome whatever problems it has in relation to adopting an OBA. In either case, from the perspective of our analysis, we consider that this aspect of the GTAC is workable and no worse than the VTC.

2.5 Balancing

The availability of data to assist primary balancing

Greymouth²³ considers that:

1. real time RM positions are important for system users, and are currently available on the BGIX, but GTAC s8.15 expressly prohibits First Gas from publishing intra-day estimated RM positions; and
2. the PAP is wrong to assume that validated DDRs would be available sooner to help Shippers take balancing decisions. The Gas Composition Data will still only be available at 12:00, as at present, so DDRs cannot be produced any earlier.

GIC response

Some background is helpful. The MPOC mandates OBAs at all Welded Points and requires Shipper receipt and delivery nominations to match so that, other than in exceptional circumstances, there is no Shipper mismatch. Shippers do have RM positions on the non-Maui pipelines, but these are not published.

Under the GTAC both OBA Parties and Shippers have RM positions. The publication of these data was considered in the GTAC design, but some Shippers argued that it would provide an unnecessary and unfair window to their commercial arrangements. First Gas agreed to keep Shipper RM information confidential and considered that it would be unfair to publish RM positions of OBA Parties only.

GTAC s8.15 provides for First Gas's hourly estimates of a Shipper's or OBA Party's RM position *"on a confidential basis and for information purposes only"*. From the GTAC workshops, our understanding is that these estimates would help parties take balancing decisions and, where necessary, could be the basis of a discussion between First Gas and a party about that party's balancing intentions. The GTAC Curtailments and Operational Flow Orders SOP also provides that the estimated RM positions could be the basis of curtailment instructions²⁴ (We discuss this in section 2.6 below.)

Regarding point 1, as Greymouth notes, under the MPOC each Welded Point imbalance is published while RM positions under the GTAC would not be. Although individual parties would have information regarding their own RM positions to help them make informed balancing decisions, the public availability of scheduled quantity v flow information at major stations would be lost. We consider this to be a modest negative that was not acknowledged in the PAP.

Regarding point 2, while publication of the gas composition data is not required until 12:00, the requirement for First Gas to publish DDRs (for GTAC metering that First Gas monitors by

²³ Greymouth, item 1.3(c), 4.1 and Q4.

²⁴ GTAC Curtailments and Operational Flow Orders SOP s1.7

telemetry) by midday would require it to have gas composition data available earlier than midday to meet that obligation.

Greymouth is correct that there would be no change to the timing of DDR data for MPOC Welded Points, whereas DDR data for VTC DPs will be available two hours earlier. However, while retailer TOU data are not available to the D+1 model until 14:00 currently, it should be possible for retailer TOU data to be supplied by 12:30, which would allow for earlier delivery of the D+1 afternoon run (~13:00 compared with ~14:30). In addition, because the GTAC doesn't have mandatory daily cash-outs, delivery of the D+1 allocations will provide Shippers with the information that they need to fine-tune their nominations on days when First Gas has not taken a balancing action. On a day when First Gas has taken a balancing action a party may need to wait until the (new) OATIS system has calculated any balancing-related cash-out but, as that process will likely be automated, the information would be available shortly after the D+1 allocations are reported.

Our conclusion in relation to point 2 is that the GTAC requirement to publish DDRs by 12:00 will be more timely than is currently the case under the VTC (which requires publication by 14:00), so our assessment of this item remains unchanged.

The ERM charge

Greymouth²⁵ believes that ERM charges are punitive and may encourage inefficient behaviour. It suspects that parties value the consistency and title transfer at rough market prices provided by the current daily cash-out regime more than a GTAC ERM charge.

GIC response

As we illustrated in the Primary Balancing analysis (PAP pp61-63), between July 2016 and October 2018, the daily spread of cash-out bid and offer prices divided by two exceeded the GTAC's \$0.50/GJ ERM charge 80% of the time. First Gas can increase the ERM charge "*where it reasonably believes these fees are not providing an appropriate incentive to remove ERM*" (GTAC s8.14), but any increase beyond \$1/GJ would require a Change Request. Also, where Acceptable Line Pack Limits are exceeded, the ERM charge is multiplied by a factor of 5. However, only experience will show if such price adjustments are frequent and whether a factor of 5 is excessive or not. Therefore, Gas Industry Co cannot conclude that ERM charges would be more onerous than current arrangements.

Quantum of balancing tolerances

In section B.6 of Appendix B of the PAP, we compared the approach to balancing tolerances under the MPOC/VTC and GTAC. Immediately before Table 32 we noted that "*Current ROIL values are given in the MPOC (MPOC Sch 7) and total 17 TJ. But, because of the 1.5 ROIL multiplier, the aggregate tolerances in effect today are 25.5 TJ.*"

Greymouth²⁶ notes that the MPOC tolerances apply in both directions, so the aggregate is 51TJ, not 25.5TJ, and that this is important when comparing tolerances on a like-for-like basis.

Greymouth also considers the GTAC tolerances would be less predictable and less efficient, because:

1. the tolerances would not be fixed as under the MPOC, but would depend on whether Mokau is running;
2. there would be no information to determine if Mokau is running or not;
3. the tolerances are set outside the GTAC, so could be changed without a code change; and

²⁵ Greymouth, 18 January PAP submission, Q5

²⁶ Greymouth, 18 January PAP submission, Q18

4. tolerances would be recalculated for wash-up purposes.

Greymouth believes that this lack of predictability is important because, contrary to Gas Industry Co's view that parties would likely monitor their overall imbalance positions at intervals, Greymouth says that it and other parties would wish to assess their tolerances daily.

Greymouth also considers that, by giving large parties more tolerance than small ones, the Balancing SoP would not comply with the GTAC's requirement not to prefer any Shipper or IP except as expressly provided in the GTAC, and so be unfair.

GIC response

We agree with Greymouth that the current 25.5TJ tolerance applies in either direction. However, the PAP did not compare the quantum of tolerances between the MPOC and GTAC. We did not think that it would be an enduring comparison because, if the GTAC comes into effect, the level of tolerance will need to be tuned in response to balancing behaviour under the new arrangements, making any comparison short-lived.²⁷

Rather than comparing tolerances, the objective of PAP B.6 was to compare how difficult it would be for users to estimate their tolerances under current and proposed arrangements. The absolute level of the tolerance is not relevant to that comparison.

Our comparison concluded that it would be easier for MPOC parties to assess their balancing tolerance under current arrangements than under the GTAC. However, the reverse is true for VTC parties because currently the MPOC tolerances are, in effect, redistributed through each Balancing and Peaking Pool (BPP). First Gas²⁸ agrees with that conclusion, noting that the improvement for VTC Shippers would be that the GTAC links them directly to the balancing system, providing greater transparency on their tolerances.

However, we agree with Greymouth that determining if Mokau will be running adds an element of complexity to calculating the GTAC tolerances, particularly if Mokau is only brought on-line later in a Day. We also agree that tolerances could be changed more easily under the GTAC than under the MPOC.

Greymouth considers that GTAC tolerances prefer large parties by supplying them with a much greater tolerance. First Gas would therefore be preferring some users ahead of others, which Greymouth believes would breach GTAC s2.6 (requiring no preference to any party except as expressly provided for in the code). We don't agree. Setting tolerances as the greater of a fixed value and a value linked to usage is the current MPOC approach, and MPOC s2.1 broadly corresponds to GTAC s2.6, yet neither Greymouth nor any other MPOC user has claimed a breach under the MPOC.

Overall, we conclude that the GTAC tolerance arrangements would make it more difficult for Maui pipeline users to estimate their tolerances, but easier for non-Maui pipeline users. We consider that our PAP assessment presented this reasonably well and that no change to our assessment is necessary.

Stability of the pipeline

Methanex²⁹ is concerned that the stability and predictability of the pipeline system may be degraded by GTAC because of:

1. the failure of users to match flows to nominations (incentive charges alone may not achieve this if Shippers do not have the means to address a physical imbalance);

²⁷ As noted in section 2.6, the initial comparison of the tolerances would be +/- 25.5TJ for the Maui pipeline compared to the initially tolerance specified in the GTAC Balancing SOP of +/- 15TJ, or +/- 25TJ when Mokau is running.

²⁸ First Gas, 18 January PAP submission, Q18

²⁹ Methanex, 18 January PAP submission, p2-3 items 4(iii), 5(iii) and 6

2. increasing use of Mokau to support more flexible behaviour (thus preventing its use as a stand-by reserve to address unpredicted swing); and
3. a more hands-off approach by the pipeline operator (given that the GTAC has no analogue to the MPOC Section 3 commitments).

Nova³⁰ considers that it is not possible to know how effective the GTAC incentives will be in aligning nominations to demand until the code is fully operational. But it believes there is sufficient flexibility in the code to adjust the incentives if required.

GIC response

Before considering the Methanex concerns, let us provide some context. The MPOC mandates OBAs at all RPs and DPs. At production stations and major plants, this requirement puts the responsibility for matching flows to Scheduled Quantities on the parties best able to control the flow, the Welded Parties. However, at other points, such as at an interconnection with a non-Maui pipeline, it puts the responsibility on the owner of that pipeline, who may not be directly able to control the flow. This universal OBA arrangement has worked well for the production stations and major plants on the Maui pipeline, but it cannot be extended across the non-Maui pipelines because OBAs are not suitable for the many distribution networks supplied by the non-Maui pipelines. We believe that the GTAC approach, which offers both OBAs and other arrangements, is more suitable for a unified pipeline code, although it may be more difficult for some users to assess their balance positions³¹.

Regarding pipeline stability, neither First Gas nor Gas Industry Co can give Methanex an absolute assurance that the GTAC incentives would be sufficient to assure the level of stability that Methanex is seeking. However, we think that there are good reasons to believe that the pipelines would be as stable and predictable as at present. Firstly, we note that pressures in the Maui pipeline already exhibit volatility around the TTP (see Figure 12). We also consider the GTAC OR/UR incentives are broadly on a par with those of the VTC, though with some differences (see section C.4), and we expect the ERM charge to improve primary balancing (see section 4.5). And if these incentives prove insufficient, the GTAC has flexibility to allow adjustments, as Nova observes. Taken together, we think there is good reason to be confident that the GTAC arrangements would result in conditions that are at least as stable as at present.

Regarding predictability, the main improvement on the Maui pipeline would arise from the identification of Peaking Parties and the requirement that they make hourly nominations (although Methanex believes that these will not be worth much because of wide tolerances and the ability to renominate intra-day). But there is also an improvement on the non-Maui pipelines where the introduction of nominations would provide a raft of information that was not previously available to assist pipeline management. We would expect better management of the non-Maui pipelines to benefit the Maui pipeline.

Regarding the use of the Mokau compressors, we agree that there is a trade-off between allowing users to make use of pipeline flexibility and aiming for steady state pipeline conditions that reserves flexibility for contingency situations. We also agree with Methanex that using Mokau to provide flexibility incurs costs which would be socialised. But reserving Mokau to be available for contingency situations also incurs costs that are socialised. Methanex thinks the balance will be tilted too much in favour of more volatile system users. We think that First Gas

³⁰ Nova, 18 January PAP submission

³¹ For example, the deemed-flow-to-nominations arrangement for Shippers on the Maui pipeline means that they generally have no concerns about balancing on that pipeline, because balancing is entirely a matter for the OBA parties. However, their balancing concerns have in effect been moved downstream since responsibility for any TPWP imbalance is passed to downstream Shippers.

has strong incentives not to use the system in a way that would degrade the service to large end-users such as Methanex.

Regarding the extent to which First Gas might take a more hands-off approach, the intent of the various GTAC incentives is to make users responsible for their behaviour. Whether this will result in less stability, as Methanex fears, is uncertain. We believe that incentives matter, and that Shippers will be able to influence the behaviour of their customers and suppliers to respond to those incentives.

As Methanex acknowledges, the outcome will depend to a large extent on how Shippers behave and how First Gas chooses to operate the pipeline. We understand that for Methanex the GTAC arrangements appear more uncertain than their current MPOC arrangements. However, we consider that it is in First Gas's interest to provide a service where flexibility does not compromise reliability, including providing reliable service to Methanex. We continue to believe that the GTAC allows for this. We agree with Nova that the GTAC has sufficient flexibility to adjust incentives if required.

Compressor fuel use

Greymouth²⁵ doubts that the modest reduction of compressor fuel use (PAP Balancing Environment assessment p66) will eventuate because First Gas has a policy to maximise use of the Mokau compressors and will probably want to maximise tolerances.

Methanex³² also suggests that there is a prospect that the Mokau compressors may become increasingly devoted to providing support for increased flexibility.

GIC response

We are aware that First Gas wishes to optimise the use of compressors. We expect that this would be facilitated by operating the system under a single code rather than two, and at face value it should lead to a reduction in overall compressor fuel use. However, as Methanex points out, there are other aspects of the GTAC that could influence the use of the compressors. On reflection we accept that the future use of the compressors is too uncertain for us to confidently predict a modest improvement, so in this FAP we revise that assessment to neutral.

Other aspects of balancing

First Gas³³ considers that GTAC balancing retains the benefit of daily balancing within tolerance, while avoiding unnecessary secondary balancing activity.

Greymouth³⁴ believes that the current balancing arrangement is already system-wide and that parties value consistency and would prefer the current title transfer at rough market prices rather than GTAC penalty charges, so the PAP is overstating the GTAC benefits.

GIC response

We do not agree with Greymouth's view that the current balancing arrangements are system-wide. In our view, the essential feature of a system-wide balancing arrangement is that the balancing performance of each system user is assessed by comparing its receipts into the system to its offtakes from the system. At present a Shipper who uses both the Maui and non-Maui pipelines will have its Maui pipeline balancing position determined by its nominated Maui pipeline receipts and deliveries, and its non-Maui pipeline balancing position determined for each BPP by its allocation of a TPWP's metered flows and its allocation of deliveries within that BPP. So, a Shipper can have an intermediate set of receipts and deliveries with one balancing position for

³² Methanex, 18 January PAP submission, item 4(iii)

³³ First Gas, 18 January PAP submission, Q5

³⁴ Greymouth, 18 January PAP submission, Q5

the Maui pipeline (generally zero) and one for each BPP, each of which may attract a different end-of-day cash-out. We do not regard this as system-wide.

Regarding Greymouth's preference for daily cash-outs over ERM charges, we consider that ERM charges would more clearly place the primary balancing responsibility on pipeline users. With daily cash-outs it is First Gas that assumes responsibility for mismatches. So the GTAC approach should lead to more primary balancing and less need for First Gas to be involved in gas trading. We think that the PAP's assessment of improved efficiency of the balancing arrangements is sound, although we accept that some users, such as Greymouth, may prefer the current balancing arrangements.

2.6 Curtailment

Targeting of curtailments decisions

In relation to curtailment, Greymouth³⁵ considers that the PAP does not recognise the unfairness, inefficiency and increased likelihood of disputes that will arise because First Gas would curtail on the basis of concepts in the GTAC Curtailments & Operational Flow Orders SOP, not the GTAC. In particular, First Gas would curtail on the basis of estimated RM positions and would have wide discretion to estimate.

Greymouth also argues that curtailments would be less well targeted. In particular, absent the BPPs, First Gas will no longer be able to issue region-specific curtailments, so Shippers would be curtailed in respect of their position across the whole system.

GIC response

In our view, the GTAC arrangements would give First Gas more operational flexibility in relation to curtailments. Most significantly, the GTAC would de-link receipt and delivery nominations. This would allow First Gas to curtail one end of the system if required. For example, First Gas would no longer need to mechanically curtail delivery nominations to address issues in the Receipt Zone.

We also think that the presence of nominations on non-Maui pipelines would allow First Gas to pro-actively curtail Shippers or OBA Parties on those pipelines in a way that is not currently possible.

The identification of Peaking Parties and the requirement for them to make hourly nominations should also allow for better targeting of curtailment.

Each of these features should lead to better targeting of curtailments.

Regarding Greymouth's fear that First Gas would curtail based on estimated RM positions calculated in a way that is not defined in the GTAC and which may not be a good proxy for a properly reconciled RM position (i.e., after the allocation processes), we think the concern is understandable but should be tempered by the practicalities of the situation. For a targeted curtailment to be of any practical use, it must occur as a situation is emerging and not after the reconciled RM positions are known – i.e., in "real-time" as Greymouth puts it. We consider that, as an RPO, First Gas should make an effort to use the best information available to it to³⁶ identify who is causing a problem, they try to correct it before other system users are affected. In many cases this will involve First Gas estimation, judgment and communication. These are not matters that are entirely amenable to a formulaic approach.

³⁵ Greymouth, 18 January PAP submission, Q21

³⁶ For example, in the case of Maui pipeline RPs this would include using the same information that is currently available to it, so there is no reason to believe curtailments would be any less factually based than at present. And for non-Maui pipeline RPs and DPs, the nominations would provide additional information, so curtailments should be more pro-active than at present; curtailing nominations rather than flows.

Regarding the concern that, absent the BPPs, First Gas would be less able to target curtailment, we do not agree. If problems arise at a DP or DP Zone (both of which are more granular than BPP areas), the GTAC arrangements would allow First Gas to curtail nominations at those points. At present all it can do on the non-Maui pipelines is to curtail Shipper nominations at the RP of each BPP area (that is, the Shipper Maui pipeline DP delivery nominations at TPWPs). So we believe the ability to target curtailments will improve.

Regarding the likelihood of disputes, we agree with Greymouth that the scope for curtailment disputes would be wider because the scope for curtailments is wider. As discussed above and in section 4.6, it would be possible to curtail Shipper nominations on the non-Maui pipelines, which is not possible at present.³⁷ However, while we accept that the scope for disputes is wider, it does not follow that there will be more disputes. Overall, we consider it more likely that the more integral curtailment regime and better operational information would result in there being very few disputes.

It is also worth noting that in our view the Curtailments & Operational Flow Orders SOP does a good job of laying out a sensible framework for First Gas decision making. Providing for this in an SOP rather than in the code is the approach taken in the current MPOC and Maui Pipeline Curtailment SOP (and, as discussed in the PAP, there is currently no similar SOP applying to the non-Maui pipelines).

We therefore continue to regard the curtailment arrangements as suitable and more comprehensive than the current arrangements.

Risk of socialised curtailments

“Socialised curtailment” is the situation where the pipeline operator is unable to manage an adverse event by means of a targeted curtailment and resorts to an across the board curtailment. The PAP Curtailment Efficiency assessment³⁸ reasoned that the risk of socialised curtailment may decrease because:

- DNC nominations and (for Peaking Parties) hourly nominations would give the system operator better intelligence; and
- capacity checks would be run at each nomination cycle.

Methanex³⁹ believes the PAP reasoning is wrong because:

1. nominations are a less reliable basis for curtailment, because of wide tolerances;
2. Shippers have no better means to self-balance, so expecting better outcomes is unjustified;
3. there is less guidance (than in MPOC) for when First Gas would pro-actively balance; and
4. using Mokau compressors to provide flexibility means they are not available for unpredicted swings.

Methanex⁴⁰ notes that the principal reason the PAP considered that socialised curtailment should decrease under GTAC is that better nomination information would be available. Methanex does not think this would be the case for injections generally, or for the Maui pipeline, other than in respect of Peaking Parties. And for Peaking Parties, the nominations may be unreliable because of the wide tolerances permitted and the wide scope to re-nominate during the day.

³⁷ For nominations on the Maui pipeline we expect that First Gas would be using the same information as it does at present, perhaps with some added information in relation to Peaking Parties.

³⁸ PAP, p71, “Socialised curtailment”

³⁹ Methanex, 18 January PAP submission, p2, items 4-6

⁴⁰ Methanex, 18 January PAP submission, p2 item 5(i) and (ii)

GIC response

For socialised curtailments to decrease, there would need to be either:

- less need for any curtailment (for example, because users are better managing their balance positions); and/or
- better targeting of curtailment (for example, because of better identification and control of parties with excessive RM).

In section 2.5 above and in section 4.5, we explain why we continue to expect that the GTAC would bring improvements to system balancing, so there would be less need for curtailment in that regard. And in this section 2.6 and in section 4.6, we explain that we continue to expect improvements to the targeting of curtailment.

Regarding Methanex's point 1, we note that tolerances (at least initially) would be no higher than at present. Aggregate tolerances on the Maui pipeline are currently +/- 25.5 TJ and initially under the GTAC would be +/- 15 TJ or +/- 25 TJ when Mokau is running.

Regarding point 2, our view is that the more flexible arrangements (particularly frictionless trading in the Receipt Zone, a daily transmission product, and more nomination cycles) would provide Shippers with more ability to balance than at present. Over time we would expect that flexibility to be reflected in more flexible arrangements in upstream and downstream markets (i.e., in contracts between Shippers, producers and end-users).

Regarding guidance for First Gas, we accept that point 3 is correct. However, as Methanex acknowledges, MPOC s3 is permissive rather than compulsory, so we do not think that its absence would necessarily impact on how First Gas takes balancing actions.

We also agree with Methanex on the use of the Mokau compressors. There is a trade-off between allowing users to make use of pipeline flexibility and aiming for steady state pipeline conditions. We discuss this in section 2.5 above in relation to pipeline stability and the same conclusion applies to point 4: it is in First Gas's interest to provide a service where flexibility does not compromise reliability, including providing reliable service to Methanex.

Overall, we consider that our PAP assessment was reasonable. There is good reason to believe that the GTAC arrangements would result in fewer incidents of socialised curtailment than at present. We are also cognisant of the wider RPO obligations and the ability of the co-regulatory model governing the industry to be able to influence behaviours.

The absence of an MPOC s15.2 equivalent

The PAP Curtailment Reliability Assessment⁴¹ concluded that the stronger incentives to comply with OFOs would moderately improve reliability while the loss of MPOC s15.2 would modestly reduce it. First Gas⁴² takes issue with this and argues that the removal of MPOC s15.2 should not be an issue because:

- more ID cycles, and the option to call for an Extra ID cycle, diminish its importance;
- MPOC 15.2 simply transfers responsibility for imbalance from producers to shippers; and
- coordination between producers and Shippers is likely to improve as a result.

GIC response

This issue was discussed in section 2.7 of FAP1, particularly in relation to the views of Shell and Methanex. There we accepted that their concerns about the potential delay to adjusting

⁴¹ PAP, p23 "Curtailment initiated by IPs"

⁴² First Gas, 18 January PAP submission, Q6.

scheduled quantities and nominations in certain situations were valid. We have since followed the workshop debates on the issue and First Gas's efforts to mitigate the concern⁴³. When we came to review the issue again in the PAP, our assessment still considered that the rapid adjustment to scheduled quantities and nominations enabled by MPOC s15.2 would be lost, and that this would modestly reduce Curtailment Reliability.

The points raised in the First Gas submission have not changed our view on the issue. The extra nomination cycles are positive. We recognise that MPOC s15.2 transfers responsibility for imbalance from producers to Shippers and would not solve a transmission issue. It may even be that IP-Shipper communications would improve in the absence of an MPOC s15.2 equivalent, as First Gas expects. But a potential time lag in signalling an issue to system users would still be introduced, and that remains the basis of our assessment.

Taranaki Target Pressure (TTP)

Greymouth⁴⁴ agrees with the PAP's analysis in relation to TTP arrangements, but says the analysis is inconsistent with the conclusion in the PAP that the reliability impact is neutral. Greymouth considers that reliability will deteriorate under GTAC.

First Gas⁴⁵ disagrees with some aspects of the PAP's analysis but endorses the conclusion that the reliability impact is neutral.

Nova⁴⁶ says that the question of managing the pipeline pressure in the Taranaki region is complex. It expects the GTAC to provide improved control over pressure, and if it doesn't, considers there are sufficient levers within GTAC to achieve that outcome.

GIC response

With the benefit of hindsight, we see that some of the PAP discussion regarding TTP issues may have confused readers. To clarify matters, GIC expects no effect on reliability to arise as long as the TTP provisions in the MPOC and GTAC are interpreted by First Gas as requiring the management of actual pressures (rather than the management of targets). The PAP noted the drafting in both the MPOC and GTAC was somewhat unclear on this point. In its submission on the PAP, First Gas has advised that in *"both cases it is the pressure to which the system is managed"*. Accordingly, we consider the GTAC TTP arrangements are unlikely to alter outcomes relative to the MPOC. We therefore confirm that, as was concluded in the PAP, we expect the reliability impact to be neutral.

2.7 Congestion management

The cost of PR auctions

The PAP Congestion Management Efficiency assessment, in relation to Criterion 5, noted that the cost of running auctions to allocate PRs should not be substantial and would be limited to occasions when there is congestion⁴⁷. A modest negative effect was assessed.

First Gas⁴⁸ observes that the administrative costs of PR auctions would be recovered via the reserve price so that, assuming the auction clears, the cost would be borne by the beneficiaries, not other system users.

GIC response

⁴³ For example, as First Gas notes its PAP submission in relation to Q6, it did try to shorten the timing of the Extra ID cycle but found that time restrictions in Gas Supply Agreements limited what could be done.

⁴⁴ Greymouth, 18 January PAP submission, Q20

⁴⁵ First Gas, 18 January PAP submission, Q20

⁴⁶ Nova, 18 January PAP submission, Q20

⁴⁷ PAP Congestion Management Efficiency assessment, p80-81

⁴⁸ First Gas, 18 January PAP submission, Q7

We accept the intention is to recover the cost of PR auctions from the Shippers who obtain PRs, and that those Shippers would buy the PRs because they are valuable to them. Nonetheless the cost of running the auctions would be a new cost, and the benefit of PRs is a new benefit. Our assessment acknowledged this by recording both a modest cost and a modest benefit. We do not think that a change is necessary.

2.8 Gas quality and odourisation

The additional benefit of annual odourisation reports

The PAP assessed a modest improvement in gas quality efficiency, basically resulting from improved information on gas specification events or issues that First Gas and/or users become aware of (GTAC s12.4 and 12.5), and the summary of information that would be obtained from a RP IP in response to First Gas requesting it to confirm that it has the necessary facilities, systems procedures and monitoring in place to comply with its gas quality obligations (GTAC s12.6).

Both First Gas⁴⁹ and Vector⁵⁰ note that an additional benefit not recognised in the PAP is that First Gas would publish the previous month's odorant test results and annual information to allow Shippers to demonstrate compliance with the Gas (Safety and Measurement) Regulations 2010 (Safety Regulations).

GIC response

We accept that the PAP gas quality and odourisation safety assessment should have recognised that the added requirement on First Gas to publish the results of any odourisation spot checks each month and a summary report on the facilities, systems, procedures and monitoring it has in place to comply with the requirements of NZS 5263:2003 for the odourisation of pipelines each year (GTAC s13.5) would put an added focus on safety. This is important to gas retailers who are in a challenging position because the Safety Regulations place obligations on them while it is other parties in the physical supply chain who control gas quality and odourisation. We consider these extra reports warrant recognition and have assessed a modest improvement to safety in this area.

2.9 Governance

Single integrated Code

Consistent with earlier submissions, Methanex⁵¹ remains concerned that GTAC is being compared to *"a notional combined VTC/MPOC regime, rather than assessing the GTAC against each individual code"*. Methanex considers that (as an MPOC party) it will not benefit from the GTAC but will face increased uncertainty regarding its ability to transport gas.

GIC response

Our role is to review, consult and make a determination on the GTAC as compared with the current terms and conditions of access across gas transmission pipelines. Of necessity Gas Industry Co has to approach the exercise from the perspective of usage across both pipelines and a pan-industry perspective (i.e. it cannot favour one user over another). In the PAP, we were clear that we did not agree with stakeholders who argued that the GTAC should be materially better than both the MPOC and VTC individually (in at least some material respects), or that the GTAC should be no worse than either code (in any material respect).⁵²

⁴⁹ First Gas, 18 January PAP submission, Q8

⁵⁰ Vector, 18 January PAP submission, Q8

⁵¹ Methanex, 18 January PAP submission, p1

⁵² PAP, p6

As we have said in the PAP, there are many improvements on the status quo, measured in terms of Gas Act and GPS objectives and outcomes (such as the nature of the core transmission product, increased flexibility, and pricing). We remain of the view that the GTAC also includes sufficient protections to curb third party behaviour on the pipelines that could significantly detrimentally affect other parties over time.

We remain confident that, with the scope for changes to and reviews of the GTAC, and our own co-regulatory function, the gas industry will be able to deal with any adverse issues that do emerge with potential to undermine those objectives and outcomes.

Term of the GTAC

Greymouth⁵³ considers that the inclusion of a defined term in the GTAC should justify a modest red arrow when compared to the indefinite term of the MPOC.

GIC response

As expressed in the PAP, our view is that the following factors mitigate any concerns around the term of the GTAC:

1. The term of the GTAC may be extended.
2. It is possible that the GTAC will evolve through change requests, so believing that a long term provides certainty does not reflect reality.
3. Gas Industry Co sees the opportunity to assess and review the GTAC terms after 8 years as a positive factor.
4. ICAs and SAs would continue notwithstanding the expiry or termination of the GTAC.
5. Gas Industry Co is responsible for approving any extended term and has regulatory oversight of the terms and conditions of access.
6. Moreover, Gas Industry Co considers it is required to take a view of the degree of improvement, across all transmission pipeline arrangements, both VTC and MPOC.

In that context, we do not consider that the term of the GTAC has any negative impact on fairness. We have not received any additional evidence to support a change to our assessment.

Protection from hydrogen

Greymouth⁵³ considers that GIC should assess how the GTAC would protect natural gas from hydrogen.

GIC response

We consider that Greymouth's suggestion is not sufficiently within scope of assessing whether the GTAC is materially better than the current terms and conditions for access.

Absence of the Incentives Pool and Balancing and Peaking Pools (BPPs)

Greymouth⁵⁴ considers that removal of the Incentives Pool should result in a modest red arrow given that it has not been replaced with an equivalent mechanism. Greymouth does not consider the fact that the Incentives Pool has not been used provides sufficient justification for its removal.

Methanex⁵⁵ also considers that the argument that the Incentives Pool has not been used provides insufficient justification for its removal. It notes the general prohibition on parties from

⁵³ Greymouth, 18 January PAP submission, Q9

⁵⁴ Greymouth, 18 January PAP submission, Q19

⁵⁵ Methanex, 18 January PAP submission, items 7-11

making claims against one another under the GTAC and suggests that it is inconsistent to remove the incentives pool and continue the indemnity for non-specification gas incidents.

Nova⁵⁶ does not consider that the removal of the Incentives Pool and BPPs will have a significant detrimental impact on shippers or consumers. Nova considers that the incentives to deliver gas within the requirements of the code remain strong.

Vector⁵⁷ considers that, on balance, removal of the Incentives Pool and BPPs is not detrimental to the industry. Vector considers that First Gas has sufficient tools to ensure that Shippers are incentivised to use the pipeline prudently and efficiently.

First Gas⁵⁸ considers that the Incentives Pool has not been used because it is impractical to link an event causing incentives pool credits with actual loss: the Incentives Pool only affects how funds collected as a result are distributed. First Gas considers that the lack of use of the Incentives Pool indicates its limited utility as a liquidated damages mechanism. First Gas considers that the incentives are not decreased because of the removal of the Incentives Pool.

GIC response

Clearly there are divergent views on the absence of the Incentives Pool and BPPs from the GTAC.

In the PAP, we noted that we were unclear regarding the extent to which parties would be losing a useful mechanism to recover loss given that the Incentives Pool did not appear to be used in practice. We also noted that, for example, under the GTAC, parties who exceed hourly limits incur incentive charges, which mitigates the risk that parties will engage in that type of behaviour (i.e. the incentives for appropriate behaviour would still exist).

First Gas's submission expresses the view that the current Incentives Pool is impractical in terms of the linkage between an event causing Incentives Pool credits with the loss suffered. First Gas expressed similar comments in an earlier memorandum to stakeholders.⁵⁹ It is difficult for Gas Industry Co to comment on how the mechanism works in practice given the absence of specific examples of its use. We are not necessarily convinced there is an absence of linkage between the incurring of an Incentives Pool Debit and loss to another Welded Party under MPOC s 12.4. However, we accept the quantum of each may not reflect the other.

We do not agree with Methanex's view that the Incentives Pool and incentive fee rebating are alternative compensation mechanisms. The Incentives Pool is intended to compensate parties for loss, while incentive fee rebating relates to the treatment of incentive charges that First Gas recovers from parties who have, for example, inaccurate nominations. We also do not consider that the alternative design proposal of incentive fee rebating is relevant to our comparative assessment.

Greymouth considers that the Incentives Pool provides parties with protection from exceptional circumstances. Methanex considers that the removal of the Incentives Pool is equivalent to cancellation of an insurance policy.

We disagree with these views. The Incentives Pool is not intended to address low probability/high magnitude events. The pools operate on a daily basis where there is a mismatch between a Shipper's or Welded Party's receipt and deliveries that impacts third parties' offtake. The risks that the pools intend to address are of much lower magnitude than, for example, a

⁵⁶ Nova, 18 January PAP submission, Q19

⁵⁷ Vector, 18 January PAP submission, Q19

⁵⁸ First Gas, 18 January PAP submission, Q19

⁵⁹ First Gas Memorandum to GTAC Stakeholders Block 3 Outputs – 1 Liabilities 27 August 2018
<https://www.gasindustry.co.nz/dmsdocument/6257>

non-specification gas event or a force majeure on the transmission system. Cancellation of insurance is an imperfect analogy as there come into play questions of appetite for risk and likelihood of occurrence.

The absence of claims suggests one or more of the following:

1. The likelihood of mismatch between a Shipper's or Welded Party's receipts and deliveries impacting third parties' offtake is low.
2. Parties affected by mismatch between a Shipper's or Welded Party's receipts and deliveries have accepted any reduction in their offtake without seeking compensation via the Incentives Pool. This would indicate that the Incentives Pool is of limited use.

The GTAC provides incentives for Shippers to manage a balanced position (overrun/underrun charges, primary balancing obligations, ERM charges). The existence of those incentives and the lack of use of the Incentives Pool means that the absence of an equivalent mechanism in the GTAC does not result in any real detriment. There is also no evidence that the Incentives Pool, if used, would have been effective to compensate the aggrieved party.

Accordingly, we do not propose a change to our neutral assessment.

Ring-fencing of First Gas's commercial and system operations.

emsTradepoint⁶⁰ does not consider that the GTAC sufficiently ring-fences First Gas's commercial operations from its system operations. emsTradepoint references the provisions of the MPOC and the provisions of the Electricity Industry Participation Code as other examples of robust conflict of interest provisions.

First Gas agrees with Gas Industry Co's analysis regarding confidentiality. First Gas notes that all parties have a right of audit and it will produce a confidentiality protocol for its staff to support the confidentiality obligations in the GTAC. The protocol will require that certain information is only used by operational staff and not commercial personnel.

GIC response

We considered emsTradepoint's view that the draft GTAC does not sufficiently ring-fence First Gas's commercial operations from its system operations in the PAP.⁶¹

We make the following comments:

1. As the MPOC requires Gas Industry Co to compare the GTAC with the current MPOC and VTC, alternative design models, such as the provisions of the electricity System Operator Policy Statement that emsTradepoint references, are not directly relevant to our assessment of the GTAC. We also note that section 138.5A of the System Operator Policy Statement exists in the context of Transpower having distinct system operator and grid owner functions under the Electricity Industry Participation Code, some of which may give rise to conflict of interest concerns.
2. As we mentioned in the PAP, the requirement for operational separation in the MPOC only applies if First Gas becomes a gas producer or a related company of a gas producer. Given that there is no prospect of First Gas becoming a gas producer at this point in time, we don't see any detriment arising from the absence of a ring-fencing requirement in the GTAC.

We agree with First Gas that Shippers' rights to appoint an auditor to carry out an independent audit of First Gas's operating procedures should provide parties with confidence that

⁶⁰ emsTradepoint, 17 January PAP submission

⁶¹ PAP pp 95-96

confidentiality requirements are complied with. However, we note that this right exists in the MPOC, so we don't consider that any additional benefit arises from its inclusion.

We continue to hold the view that the absence of ring-fencing provisions equivalent to the MPOC is not a concern at the moment. Should First Gas ever become a gas producer, this is a matter that can be revisited through a Code change or review process.

First Gas ownership of Ahuroa underground gas storage facility

Greymouth⁶² is concerned First Gas could manage its regulated transmission business to generate increased profits in its unregulated Ahuroa storage business (specific concerns are discussed below) and disagrees with the analysis in the PAP.⁶³

Nova believes there is sufficient protection in the GTAC to prevent First Gas using its transmission position to maximise non-regulated Ahuroa revenues.⁶⁴ Vector supports the analysis in the PAP and considers First Gas's RPO obligation makes manipulation of transport arrangements unlikely.⁶⁵

GIC response

Greymouth refers to First Gas having obtained temporary access to Ahuroa following its letter to Gas Industry Co dated 9 March 2018.⁶⁶ We do not consider that this causes concern. As we understand it, First Gas entered into arrangement with GSNZ to store gas to facilitate a pipeline repair project. We do not consider that is inconsistent with First Gas's statements (in its letter) that GSNZ will not be a producer, wholesaler, shipper or retailer of gas.

We do not agree with Greymouth's view that it is necessary for First Gas to have a TSA if it accesses Ahuroa. The terms of access to Ahuroa are a separate contractual matter to be agreed between First Gas and GSNZ and will be prescribed by GSNZ as owner and operator of that facility.

Greymouth also notes GTAC s20.4 contains provisions to protect the confidentiality of certain pipeline user information. It queries whether First Gas can meet these obligations if "the same person has a similar commercial manager role for First Gas and [Gas Storage New Zealand]". We do not consider this matter to be relevant to the assessment of the GTAC per se. Rather it would be an operational matter for First Gas to address if the GTAC comes into force – a point acknowledged by Greymouth.⁶⁷

Greymouth's concerns around the potential for First Gas to manage its regulated transmission service to generate increased profits in its unregulated Ahuroa storage business are opposed by statements in First Gas's submission regarding its intended use of Ahuroa and the relationship between ERM charges and charges for use of the storage facility. We think the concerns that Greymouth raises are largely about operational behaviour (e.g. restriction of Line Pack and the level of ERM charges). We think that transparency around Line Pack flexibility and nominations provide users with an opportunity to scrutinise First Gas's actions. We also agree with Vector's view that other obligations in the GTAC (e.g. RPO, the requirement for First Gas to act in a neutral manner) place appropriate restrictions on First Gas's behaviour. We do not consider that the GTAC creates a heightened risk of First Gas managing its regulated transmission business in a way to generate profits in its unregulated storage business. To be able to do that would

⁶² Greymouth, 18 January PAP submission, item 5.3 and Q22

⁶³ Greymouth, 18 January PAP submission, Q22

⁶⁴ Nova, 18 January PAP submission, Q22

⁶⁵ Vector, 18 January PAP submission, Q22

⁶⁶ First Gas Letter to Gas Industry Co "Ahuroa Gas Storage Facility" dated 9 March 2018
<https://www.gasindustry.co.nz/dmsdocument/5920>

⁶⁷ Greymouth, 18 January PAP submission, Q22

require pipeline users to know their RM positions sufficiently early that they have time to store (or withdraw) gas in Ahuroa. It would also require that those parties have no other options available to them, which is unlikely given the possibilities that exist to adjust their RM by: amending their nominations for the balance of the day; trading gas on the spot market; and/or entering into a bilateral trade via the new OATIS system. A party would only resort to using Ahuroa if that option was cheaper than the other options available.⁶⁸

2.10 Other matters

Rights to ship and interconnect

Greymouth⁶⁹ considers that the absence of provisions equivalent to MPOC 2.5(a) and 2.12 and VTC 2.7(f) is a significant detriment and warrants a finding that the GTAC is materially worse. The provisions that Greymouth references provide for prospective IPs and Shippers to be entitled to an ICA or TSA provided that certain conditions can be met.

GIC response

We are not concerned about the absence of these provisions for the following reasons:

1. There is regulatory oversight of the ability of new entrants to access gas transmission infrastructure (through both the Commerce Commission and Gas Industry Co).⁷⁰
2. We see no reason why First Gas should wish to prevent a prospective interconnected party or shipper from accessing or using the transmission system.
3. The terms on which access is available to be provided are transparent in advance and First Gas will have no incentive to depart from them absent special circumstances so warranting.

We respect Greymouth's vigilance in identifying the absence of an express GTAC provision to provide service on the terms and conditions set out in the GTAC. However, we do not believe that this would be a problem and, if it ever proved to be so, there are sufficient regulatory safeguards to address it.

Regulatory oversight

Greymouth⁷¹ believes that tariff levels and cash-out pricing require Commerce Commission involvement.

GIC response

Neither of the existing Codes is subject to Commerce Commission involvement when it comes to tariff levels and cash-out pricing. Tariffs under the GTAC will be subject to the same regulatory regime, which means that for the sake of this comparative analysis the comparison is neutral. Commerce Commission oversight is a separate matter from the Codes.

2.11 Other matters raised that are not directly relevant to our assessment

We record a number of matters here that were raised by some submitters, but which have not impacted on our assessment of current versus proposed arrangements. Nonetheless, they may feature in future discussions.

⁶⁸ Of course, if a party does not have a reliable estimate of its RM position then it probably won't use any of those options, but neither would it be driven to use Ahuroa in that circumstance.

⁶⁹ Greymouth, 18 January PAP submission, item 2.

⁷⁰ For example, the Government Policy Statement on Gas Governance includes a specific outcome for Gas Industry Co that Gas Industry Participants and new entrants are able to access transmission pipelines on reasonable terms and conditions.

⁷¹ Greymouth, 18 January PAP submission, item 5.1

Rebate mechanism

Nova⁷² and Methanex⁷³ both believe that the rebate scheme discussed during the GTAC design workshops is a better method of returning incentive fees. That rebate scheme did not feature in the final GTAC so is not considered in this FAP.

Deeming parties to be non-RPOs

Nova⁷⁴ and OMV⁷⁵ both believe that, while a gas producer should be liable for losses arising from non-specification gas it injects, it is unnecessary for it to be deemed to be a non-RPO in that circumstance. The concern is that this could have unintended consequences beyond the GTAC. We have not addressed this question in the FAP as the same deeming applies in the MPOC.

Allocation at bi-directional points

In our consideration of allocations at the Stratford 3 bidirectional point in section 2.4 above, we noted that the GTAC may not permit as much choice over how gas is allocated there as at other RPs and DPs. However, the VTC also does not deal specifically with gas allocation at bidirectional points, so the GTAC would be no worse.

2.12 Summary of changes between PAP and FAP

Table 2 lists the changes made to our assessment as a result of considering submissions on the PAP.







⁷² Nova, 18 January PAP submission

⁷³ Methanex, 18 January PAP submission, items 7 and 8

⁷⁴ Nova, 18 January PAP submission, Q15

⁷⁵ OMV, 18 January PAP submission

Table 2 – Changes between PAP and FAP

	PAP	FAP
<p>Balancing – Efficiency assessment, conclusion in relation to Criteria 1, 2 and 14</p> <p>In section 2.5, under the heading ‘The availability of data to assist primary balancing’, we agree that the PAP should have recognised the modest detriment arising from scheduled quantity v flow information at major stations no longer being publicly available.</p>		
<p>Balancing – Environmental assessment</p> <p>In section 2.5 we explain why we now consider that the future use of the compressors is too uncertain for us to confidently predict fuel gas savings (a modest improvement), and we have revised our assessment to neutral.</p>		
<p>Gas quality and odourisation – Safety assessment</p> <p>In section 2.8 we acknowledge that the PAP gas quality and odourisation safety assessment should have recognised the added focus on safety introduced by GTAC s 13.5, requiring First Gas to publish:</p> <ul style="list-style-type: none"> the results of any odourisation spot checks during a month; and an annual summary report on the facilities, systems, procedures and monitoring in place to comply with the requirements of NZS 5263:2003 for the odourisation of pipelines. 		

3. Assessment methodology

In this chapter we describe our approach to assessing the GTAC.

3.1 Meaning of the “materially better” standard

Our assessment considers the component parts of the GTAC and existing access arrangements but then makes a holistic assessment on whether the GTAC is, overall, materially better.

On 4 August 2017, in response to stakeholder questions about the assessment process and how Gas Industry Co intended to assess whether the GTAC was “materially better”, we issued a note entitled *GIC proposed approach to GTAC assessment* (Assessment Note)⁷⁶. It observed that the meaning of the term “materially better” had been considered in a December 2013 High Court decision on appeals against a Commerce Commission Input Methodologies Determination (also known as *Wellington Airport & others v Commerce Commission* case).⁷⁷ The High Court found that “materially better” is “clearly intended to be a higher standard than simply better”, but it cautioned against seeking to further define the phrase. It also noted that context and purpose are relevant in understanding how the term should be applied.

The Assessment Note concluded that “to us ‘materially better’ means more than just ‘better’: we would be looking for a significant improvement.”

We did not agree with those stakeholders who argued that GTAC should be materially better than both the MPOC and VTC individually (in at least some material respects), or that the GTAC should be no worse than either code (in any material respect). To us, MPOC s22.16(b) requires Gas Industry Co to assess whether the GTAC is materially better than the current terms and conditions of access to and use of the gas transmission system as a whole. However, in order to reach such a holistic view, it is necessary to assess the relevant aspects of the access regime at a more granular level.

3.2 Assessment criteria

As in PAP1, FAP1 and the PAP, the methodology used in this FAP references the following Gas Act objectives and the objectives and outcomes in the GPS.

Table 3 – Assessment criteria

Criterion	Objective/Outcome	Text
1	Gas Act s43ZN(a)	the principal objective is to ensure that gas is delivered to existing and new customers in a safe, efficient, and reliable manner
2	Gas Act s43ZN(b)(i)	facilitation and promotion of the ongoing supply of gas to meet New Zealand’s energy needs, by providing access

⁷⁶ An overview of stakeholder views on the Assessment Note and how we changed our methodology in response can be found in section 1.3 of PAP1.

⁷⁷ *Wellington International Airport Limited v Commerce Commission* – [2013] NZHC 3289 11 December 2013.

Criterion	Objective/Outcome	Text
		to essential infrastructure and competitive market arrangements
3	Gas Act s43ZN(b)(ii)	barriers to competition in the gas industry are minimised
4	Gas Act s43ZN(b)(iii)	incentives for investment in gas processing facilities, transmission, and distribution are maintained or enhanced
5	Gas Act s43ZN(b)(iv)	delivered gas costs and prices are subject to sustained downward pressure
6	Gas Act 43ZN(b)(v)	risks relating to security of supply, including transport arrangements, are properly and efficiently managed by all parties
7	Gas Act s43ZN(b)(vi)	consistency with the Government's gas safety regime is maintained
8	GPS Item 12(a)	energy and other resources used to deliver gas to consumers are used efficiently
9	GPS Item 12(b)	competition is facilitated in upstream and downstream gas markets by minimising barriers to access to essential infrastructure to the long-term benefit of end-users
10	GPS Item 12(c)	the full costs of producing and transporting gas are signalled to consumers
11	GPS Item 12(d)	the quality of gas services where those services include a trade-off between quality and price, as far as possible, reflect customers' preferences
12	GPS Item 12(e)	the gas sector contributes to achieving the Government's climate change objectives as set out in the New Zealand Energy Strategy, or any other document the Minister of Energy may specify from time to time, by minimising gas losses and promoting demand-side management and energy efficiency
13	GPS Item 9	it is also the Government's objective that Gas Industry Co takes account of fairness and environmental sustainability in all its recommendations. To this end, the Government's objective for the entire gas industry is as follows: To ensure that gas is delivered to existing and new customers in a safe, efficient, fair, reliable and environmentally sustainable manner
14	GPS Item 13 point 1	pursue: An efficient market structure for the provision of gas metering, pipeline and energy services
15	GPS Item 13 point 2	pursue: The respective roles of gas metering, pipeline and gas retail participants are able to be clearly understood
16	GPS Item 13 point 3	pursue: Efficient arrangements for the short-term trading of gas
17	GPS Item 13 point 4	pursue: Accurate, efficient and timely arrangements for the allocation and reconciliation of upstream gas quantities
18	GPS Item 13 point 5	pursue: Gas industry participants and new entrants are able to access transmission pipelines on reasonable terms and conditions

Criterion	Objective/Outcome	Text
19	GPS Item 13 point 6	gas governance arrangements are supported by appropriate compliance and dispute resolution processes

We refer to these items as the Criteria. Stakeholders will note that the list does not include all of the objectives and outcomes in the Gas Act and GPS. We have excluded specific outcomes on the basis that they are unlikely to be directly relevant to our assessment of the GTAC, for example, the GPS outcome that requires contracts between gas retailers and small gas consumers to protect the long-term interest of consumers. We think it unlikely that GTAC terms would adversely affect small consumer contracts.

In addition, when setting out our analysis, we find it helpful to group the Criteria under the five category headings shown in Table 4 – Categorisation of assessment criteria. This approach avoids duplication and provides a more readable document. However, our assessment process has been conducted by reference to each of the Criteria individually and, where relevant, our analysis will refer to the specific objective or outcome under consideration.

Table 4 – Categorisation of assessment criteria

	Efficiency	Reliability	Safety	Environment	Fairness
Gas Act	Criterion 1 Criterion 2 Criterion 3 Criterion 4 Criterion 5	Criterion 1 Criterion 2 Criterion 6	Criterion 1 Criterion 7		
GPS objective	Criterion 8 Criterion 9 Criterion 10 Criterion 11			Criterion 8 Criterion 12 Criterion 13	Criterion 13
GPS outcome	Criterion 14 Criterion 15 Criterion 16 Criterion 17 Criterion 19				Criterion 18

3.3 What is being compared?

MPOC s22.16(b) requires us to compare the GTAC with the current terms and conditions for access to and use of gas transmission pipelines. Our role is not to impose our own view, or the view of any stakeholder, as to what a theoretically optimal set of terms and conditions should contain. We therefore do not consider alternative proposals put forward by stakeholders for achieving the objectives and outcomes, except where such an alternative proposal raises a matter that is relevant for our assessment of the GTAC against the current terms and conditions of access and use. This also applies to stakeholder views on the “architecture” of the code itself, although we do discuss these views in section C.1 of Appendix C.

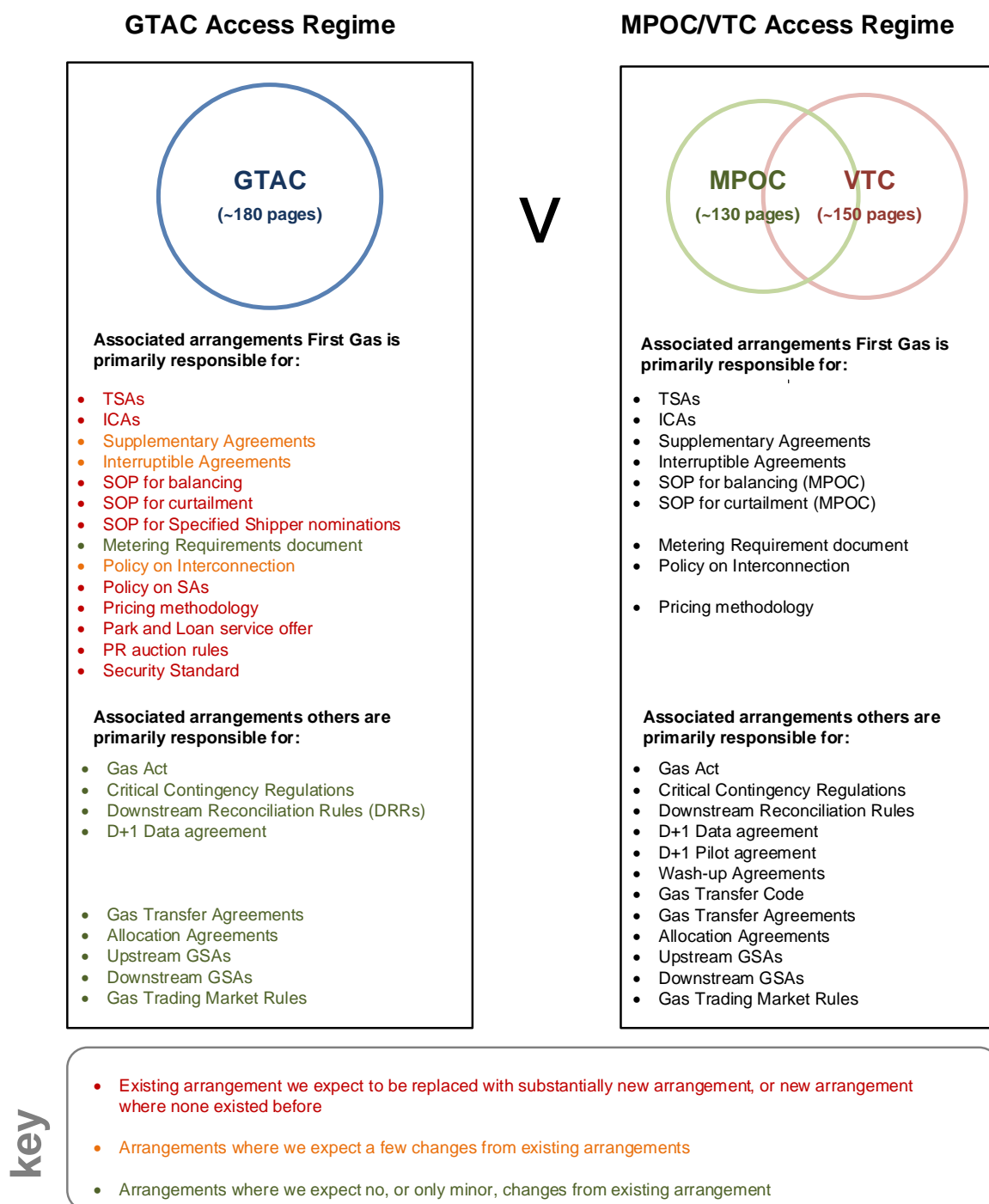
We acknowledge that the terms and conditions for access to and use of gas transmission pipelines (commonly referred to as the “access regime”) may encompass some associated arrangements, as illustrated in Figure 1. We consider these where relevant.

Some of these associated arrangements would remain largely unchanged, some would require adjustment (for example, the Policy on Interconnection, some would be substantially re-written (e.g. the balancing operating procedure), and others would be entirely new (e.g. the PR auction rules). To the extent that associated arrangements have not been developed or need to be re-written, we need to be satisfied that:

- Specific processes for developing the associated arrangements are included in the GTAC. The level of process required would depend on the nature of the associated arrangement (e.g. we would expect a lower level of control in relation to the development of an operational policy compared to, for example, PR auction rules); or
- In the absence of specific processes for developing the associated arrangements, we would need to be satisfied that the associated arrangement is a matter that is properly within the discretion of the relevant party.

Our assessment of the process for developing or amending associated arrangements has regard to the treatment of those arrangements under the current MPOC and VTC. For example, if those arrangements may be determined at the discretion of a party under the MPOC and VTC, then that is relevant to our assessment.

Figure 1 – Components of access regimes



The code versions relevant to this PAP are:

- GTAC submitted to Gas Industry Co for assessment on 31 October 2018 (see section 1.2);
- MPOC dated 4 January 2018 (i.e. as updated by the Transition Change Request)⁷⁸; and
- VTC dated 1 October 2018⁷⁹.

⁷⁸ MPOC working version 04-01-2018, available in the Publications section of the Maui Information Exchange found at www.oatis.co.nz

⁷⁹ VTC Effective 1 October 2018, available in the Publications section of the VTC Information Exchange found at www.oatis.co.nz

3.4 Three step analysis

To arrive at a holistic assessment, we follow a three-step analysis as illustrated in Figure 2 - Assessment process.

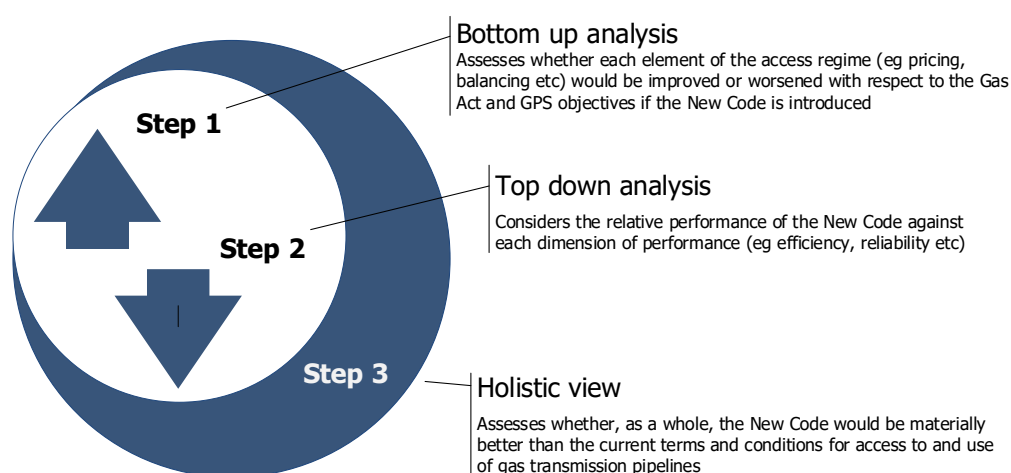


Figure 2 - Assessment process

Step 1 – Bottom-up analysis

For each major component of the access regime, the bottom-up analysis describes the arrangements in the GTAC, MPOC, and VTC and considers whether the GTAC would better meet the Criteria than the MPOC/VTC regime (the current arrangements).

Table 5 lists the components that have been considered and references the section of this PAP where our analysis of that that component can be found.

Table 5 – Where to find our bottom-up analysis of each GTAC component

Component		see section
Gas transmission products		
GTAC s2 GTAC s3 GTAC s4 GTAC s7 GTAC Sch 5 GTAC Sch 6	Transmission Services Transmission Products and Zones Nominations Supplementary Agreements (SAs) and Interruptible Agreements Interconnection Agreements (ICAs) RP ICA Provisions DP ICA Provisions	Section 4.1
Pricing		
GTAC s11	Pricing	Section 4.2
System operation		
GTAC s5 GTAC s6 GTAC s8	Energy Quantity Determination Energy allocations Balancing	Section 4.3 Section 4.4 Section 4.5

Component		see section
GTAC s9 GTAC s10 GTAC s12 GTAC s13	Curtailment Congestion Management Gas Quality Odourisation	Section 4.6 Section 4.7 Section 4.8
Governance		
GTAC s14 GTAC s15 GTAC s16 GTAC s17 GTAC s18	Prudential Requirements Force Majeure Liabilities Code Changes Dispute Resolution	Section 4.9

Step 2 – Top-down analysis

This analysis provides a different perspective on the material presented in the “bottom-up” analysis. Rather than beginning at each major component of the access regime (e.g. Congestion Management) and exploring how it meets the Criteria, the top-down analysis takes the reverse perspective, beginning at each category of assessment criteria (e.g. efficiency), and looks at how it is advanced (or otherwise) by each component of the access regime. By looking from two perspectives we get a more balanced view of the whole regime.

We also introduce weightings in this step. While all significant aspects of the GTAC have been examined in our assessment process, in the “top-down” analysis we identify which components we believe to be more significant in how they affect the Criteria.

Because the detailed description of the arrangements and analysis has been done in Step 1, Step 2 can be much shorter.

The difference between the two steps is illustrated in Table 6.

Table 6 – top-down v bottom-up analysis

	Efficiency	Reliability	Safety	Environment	Fairness
Gas Transmission Products					
...					
Prices					
...					
...					
...					
...					
Congestion Management					

Step 3 – Overall assessment

This final step draws on the previous steps to take a more holistic view of the GTAC, considering whether any relevant matters might not have been captured in steps 1 and 2. This will include consideration of:

- Matters that are dealt with in the MPOC/VTC regime that are not present, or not dealt with to the same level of detail, in the GTAC;
- Matters in the GTAC that are not present in the MPOC/VTC regime; and

- Overall costs and benefits, giving weight to the more substantial aspects of the access regime, and more important Criteria (as per the hierarchy set down in the Proposed Approach Paper).

It is also at this point that consideration can be given to the overall balance of the assessment and whether any benefits or detriments have been double-counted or missed.

4. Bottom-up analysis








In this chapter we look at how each aspect of transmission access would be dealt with under the GTAC and consider whether it would be better or worse than the current arrangements under the MPOC and VTC. Readers who prefer to begin with a summarised version of the analysis should move on to Chapter 6, and can then refer back to this chapter when more detail is required.

The coverage of each section in the bottom-up analysis is broadly in the same order as the GTAC, as set out in Table 5.

We begin each section with a description of how the matter under consideration would be treated under the GTAC, and how it is treated under the MPOC and VTC. For ease of navigation, these descriptive sections are coloured **blue**.

We then consider the Criteria from Table 4 and assess whether the matter under consideration would improve on or detract from current arrangements in respect to those Criteria. Note that not all Criteria are relevant to every matter under consideration, in which case we describe such Criteria as having “weak relevance”. Where it is possible to do so, we have bundled related Criteria together to avoid repetition. Some Criteria may only be addressed in the summary table at the end of the relevant section to avoid repeating our analysis.

Our assessments use the scale below.

Substantial improvement	
Moderate improvement	
Modest improvement	
Neutral	
Modest deterioration	
Moderate deterioration	
Substantial deterioration	

“Modest” describes effects that are small or limited in their size. “Moderate” describes effects that are larger than “modest, and appreciable in size. “Substantial” describes effects that are even larger and of considerable size. These terms are used to describe a subset of our assessment (i.e. an assessment of a particular subject matter).

When we assess a feature of the GTAC we might find that some aspects of it are a deterioration while others are an improvement relative to the status quo. In that case we show both a red arrow and a green arrow. This avoids hiding aspects of the GTAC that would degrade our assessment behind aspects that would improve it. It is only in Chapter 6 that we weigh all aspects to come to an overall view.

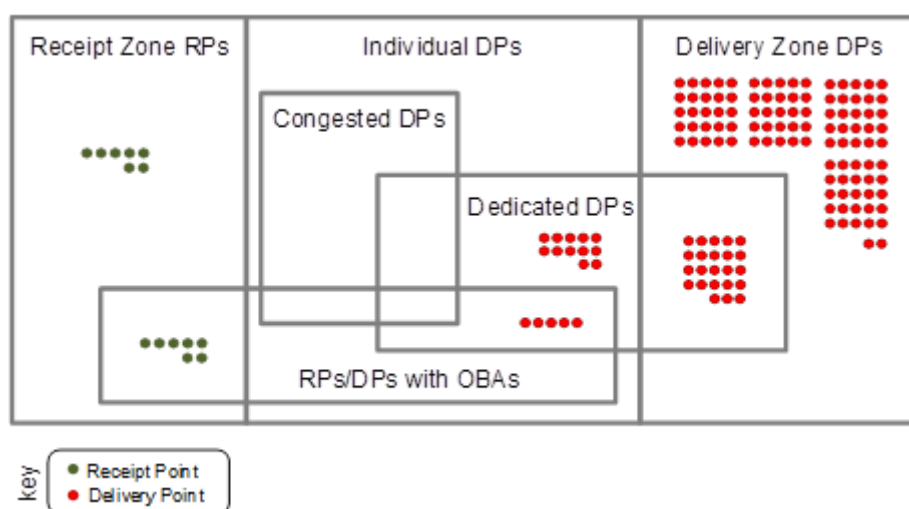
For the convenience of those readers who want to know how the results of our bottom-up analysis in this FAP compare to those in FAP1, a comparison is provided in Table 38 of Appendix E.

Some commonly used terms

Readers may find the Figure 3 Venn diagram helpful in differentiating some terms the GTAC commonly uses in relation to Receipt Points (RPs) and Delivery Points (DPs).⁸⁰

Figure 3 also aims to give readers an indication of how many RPs and DPs would currently fall into each category. For example, it indicates that there are currently no Congested DPs (i.e. DPs where flows or Nominated Quantities (NQs) are, or are expected to, exceed Available Operational Capacity). There would be 40 Dedicated DPs (i.e. DPs that supply gas to a single end-user) of which 23 would lie within Delivery Zones. Of the 17 Individual DPs (i.e. DPs that are not in a Delivery Zone), 5 currently have OBAs.

Figure 3 – Relationship of GTAC DP definitions



4.1 Gas transmission products: analysis

(Principally GTAC s2 Transmission Services; GTAC s3 Transmission Products and Zones; GTAC s4 Nominations; and GTAC s7 Additional Agreements.)

Gas transmission products – description of arrangements

GTAC gas transmission products

Standard GTAC gas transmission product

Daily Nominated Capacity (DNC) is the core GTAC gas transmission product available to Shippers. DNC would be available at each Delivery Zone and each Individual DP (i.e. any DP not in a Delivery Zone) and is defined by a Maximum Daily Quantity (MDQ) and Maximum Hourly Quantity (MHQ). The standard MHQ is 1/16th of the MDQ.⁸¹

The GTAC also provides a supporting product known as a Priority Right (PR), which is only available at auction, and only for a Congested DP (or group of Congested DPs). A Shipper with a PR would be “at the head of the queue” to have its DNC nominations approved, up to the amount of its PR. The operation of PRs is set out in more detail in section 4.7 below.

⁸⁰ This diagram is the same as previously presented in FAP1.

⁸¹ Where First Gas determines that the intra-day profile of a RP or DP could materially impact other users, the Shipper or OBA Party who controls it is known as a Peaking Party and is required to provide Hourly nominations (GTAC ss3.27-3.31). A detailed description and analysis of the peaking regime can be found in section C.5 of Appendix C.

Non-standard GTAC gas transmission products

The GTAC provides that a Shipper may request a Supplementary Agreement (SA) (GTAC s7.1) or an Interruptible Agreement (IA) (GTAC s7.7).

An SA may vary certain standard terms and conditions of the GTAC (GTAC s7.4). A Shipper's SA request must explain why an SA is required, and First Gas may at its discretion enter into an SA (GTAC s7.2) provided that certain criteria are met (GTAC s7.1). For each new SA, First Gas would publish a summary of the Shipper's request and the First Gas analysis (GTAC s7.2), as well as the full SA (GTAC s7.6).

An IA is an agreement between First Gas and a Shipper in relation to a specific end-user or site where transmission capacity may be curtailed at the sole discretion of First Gas, for any reason, at any time, and which may vary certain standard terms and conditions of the GTAC (GTAC s7.9).

GTAC s7.7 sets out criteria for First Gas to determine whether an IA will be offered: essentially to maximise use of the system where Available Operational Capacity is insufficient, the end-user has an alternative fuel, or as a Congestion Management measure.

Where First Gas enters into an IA for the purposes of Congestion Management, it will publish the agreement and the DP where Available Operational Capacity has increased⁸² as a result (Beneficiary DP) (GTAC s3.11). First Gas would recover any amounts payable to such an IA holder from Shippers using the Beneficiary DP (GTAC s11.12).

GTAC nominations

Shippers must nominate at RPs (GTAC s4.1), delivery zones (GTAC s4.3), and Individual DPs (GTAC s4.4). Unlike the MPOC, there is no requirement for receipt and delivery nominations to be equal. There must be at least 7 nomination cycles each day (GTAC s4.11). Also, First Gas may provide one or more additional intra-day cycles where a Shipper's or OBA Party's⁸³ circumstances change in a material and unforeseeable way (in relation to production or customer outages), or where First Gas experiences technical problems (GTAC s4.18).

Peaking arrangements

A Shipper's Maximum Daily Quantity (MDQ) is defined in GTAC s1.1 as (essentially) its DNC or an amount determined in an SA. Generally, each Shipper is given an MHQ of 1/16th of its MDQ.

However, where a Shipper or OBA Party is flowing gas at an RP or DP with an intra-day profile that First Gas has determined could have the potential to materially impact other users, First Gas will identify that party as a "Peaking Party" (GTAC 3.28), in which case hourly nominations are required.

A Shipper is only required to seek approval of hourly nominations (under GTAC s3.30) if it has been identified by First Gas as a Peaking Party or transports gas to or from a Peaking Party, or it has chosen to do so (presumably because it considers its MHQ would otherwise be inadequate).

Hourly Overrun Charges only apply where the MHQ specified in a Shipper's SA or IA is exceeded (GTAC s1.1).

Peaking Charges only apply where a Peaking Party exceeds its AHP. The arrangements applying to such a Peaking Party are described in section C.5 of Appendix C.

Shippers provide an indemnity to First Gas for any damage caused as a result of an overrun (GTAC s11.10). At any DP where an OBA applies, the relevant ICA will provide that the OBA Party will pay the Hourly Overrun Charge and Peaking Charge and provide the indemnity

⁸² Strictly speaking the AOC would not have increased as a result of the IA. Rather, the capacity associated with the IA would not be able to be nominated by the IA holder when curtailment is directed, which means that capacity would be available to other Shippers, i.e. it appears as if AOC has increased.

⁸³ An "OBA Party" is IP at a RP or DP where an OBA applies.

(GTAC s11.13). These provisions have been included in the ICA common terms (GTAC Sch 5 s11.10 and Sch6 s11.10).

MPOC gas transmission products

Standard MPOC gas transmission product

The core product offered to Shippers is daily Approved Nominations at each relevant RP or DP. The MPOC also provides for a supporting product known as Authorised Quantity (AQ), which is a zone-based priority right similar to GTAC PRs. However, AQ has never been fully detailed, so has never been offered.

Non-standard MPOC gas transmission products

All ICAs and TSAs must incorporate only standard MPOC provisions, except for identified exceptions specified in MPOC s2.1 (e.g. the Bertrand Rd Notional Welded Point). Non-standard provisions must be disclosed under MPOC s4.1(b). No further new exceptions are allowed.

MPOC Nominations

Shippers must nominate at all relevant RPs and DPs (including interconnection points between the Maui and non-Maui pipelines). Receipt and delivery nominations must be equal (MPOC s8.2). There must be a minimum of 4 Intra-Day nomination cycles each day (MPOC s 8.14).

Peaking arrangements

Each physical Welded Point has an associated Peaking Limit, set by First Gas to be as large as reasonably practicable, and no lower than the minimums set out in MPOC Sch 7 (MPOC s13.1). Peaking Limits can be exceeded by a Welded Party for operational reasons with the prior approval of First Gas (s13.2).

VTC gas transmission products

Standard VTC gas transmission product

The core product available to VTC Shippers is Reserved Capacity. It is an annual entitlement to ship gas between each specified RP and DP up to an amount of MDQ specified in the Shipper's TSA on each day of the Gas Year. Reserved Capacity can be transferred to other RP/DPs provided that doing so is physically possible and does not adversely affect other Shippers' Reserved Capacity already there. The MHQ is 1/16th of the MDQ unless otherwise specified in an SA (or IA).

Non-standard VTC gas transmission products

SAs, which in the VTC include fixed term agreements and IAs, may be offered at First Gas's discretion. SAs generally incorporate standard TSA conditions, and First Gas can only vary certain terms (generally related to the nature, volume and duration of capacity rights, and transmission charges) as set out in VTC s2.7(e). SAs must be published (VTC Sch 5, Table A). The factors First Gas will consider in deciding whether to offer an SA are set out in an SA Policy, dated March 2012, published on OATIS.

Similarly, an Interruptible Capacity Allocation Policy, March 2012, is published on OATIS, together with several interruptible contract templates (an Interruptible Shipper Contract and an Interruptible User Contract), but these are outside the VTC. The policy is described as a guideline of the general steps First Gas would follow and how it would offer and allocate interruptible capacity.

VTC Nominations

The annual MDQ service is a "no-notice service", i.e. once the capacity is reserved there is generally no need for a Shipper to nominate its daily requirements (although First Gas can

require it to do so, if necessary, for informational purposes only). However, nominations are required under all IAs, including those for shipping gas to the Frankley Road interconnection to the Maui Pipeline and to the Pokuru #2 Inter-Pipeline Point between the SKF and BOP BPP pools (VTC s5.6), and at interconnections with the Maui pipeline if they are Displaced Gas Nominations (VTC s9). Nominations may also be required at large meter stations (>1TJ/day) (VTC s5.1), but generally are not.

Peaking arrangements

To comply with the MPOC, at Maui interconnections for the duration of any peaking event the hourly receipt and delivery quantities for First Gas, each Shipper and Non-Code Shipper in the relevant BPP pool must be determined. A party whose receipts exceed its deliveries is exempt. Otherwise, each party receives an allocation of the peaking cost pro-rata to its peaking contribution (i.e. net receipt-deliveries).

Gas transmission products – assessment

This section assesses whether the GTAC gas transmission products, i.e. the basic arrangements that First Gas offers to transport gas across its transmission system, would be an improvement on current MPOC/VTC gas transmission products, with reference to the relevant Criteria. The analysis does not address pricing, which is dealt with separately in section 4.2.

Gas transmission products – Efficiency assessment

In relation to Criteria 1, 2 and 14 (delivering gas efficiently and facilitating ongoing supply by providing access and competitive market arrangements):

Gas transmission products – concept design

Comparing the core GTAC, MPOC and VTC gas transmission products

The GTAC's DNC product has strong similarities to the MPOC daily nomination design. Both the GTAC and the MPOC require daily Shipper nominations and offer Shippers the flexibility to change their nominations inter-day and intra-day to meet their supply and demand circumstances. This contrasts with the VTC where Shippers nominate their capacity needs once a year when they buy annual blocks of RP to DP capacity. While VTC Shippers may request transfers of capacity between one RP to DP route and another on a daily basis, the VTC arrangement is generally much less flexible.

However, unlike the MPOC, where gas and transmission capacity nominations are one, GTAC nominations for gas are made at RPs in a Receipt Zone while nominations for transport are made at Delivery Zones and/or at Individual DPs. And whereas the MPOC requires that receipt and delivery nominations are balanced, the GTAC has no such constraint.

Also unlike the MPOC, OBAs at every RP and DP are not compulsory under the GTAC. Rather, a GTAC IP may elect to have an OBA or not. The significance of this is that under an OBA it is the IP who assumes responsibility between the aggregate amounts nominated at a point and the quantity of gas that physically flows. Mandating OBAs at all RPs and DPs allows for a "deemed-flow-on-nominations" regime to apply on the Maui pipeline, with each Shipper deemed to have received and delivered amounts of gas equal to its receipt and delivery nominations. This has the benefit of simplicity for Maui pipeline Shippers, leaving the responsibility for balancing in the hands of the IPs. (However, that simplicity does not exist on the non-Maui system as the VTC holds Shippers to account for balancing cash-outs at the relevant RPs.)

We recognise that some Maui pipeline users prefer the familiarity, simplicity and proven effectiveness of their current arrangements, including:

- point-to-point nomination by Shippers;
- deemed-flow-on-nominations; and
- operational balancing at all Welded Points being the responsibility of the Welded Party.

However, from the perspective of Maui Pipeline IPs, the GTAC would allow each IP to operate with similar concepts if it wishes to. In particular, it could elect that an OBA applies at any RP or DP it controls, and that gas is bought and sold there on the basis of approved Shipper nominations.

From the perspective of Shippers, very few operate only on the Maui pipeline, so while some of the simplicity of the Maui pipeline wide deemed-flow-on-nominations would be lost, most Shippers would benefit from the simplicity of seamless transport, without having to operate across two pipeline systems with radically different transmission products.

So the primary benefits the GTAC would bring are that:

- Each IP could choose whether to operate under an OBA (i.e. whether it wishes to assume primary responsibility for balancing);
- Any non-Maui pipeline Shipper would gain the flexibility to change its nominations each day rather than being required to book capacity each year;
- Any Shipper who uses both Maui and non-Maui pipelines would no longer have the complexity of reconciling their daily MPOC nominations with their annual VTC capacity reservations;
- Shippers would be able to nominate for gas and transport services separately.

These benefits are essentially about providing greater flexibility. In particular, the ability to easily change transport commitments (through daily nominations rather than annual reservations) should:

- make it easier for retailers who gain or lose customers, or who are new entrants, to contract for transport services;
- make it easier for retailers to supply end-users with demand profiles that fluctuate from day to day or season to season (and easier for those end-users to obtain supply);
- allow for more flexible gas supply arrangements; and
- allow for demand to be managed in groupings that are more relevant to system operation (since daily nominations are more relevant to system operations than annual reservations of capacity, the GTAC should allow the operator to have more control of, and enable greater use of, transmission capacity).

In short, by allowing for more flexible arrangements in the transmission link of the supply chain, the GTAC should enable more efficient operation of the pipeline in both upstream and downstream markets.

Zones

The MPOC and VTC transmission products are essentially point-to-point, although some of the non-Maui pipeline DPs have been grouped. For example, the VTC allows for capacity rights from Rotowaro to Greater Auckland, without the need to specify which particular DP in the Greater Auckland “zone” is being used.

In contrast, the GTAC regime allows for transport from a Receipt Zone to one of a number of Delivery Zones and/or Individual DPs. If the GTAC is progressed, the initial distribution of DPs would be as illustrated in Figure 3. GTAC s3.3 limits the discretion First Gas has to decide which DPs lie within each Delivery Zone.

Delivery Zones allow Shippers to make a single nomination for transport to each Zone, without needing to specify how much gas is to be delivered to each individual DP within the Zone. Although the main consequences of Zone approach are considered in relation to prices in section 4.2, we note the adoption of a single receipt zone would simplify arrangements for pipeline users.

Gas transmission products – in situations where there is congestion

Here we consider whether the DNC product and associated IA and PR arrangements would allow for better management of contractual and physical congestion.⁸⁴

The DNC product

Previous work by a Panel of Expert Advisers (PEA) described how the VTC's annual capacity reservation arrangement, including grandfathered rights to capacity, could lead to the "sterilisation" of capacity. This occurs where Shippers hold more capacity rights than they are using, causing contractual congestion even though there is no physical congestion. This can adversely affect competition because a Shipper who holds more capacity than it is using may be reluctant to relinquish any of its unused capacity to a competitor. The result is that a new Shipper cannot readily enter the market and an existing Shipper cannot compete for a rival's market share unless it holds spare capacity. This was the situation in 2009 when contractual capacity available for transport to the Auckland region was exhausted, Shippers could not contract for new capacity, and end-users could not readily switch to a new gas supplier.

The situation described can easily arise under an annual reservation regime, and has prompted various regulatory responses in other jurisdictions, such as mandatory use-it-or-lose-it arrangements. But the GTAC's DNC product is intrinsically less open to such capacity sterilisation because it offers all the system's capacity each day, plus holding capacity that is not used attracts UR Charges, which become very high when a physical constraint is in prospect. So, DNC should facilitate optimum use of the pipeline capacity by Shippers over time.

Interruptible Agreement (IA) and Priority Right (PR) arrangements

The operation of congestion management tools is discussed in section 4.7, below. Here we consider whether the availability of the tools is an improvement, i.e. are they a useful adjunct to the design.

IAs are available under the VTC but not the MPOC. The Maui pipeline has not been capacity constrained, and is unlikely to be, so we will focus on whether the proposed arrangements are better than the VTC congestion management arrangements.

In respect of IAs, the important difference is that the GTAC IAs allow for an IP to be paid to interrupt, whereas the VTC IAs only allow for a discounted transmission price. The GTAC arrangement would make it more likely that a suitable interruptible end-user can be found.

In respect of PRs, if the auction rules are efficient, PRs would allow capacity to be allocated to its highest value use. The GTAC also aims to discourage a Shipper from nominating more capacity than it needs. GTAC s10.4 commits each Shipper to ensure (to the extent reasonably practicable) that its NQs at a congested DP will represent its best estimate of its

⁸⁴ Contractual congestion occurs when there is a scarcity of firm capacity on offer because it is mostly already contracted for. Physical congestion occurs when more gas is being drawn from the system than the system can reliably deliver.

end-users' requirements and that it will not inflate its nominations with the intention of securing a greater share of the Available Operational Capacity. However, we do not know how rigorously this provision would be policed by First Gas, and there would not be sufficient transparency for Gas Industry Co or other stakeholders to detect whether a Shipper is over-nominating (although the daily underrun fee in the GTAC would make over-nominating costly for a Shipper).⁸⁵

The GTAC also aims to prevent an end-user who requires a secure supply being captive to a Shipper with PRs. For example:

- GTAC s6.18 requires Shippers to acknowledge that an end-user at any Dedicated DP has the right, subject to the terms of its gas supply agreement, to buy gas from more than one Shipper; and
- GTAC s3.23 requires a Shipper who holds PRs in respect of an end-user it no longer supplies to trade those PRs.

It is unclear how easy it would be for First Gas to enforce these provisions and so there is some uncertainty about their effectiveness. Nonetheless, the principles are pro-competitive and the GTAC better defines the obligations on Shippers to release unused capacity rights than the VTC.

Overall, we consider that the GTAC design would substantially better promote efficient use of gas pipelines in congested situations than the current VTC arrangements.

Nominations

DNC identifies a Shipper's intended use of the transmission system capacity at any of 16 zones and 17 Individual DPs (see Figure 3). Each daily capacity nomination will represent a Shipper's best estimate of its aggregate customer demand at each of those locations. Under the GTAC each DNC nomination (for an Individual DP or delivery zone) a Shipper makes is compared with its allocated quantity at that point (as determined by GTAC s6, Energy Allocations) and any difference would accrue either an OR fee or an UR fee.

Table 7 compares the nominations regime under the proposed GTAC with the nominations arrangements for the existing arrangements.

Table 7 – Comparison of GTAC nominations with MPOC/VTC arrangements

Description	GTAC	MPOC/VTC
Type of nomination	<p>Receipt nominations would be required at any receipt point with an OBA or other GTA arrangement requiring nominations.</p> <p>Delivery Zone nominations/individual DP nominations are required to obtain DNC.</p>	<p>MPOC nominations are point-to-point, i.e. from a receipt point to one or more DPs on the Maui pipeline. Nominations must be balanced (i.e. it is not possible to receive more or less than the aggregate DP nominations), but any mismatches can be corrected by nominating to the 'payback point'.</p> <p>Other than for non-standard agreements, daily nominations are not commonly required under the VTC.</p>
Numbers of delivery zones/points	There would be 16 delivery zones and 17 Individual DPs.	There are 15 DPs on the Maui pipeline, some of which are TP Welded Points

⁸⁵ Although DDRs will be published, underruns will not, so it will not be possible to detect if a shipper is over-nominating capacity.

Description	GTAC	MPOC/VTC
		that deliver gas to the ex-Vector transmission system.
Nomination cycles	<ul style="list-style-type: none"> Provisional (week ahead) Changed provisional (day ahead) Four intra-day cycles Emergency intra-day cycle(s) 	<ul style="list-style-type: none"> Provisional (week ahead) Changed provisional (day ahead) Four intra-day cycles
Deemed flow	Flow for period prior to intra-day cycle is deemed to be 1/24 th of previous scheduled quantity times elapsed hours to the ID cycle.	Flow for period prior to intra-day cycle is deemed to be 1/24 th of previous scheduled quantity times elapsed hours to the ID cycle.
Over-/Under-run fees	OR and UR fees are charged on any deviation between DNC and allocated deliveries at the relevant Individual DP or delivery zone.	The VTC provides for OR charges where a Shipper's deliveries on any day are in excess of its reserved capacity. The charge is 8X or 10X the daily capacity charge depending on whether the OR is authorised or unauthorised

When considering these comparative features, we have also borne in mind that:

- good portfolio management requires that each Shipper should plan for the daily requirements of its customers;
- accurate nominations can be valuable in alerting First Gas to changes in demand patterns;
- MPOC Shippers and Shippers to major plant under the VTC already make daily nominations; and
- VTC Shippers currently have the administrative burden of deciding whether to transfer reserved capacity between DPs (for a day or number of days).

Nomination work load

Nominations under the MPOC are generally balanced RP/DP nominations (although OATIS also provides functionality that allows for nominations to and from a pooling point). The VTC's standard product is a "no-notice" service, i.e. no nominations are generally required once the annual reserved capacity has been booked. As a result, with a relatively small number of nominations, gas can currently be transported from Taranaki to anywhere in the North Island served by the high-pressure gas transmission network. For example, a Shipper wishing to transport gas from Oaonui to all DPs north of Rotowaro need only make balanced bookings at Oaonui and Rotowaro (assuming it holds sufficient reserved capacity for delivery to each DP). Under the GTAC, that Shipper would need to make nominations at Oaonui and at each Dedicated DP and delivery Zone north of Rotowaro.

Looking at the aggregate position, Shippers currently nominate to 15 Maui pipeline DPs, whereas they would have to make nominations to 15 Delivery Zones and 17 Individual DPs if the GTAC is implemented. We acknowledge that the GTAC design aims to provide more flexibility in how nominations are made by:

- allowing, but not mandating, OBAs at all RPs and Individual DPs;
- providing more nomination cycles to choose from; and
- offering auto-nominations for mass-market load.

We also recognise that Shippers must match gas receipts and deliveries at present, so not all work is incremental. However, we consider that there would be a modest increase in nomination work for non-Maui pipeline shippers.

Auto-nomination service

GTAC ss4.22-4.23 offer Shippers transporting gas to allocation group 4 and 6 end-users the option of choosing an auto-nomination service. Details of the service, including the nomination algorithm, will be set out in a Specified Shipper Nomination SOP and Shippers who opt for the service are known as Specified Shippers.

Specified Shippers would pay an auto-nomination charge and not pay overrun or underrun charges (GTAC s11.7).⁸⁶ From GTAC stakeholder workshop discussions, we understand First Gas intends for the auto-nomination charge to be the same average cost per unit of DNC as is paid by non-Specified Shippers. So, the auto nominations process would ensure that Specified Shippers pay no more in OR/UR charges (per GJ of DNC) than the rest of the market. The accuracy of the auto-nomination algorithm would therefore not affect the transport charges to Specified Shippers.

For any day, before the Provisional Nomination deadline, a Specified Shipper may choose to overwrite the auto-nominations, in which case they would revert to standard pricing arrangements for that day (GTAC s4.23(e)). Presumably they would only opt to do so if they were sure they could nominate more accurately than the aggregate of the rest of the market.

Interconnection agreements (ICAs)

ICAs are discussed in sections C.1 and C.3 of Appendix C. There we explain that the MPOC is incorporated in full into both Maui pipeline TSAs and ICAs, whereas the VTC is only incorporated in full into the non-Maui pipeline TSAs (although some provisions of the VTC do influence the content of non-Maui pipeline ICAs). The GTAC arrangements lie between these two approaches. The GTAC is incorporated in full into the TSAs but only GTAC Sch 5 and Sch 6 are incorporated into the RP and DP ICAs respectively. In our view, all these approaches are acceptable, provided that the core terms of ICAs that apply to Shippers and IPs “mesh” and cannot become misaligned over time.

We conclude that:

- although the GTAC could be packaged into a more compact form, it “meshes” the key concerns and essential terms affecting Shippers, RP IPs and DP IPs in a way that is comprehensive, coherent and easily understood;
- the code structure would not materially increase the risk of misalignment over time (any change to a term in the MPOC, VTC or the GTAC may potentially have consequences for other rights and obligations in those documents or associated arrangements); and
- the inclusion of the common and essential terms of interconnection as schedules to the GTAC (as opposed to inclusion in the main body of the document) would not create any additional administrative burden when making changes to the GTAC.

⁸⁶ Such Specified Shippers would continue to pay the GTAC s11.4 charges for deliveries to allocation groups 1 and 2 and direct-connect end-users.

In section C.3 of Appendix C we review the proposed content of the ICA arrangements in more detail. Overall, we consider the GTAC interconnection arrangements are on a par with those of the MPOC and more comprehensive and transparent than those of the VTC.

Non-standard contracts

SAs are a feature of the VTC and GTAC, but not the MPOC. ICAs can be varied under all three regimes. These arrangements are discussed in section C.2 of Appendix C.

Given the checks and balances provided by the GTAC s7.4 evaluation criteria, the requirement for First Gas to be transparent in GTAC s7.2 and s7.6, and the requirement for First Gas to maintain a publicly available SA policy document, we consider the GTAC arrangements are likely to result in more well-considered and more transparent SAs. Additionally, where First Gas agrees to a Shipper's request for an SA, it must publish a summary of its analysis on OATIS (GTAC s7.2).

We also consider that allowing Shippers on the Maui pipeline the option of applying for an SA is positive. Although there is always the risk that First Gas could allow an SA that does not enhance efficiency, we think the checks and balances provided in the GTAC would make it likely that new SAs would be efficiency enhancing. In particular, First Gas would maintain a publicly available SA policy, publish a summary of its analysis of any SA request it agrees to (GTAC s7.2), and publish each SA in full (GTAC s7.6). We believe this would increase transparency and act as a constraint on the discretion First Gas would have in respect of negotiating and agreeing SAs.

Peaking

Both the MPOC and GTAC arrangements allow for dealing with peaking on a point by point basis. The MPOC does so by specifying individual Welded Point tolerances (Peaking Limits), while the GTAC does so by identifying the Peaking Parties. The VTC is more indirect, only determining which Shippers would receive an allocation of Maui pipeline peaking costs after a peaking event has occurred. We consider that, from a system-wide perspective the GTAC approach is more efficient since it targets the locations where peaking behaviour can cause problems, and it does not have any secondary allocation of responsibility. An illustrated example of how it would work is provided in section C.5 of Appendix C.

The PAP pointed out that there may be a potential gaming opportunity for a peaking party whereby it could systematically under-nominate its hourly quantities by up to 20% and reduce its exposure to DNC charges (subject to that party assiduously managing its hourly flows so as to avoid hourly overrun and underrun charges). While submissions confirmed the existence of the gaming opportunity, we accept First Gas's view that the RPO obligations on Shippers also oblige them not to behave in such a manner.

Conclusion in relation to Criteria 1, 2 and 14

Some features of the GTAC products are unproven in New Zealand, but for the most part they incorporate features that are common in overseas gas transmission regimes. So, there would be no need to develop a bespoke information system, as was necessary for the MPOC and VTC regimes.

We consider that substantial improvements would arise from:

- the flexibility of the DNC/zone design allowing for more efficient use of the combined Maui/non-Maui pipelines;
- in uncongested situations, the DNC product being inherently more pro-competitive than the VTC annual capacity product;

- in congested situations, the DNC product, IAs and PRs allowing for more flexible and efficient outcomes (the practical operation of these tools is discussed in section 4.7 Congestion Management, below); and
- the absence of grandfathered rights to capacity removing a potentially significant barrier to entry, benefitting the gas market by promoting competition and growth.

However, against these substantial improvements we recognise modest cost considerations. From previous submissions and GTAC workshop discussions, we recognise that there would be costs for industry participants to adapt to new transmission products. For Shippers, these include the cost of developing and implementing new business processes and services, possibly renegotiating contracts, and investing in new systems to manage DNC nominations. While these would mostly be one-off costs, there would be some on-going costs, particularly associated with the increased nominations workload for some Shippers, and possibly their end-user customers.

We conclude that aspects of the transmission product design should bring both substantial improvements and modest detriments to efficiency.



In relation to Criterion 3 (reducing barriers to competition):

A number of considerations are relevant for competition. Under the GTAC, retailers will incur incentive charges for overruns/underruns measured on a delivery zone basis. This will favour retailers with established, diverse customer bases because of their greater relative access to diversity benefits, all other things being equal.⁸⁷ However, this issue also applies under the VTC because overruns are measured at delivery points or groups of points in a transmission price zone.

As set out in section C.4 of Appendix C, the transmission cost penalties associated with differing levels of overrun/underrun appear to be broadly similar under the VTC and GTAC. Accordingly, for any given level of overrun/underrun, competition effects should be similar under VTC and GTAC.

On the other hand, the replacement of annual capacity booking with DNC makes it a lower cost proposition for a new Shipper to enter the market, and for an existing Shipper to enter new geographical areas and new market segments. This is because retailers looking to grow their bases will often be uncertain about the rate at which new customers will sign up. Moving from annual to daily capacity booking overcomes this aspect of volume uncertainty. The barriers to competition would therefore be lower.

The daily nature of the GTAC DNC product would make it intrinsically less open to hoarding of capacity than the annual VTC product, which is pro-competitive.

A new element that the GTAC would introduce is the auctioning of PRs by First Gas and the secondary trading of those PRs between Shippers. While the PR concept is new, we note that the auction terms and conditions are to be determined in accordance with the GTAC change provisions and would therefore be evaluated against the Gas Act and GPS objectives. We believe this gives adequate assurance that those terms and conditions should not increase barriers to competition.

Barriers to competition are also reduced where information asymmetries are removed. Transparency of contracts would be somewhat improved under the GTAC since the GTAC,

⁸⁷ Retailers with diverse bases are likely to incur relatively lower overrun/underrun charges because the overrun/underrun for the base will generally be less than the sum of individual end-user overrun/underruns.

like the MPOC, commits to making all new TSAs and ICAs public. The VTC only makes TSAs public, so the publication of future ICAs is also positive.

We conclude that the transmission product design should, in overall terms, reduce barriers to competition bringing moderate competition benefits.



In relation to Criterion 4 (providing incentives for investment):

Regarding First Gas investments (in pipeline capacity), we consider that the incentives for First Gas to invest are largely a function of the price-quality economic regulation regime administered by the Commerce Commission. However, we think that the structure of the gas transmission products will help to identify where investment is justified. In particular, the GTAC provides for the identification of likely congestion and allows for interruptible load to be identified and contracted under an IA. Where there is still insufficient Available Operational Capacity, Shippers would indicate the value of that capacity by bidding for PRs. Based on that willingness to pay, and a positive assessment of the demand that gives rise to the congestion being long-term, First Gas could more confidently assess the justification for investment. The existing MPOC and VTC transmission products do not allow users to indicate the value of scarce capacity in the way that negotiated payment for interruption or the bidding for PRs would allow, so do not provide incentives for investment decisions to the same extent.

We conclude that the transmission product design should modestly increase the incentives for pipeline investments.



In relation to Criterion 5 (sustained downward pressure on costs and prices):

As noted in relation to the Criteria discussed above, we believe that the design of the GTAC transmission products would enhance competition when compared to the current arrangements, and this should reduce costs and prices. However, there would be some increased transaction costs.

A move to the GTAC would change the overall level of transaction costs and the incidence of those costs. We would expect savings to Shippers and to First Gas in managing a single GTAC transmission product, compared to the cost of managing disparate MPOC and VTC transmission products. RP nominations would be required more or less as at present, but nominations would no longer be required at interconnection points between the Maui and non-Maui pipelines and the absence of capacity transfers would save First Gas the administrative burden of approving those transfers.

However, additional nominations would be required at each Delivery Zone (GTAC s4.3), and each Individual DP (GTAC s4.4), including any Congested DP (GTAC s4.6). While accepting that the nominations provide clear benefits at Congested DPs, some stakeholders have argued that they are unnecessary at Delivery Zones. We agree that requiring Shippers to make Delivery Zone nominations increases transaction costs for no compelling immediate benefit. However, we also recognise that nominations are inherent to the design of the GTAC's gas transmission products.

The increased nomination workload would largely fall on Shippers who ship gas to shared DPs (and may not be so great for those who opt to use the auto-nomination service). While these Shippers currently need to estimate their demand for the purpose of nominating gas

from their gas supplier (generally at a Maui pipeline RP), and nominating (probably the same numbers) at an interconnection point between the Maui and non-Maui pipelines, they only need to reserve capacity once a year under the VTC. In contrast, under the GTAC they would need to nominate for receipts and deliveries every day. That said, we also acknowledge that some VTC Shippers actively manage their reserved capacity portfolio during the year, which can entail significant effort in managing capacity transfers.

We conclude that aspects of the transmission product design should bring both moderate improvements and modest detriments to costs and prices.



In relation to Criterion 8 (efficient use of energy and other delivery resources):

In PAP1 we considered that, with only one set of transmission products to manage, rather than the MPOC and VTC products, modest operational savings in the use of compressors could be achieved. On reflection in FAP1 we did not believe that conclusion was justified. Our understanding is that the compressors between the Maui pipeline and the non-Maui pipelines are managed to maintain pressures at downstream delivery points, and that would not change. There may be some minor optimisation between the Mokau compressors and those at Rotowaro, but we have no evidence to suggest it would be of any significance.

We conclude that the transmission product design should bring no noticeable change to resource efficiency.



In relation to Criterion 9 (facilitating competition in upstream and downstream markets):

The GTAC would introduce a single Receipt Zone that includes all RPs, so trading of gas between RPs in the Receipt Zone should be frictionless, attracting no transport charges. In contrast, wholesale market trades currently attract transport fees, as do other RP to RP trades (unless managed via gas swaps). We believe that the provision of a single Receipt Zone will make it significantly easier to trade gas between Shippers on a daily basis.

In relation to both upstream and downstream gas markets, as described in relation to Criteria 1, 2 and 14 above, we expect that the more flexible arrangements in the gas transmission link of the supply chain will enable more flexible arrangements in upstream and downstream gas markets thereby enhancing competition in those markets.

We conclude that the transmission product design should bring moderate improvements to competition in upstream and downstream markets.



In relation to Criterion 16 (efficient arrangements for short-term trading of gas):

The GTAC provides that gas can be traded within the single Receipt Zone without attracting transport charges. The arrangement is similar to the entry-exit approach taken in Europe which was designed with the express purpose of facilitating gas trading. It would bring the benefits of transactional simplicity, including reducing the need for gas swaps, and provides a level playing field, irrespective of where a producer is located. This is a moderate improvement on current arrangements where short-term trading is discouraged because it

attracts transport charges even though there should be negligible transmission costs associated with such trades.

We conclude that the transmission product design should bring moderate improvements to the short-term trading of gas.



Overall efficiency assessment of gas transmission products

Based on our consideration of each of the efficiency Criteria taken individually and holistically, our overall assessment for efficiency is that the GTAC gas transmission products should have a substantial positive aspect, but also a modestly negative aspect. The factors with the greatest influence on this conclusion are those that have a pervasive influence on efficient outcomes (such as unified gas transmission and the creation of a single receipt zone), rather than those that have an occasional, or short-term, influence (such as transitional costs).



Gas transmission products – Reliability assessment

In relation to Criteria 1, 2 and 6 (providing reliable and competitive arrangements and allocating risks properly and efficiently):

Some Maui pipeline users are concerned that other parties' SAs that are currently confidential, and survive termination of the VTC, could have the effect of reducing their security of supply if the GTAC is implemented. Our view is that, given that such SAs are currently in place, their potential for harm is unlikely to increase under the GTAC. We reach that view with reference to our analysis in section C.2 of Appendix C. We also consider whether any of the matters that these SAs address (see Table 33) have the potential to reduce the reliability of supply at other locations. The matters that can be varied are:

- Applicable RP and/or DP (VTC s2.7(e)(iii));
- Capacity rights (VTC s2.7(e)(ii) & (ix), but do not provide capacity trading rights (VTC s2.7(e)(iv));
- Fees (VTC s2.7(e)(v), (vi)&(vii));
- Term (VTC s2.7(e)(i));
- The end-user entering into a transmission pricing agreement (VTC s2.7(e)(xiv));
- Corporate/statutory approvals (VTC s2.7(e)(xv)); and
- Availability of land to site DP (VTC s2.7(e)(xiii)).

Of these, only capacity rights appear to have the potential to reduce the reliability of supply at other locations. (For example, the SA may permit the holder to use capacity at a level that would threaten supply to other users.) However, there are several aspects of the GTAC that we believe would counteract that threat and be positive for reliability more generally. They are:

- Increased information available to the system operator in the form of daily nominations, which should help it to manage the system more reliably;

- The identification of parties who have the potential to cause system-wide problems – the Peaking Parties;
- The notification of possible congestion – there should be increased awareness of security of supply risks because of the notification of Congested DPs and the subsequent PR auctions would pre-signal the possibility of scarcity, and where congestion did arise or abate during a Year, First Gas would notify all Shippers as soon as practicable (GTAC s3.24). Neither the MPOC nor the VTC contains similar arrangements to promptly notify an increased or reduced risk of congestion.

We conclude that the surviving SAs are unlikely to reduce reliability, while improved information available to the system operator and system users should moderately improve reliability.



Gas transmission products – Safety assessment

In relation to Criteria 1 and 7 (providing access in a safe manner and consistent with the Government’s gas safety regime):

We do not think the transmission product design should noticeably affect the safety related risks.



Gas transmission products – Environmental assessment

In relation to Criteria 8, 12 and 13 (contributing to environmental sustainability by using energy and resources efficiently, minimising gas losses and promoting demand side management):

The GTAC IAs provide for end-users to interrupt their demand in return for compensatory payments i.e. it allows for demand side management. This is not specifically provided for in the MPOC or VTC.

We conclude that the transmission product design should modestly improve environmental outcomes.



Gas transmission products – Fairness assessment

In relation to Criteria 13 and 18 (gas is delivered to existing and new customers in a fair manner, and transmission pipelines can be accessed on reasonable terms and conditions):

Single Receipt Zone

We believe the creation of a single Receipt Zone would put all gas producers on a level playing field for gas trading because none would have a locational advantage when selling its gas. This would be fairer for those producers, but we also consider it would be more fair to Shippers because they would not need enter into new transport arrangements if they wished to buy some or all of their gas from a different producer.

Standard products

As discussed above, we consider the daily nature of the GTAC standard product would make DNC intrinsically less open to hoarding than the annual VTC product. We also believe the absence of the capacity grandfathering feature of the VTC provides new entrant Shippers with more fair access to capacity, although we recognise that some Shippers consider grandfathering to be more fair (as discussed in relation to curtailment, in section 3.6, below).

PRs and PR auctions

A new element that the GTAC would introduce is the auctioning of PRs by First Gas, and their secondary trading between Shippers.

The fairness of the PR auctions will largely depend on whether appropriate checks and balances on market behaviour are in place. The terms and conditions of PR auctions would be developed by First Gas in consultation with Shippers and subject to approval by Gas Industry Co. Changes to the rules would follow the same process. The rules would be published at least 30 Business Days prior to any auction (GTAC s3.18). We consider that these arrangements would provide adequate assurance that the PR rules would be fair to market participants.

The notification of PR auctions, the basic structure of PR auctions, and the risks for mass-market Shippers are discussed in relation to congestion management, in section 4.7 below.

Non-standard contracts

Earlier we considered non-standard contracts in relation to the efficiency and reliability criteria. Here we consider how they might influence fairness.

Existing non-standard MPOC ICAs would terminate if the GTAC is introduced and would be replaced by GTAC ICAs. ICAs on the non-Maui pipeline would not terminate (although certain terms may need adjustment to fit with the new access regime).

There are no non-standard MPOC TSAs, but a number of non-standard VTC TSAs, known as SAs. Some of these SAs (between 2 and 8) would survive termination of the VTC and be brought across into the GTAC regime (again, possibly with some adjustment of certain terms to fit with the new access regime).

On both Maui and non-Maui pipelines, the GTAC would require all new ICAs to contain the same common and essential terms and would permit any user to apply for an SA. This seems inherently more fair.

Since there is wide discretion for First Gas to negotiate SAs under both the current arrangements and the GTAC, and because there is no oversight on SAs either under the current arrangements or under the GTAC, we do not see any significant change to fairness for those seeking to negotiate SAs.

However, for Maui pipeline users particularly, we accept that there is a modest degree of unfairness in the continuation of a small number of SAs and ICAs on the non-Maui pipelines while all contracts for use of the Maui pipeline would be terminated and replaced.

Peaking

Peaking is not a widespread problem. The likelihood of peaking causing a problem depends very much on where on the system the peaking occurs. It seems that the most practical and fair approach is to consider peaking on a site-specific basis. This is the approach taken by the GTAC. Only parties who control an RP or DP where peaking could materially impact the

availability or use of the transmission system by other users would be required to make hourly nominations and be subject to Peaking Charges.

Conclusion in relation to Criteria 13 and 18

In summary, we find that fairness should be substantially improved by the creation of a single Receipt Zone, the removal of grandfathered rights, the daily nature of the standard product, and the availability of PRs. However, for Maui pipeline users particularly, we accept that there is a modest unfairness in the continuation of SAs and ICAs on the non-Maui pipelines while all contracts for use of the Maui pipeline would be terminated and replaced.



Table 8 – Summary of GTAC Gas transmission products assessment

Summary of GTAC Gas transmission products assessment		
Efficiency		
Criterion 1, 2 & 14	The transmission product design should bring substantial benefits in uncongested and congested situations, but these benefits would be modestly moderated by initial transition costs and increased transaction costs.	
Criterion 3	The product design (daily rather than annual capacity bookings) should reduce barriers to competition, bringing moderate competition benefits, particularly for new entrants.	
Criterion 4	Incentives for investment should modestly increase due to the extra information provided by PR auctions to aid investment decisions.	
Criterion 5	Pressure on costs and prices should moderately improve through increased competition. However, the increased nomination workload for some Shippers would modestly increase costs.	
Criterion 8	No noticeable changes to the use of delivery resources would be expected.	
Criterion 9	Moderate improvements to competition in upstream and downstream markets should result from the receipt zone trades attracting no transmission fees, and the downstream retail markets having more flexible transmission products.	
Criterion 10	Weak relevance to transmission products.	-
Criterion 11	Weak relevance to transmission products.	-
Criterion 15	Weak relevance to transmission products.	-
Criterion 16	Frictionless trading in the receipt zone should moderately improve short-term gas trading.	
Criterion 17	Weak relevance to transmission products.	-
Criterion 19	Weak relevance to transmission products.	-

Summary of GTAC Gas transmission products assessment

	Overall Efficiency assessment	
Reliability		
Criteria 1, 2 & 6	Early notification of congestion should moderately improve reliability.	
Safety		
Criteria 1 & 7	No noticeable change expected.	
Environment		
Criteria 8, 12 & 13	Allowing for demand side management contracts meets the GPS objective (GPS 12(e)) for promoting demand-side management and energy efficiency.	
Fairness		
Criteria 13 & 18	Fairness should be substantially improved by the creation of a single Receipt Zone, the daily nature of the standard product, and the removal of grandfather rights. However, the continuation of some SAs seems modestly unfair on those whose contracts must terminate.	

4.2 Pricing: analysis

(Principally GTAC s.11 Fees and Charges.)

Pricing – description of arrangements

GTAC pricing terms

Standard GTAC Transmission fees would be determined annually by First Gas, using the then prevailing Gas Transmission Pricing Methodology (GTPM), in compliance with the then current price-quality path set by the Commerce Commission, and as far as practicable the Commerce Commission's pricing principles (GTAC s11.15). The setting of fees would be subject to the GTAC's general dispute resolution provisions.

The charges can be broadly categorised as transmission charges, peaking charges, congestion charges and balancing charges.

Transmission charges

Transmission charges would be based on Daily Nominated Capacity (DNC) nominations, with fees set for each Delivery Zone and/or Individual DP (GTAC s11.1). An auto-nomination charge will also apply in respect of nominations to allocation groups 4 and 6 users (mass-market), unless the Shipper opts out of the auto-nomination service (GTAC s4.23 (d) and (i)).

Daily OR and UR charges apply for differences between a Shipper's actual delivery quantities and its DNC (GTAC s11.4). These also apply to OBA Parties at DPs (GTAC Sch 6 s11.10).

At Dedicated DPs, Over-Flow Charges would apply if hourly deliveries exceed the maximum design flowrate of a DP (GTAC s11.8).

Peaking charges

A detailed description of the GTAC peaking arrangements can be found in section C.5 of Appendix C.

Peaking Charges only apply to Shippers who use and OBA Parties who control RPs or DPs with intra-day flow patterns that can, in First Gas's assessment, materially impact the

availability or use of the Transmission System (GTAC s3.28). The Peaking Charges are hourly OR and UR charges that apply where a Peaking Party's Hourly Quantity is more or less than 25% outside their actual nominations or a moving three hourly average of its hourly nominations (GTAC s11.5). Where nominations are less than 1 TJ a minimum nomination of 1 TJ is assumed.

Congestion charges

At Congested DPs where Shippers are allocated PRs, PR charges would apply (GTAC s11.2-11.3).

At Congested DPs where First Gas pays pipeline users under an IA (a Beneficiary DP), Congestion Management charges would apply to recover the cost (GTAC s11.12).

Balancing charges

For gas balancing, Excess Running Mismatch (ERM) charges would apply to RM that exceeds tolerances (GTAC s8.11-8.14). In addition, allocation of balancing gas and balancing gas costs and credits may occur when First Gas takes a balancing action which adjusts Shipper's RM position (GTAC ss8.8-8.10).

MPOC pricing terms

Transmission fees are based on daily approved nominations (MPOC s19).

First Gas may change transmission fees and charges at no more than 12 monthly intervals, with at least 60 days' written notice, in accordance with tariff principles in Schedule 10 (MPOC s19.9).

The Schedule 10 Tariff Principles provide for capital related costs to be recovered by \$/GJ.km charges, and operating costs from \$/GJ charges.

Peaking charges also apply (MPOC s13) to hourly receipt or deliveries exceeding Peaking Limits at Large Stations.⁸⁸ Peaking Limits are posted for each transmission day (MPOC s13.1).

For gas balancing, the Accumulated Excess Operational Imbalances are cashed-out daily at a market related price (MPOC s12).

The setting of fees is subject to the MPOC's general dispute resolution provisions.

VTC pricing terms

Transmission charges are based on annual capacity reservations made on a point to point basis. Additional charges apply for Authorised ORs and Unauthorised ORs, Throughput and Alternative Transmission Services.⁸⁹

First Gas may propose transmission fee adjustments by 1 June for application in the next transmission year commencing 1 October (VTC s15.6). Fee proposals can be challenged (but not the methodology itself) under the VTC's general dispute resolution procedures (VTC s15.7).

BPP cost allocations are separate to transmission charges (VTC s8).

Pricing – assessment

This section assesses whether the GTAC provisions for setting and amending prices, would be an improvement on current MPOC/VTC provisions, with reference to the relevant Criteria. The assessment does not consider the specific level of prices because:

- gas transmission services are subject to price-quality control under Part 4 of the Commerce Act, and would remain controlled if the GTAC comes into force; and

⁸⁸ An MPOC term for a station with a maximum design flow rate of more than 5000scm/hr (about 200GJ/hr).

⁸⁹ Although we understand that Authorised OR charges have only applied once or twice in the life of the VTC.

- a comparison against current charges would be of limited value because First Gas can annually amend charges under the GTAC, MPOC and VTC, and any assessment of specific charges would only provide a snapshot at a moment in time.⁹⁰

However, the different price structures in each code need to be examined since they can potentially shift costs from one group of system users to another, change incentives, and create external costs and benefits. For example, tariffs that strongly incentivise accurate nominations will cause Shippers to invest in more accurate nominations, but they may also bring benefits by allowing for more efficient system operation.

Pricing terms – Efficiency assessment

In relation to Criteria 1, 2 and 14 (delivering gas efficiently and facilitating ongoing supply by providing access and competitive market arrangements):

Efficient use would be promoted where distinct prices are set for each transport related service provided, and those prices are broadly cost-reflective.

We begin our analysis by comparing the proposed price structure with the current price structure. This is done in the table below which summarises the types of services provided and the applicable charges under the GTAC and MPOC/VTC.

Table 9 – Services and charge structures in GTAC and MPOC/VTC

Service	GTAC charges (including credits where applicable)	MPOC/VTC charges
Gas Transmission Charges		
Transport (standard)	DNC charge (GTAC s11.1)	MPOC: Tariffs 1 & 2 VTC: Capacity Reservation Fee Throughput Fee
Using more than "booked" pipeline capacity	Daily OR charge (GTAC s11.4(a))	MPOC: N.A VTC: Authorised OR charge, and/or Unauthorised OR charge, or Authorisation charge
Using less than "booked" pipeline capacity	Daily UR charge (GTAC s11.4(b))	MPOC: N.A VTC: N.A ⁹¹
Auto-Nomination	Auto-Nomination charge (GTAC s11.7)	MPOC: N.A VTC: N.A

⁹⁰ First Gas provided indicative prices in its GTAC Stakeholders memo dated 31 July 2018 titled "Block 2 Support – 5 Pricing Methodology". If the GTAC is introduced, First Gas is required to formally notify the prices by 30 June prior to the 1 October Year in which they apply (GTAC s11.16).

⁹¹ Although there is no explicit charge for UR, a VTC Shipper who uses less than its booked annual capacity will have paid for that unused capacity.

Service	GTAC charges (including credits where applicable)	MPOC/VTC charges
Transport (non-standard)	As per relevant bilateral agreement (GTAC s11.11)	MPOC: N.A VTC: As per relevant bilateral agreement
Peaking Charges		
Exceeding within-day flex limit	Peaking Charge - Hourly OR charge (GTAC s11.5(a)) Only applies to Peaking Parties ⁹²	MPOC: Peaking charge VTC: Allocation from balancing and peaking pool
Using less than within-day flex limit	Peaking Charge - Hourly UR Charge (GTAC s11.4(b)) Only applies to Peaking Parties ⁹²	MPOC: N.A VTC: N.A
Congestion Management Charges		
Procuring interruptible capacity	Congestion Management Charge (GTAC s11.12)	MPOC: N.A VTC: Discount to standard rates
Obtaining priority right to standard transport service	PR Charge (GTAC s11.2 and 11.3) Receipts of PR Charges in any month are rebated among all Shippers in the subsequent month (GTAC s11.14)	MPOC: AQ Fee VTC: N.A
Balancing Charges		
Injecting less (or more) gas from the system than is withdrawn	Cash-outs when a balancing action is taken (GTAC ss8.8-8.10)	MPOC: Daily cash-outs VTC: Allocation from balancing and peaking pool
	Excess Running Mismatch Charge (GTAC ss8.11-8.14)	
Other Charges		
Recalculation due to Shipper providing incorrect information	N.A.	MPOC: N.A VTC: Corrections charge
Exceeding design limit of DP	Over-flow Charge (GTAC s11.8)	MPOC: N.A VTC: N.A
Credits		
Treatment of any over/under-recoveries	All Charges are inside the revenue cap, and primary transport charges are adjusted in a later year for any over/under-recovery relative to Part 4 cap	MPOC & VTC: primary transport charges are adjusted in a later year for any over/under-recovery relative to Part 4 cap

⁹² Peaking Charges would not apply when maintenance is being undertaken and the relevant OBA Party or IP has validly notified the need for such maintenance (GTAC s11.6).

Gas Transmission Charges

Absent congestion, the structure of charges should not unduly discourage variations in demand from day to day, or across the seasons, and the incentives to make accurate nominations should reflect the relatively low value of such accuracy when capacity is not scarce.

1. GTAC v MPOC Gas Transmission Charges

- GTAC:
 - Daily transmission charges are applied to each Shipper's approved nominations at each Delivery Zone or Individual DP, on a zoned pricing basis.
 - Accurate nominations are incentivised by daily OR/UR charges. Absent congestion, the GTAC provides for OR charges to be at a premium of 50% over the DNC fee. UR charges are set to balance this, so there is no bias to under- or over-estimate the quantity. Depending on location, the premium could range from \$0.04/GJ to \$1.20/GJ, based on First Gas's indicative prices.⁹³
- MPOC:
 - Daily transmission charges are applied to each Shipper's approved nominations on a two-part tariff basis: Tariff 1 being a \$/GJ/km price and Tariff 2 being a \$/GJ price.
 - As a consequence of the universal-OBA/deemed-flow-on-nominations model, accurate nominations are incentivised by each Shipper's need to match its nomination to its demand, and each Welded Party's wish to minimise its cash-out losses (arising from the daily premium and discounts on automatic end-of-day cash-outs). First Gas has previously assessed the cash-out premium or discounts for Market Based Balancing (MBB) cash-outs at \$0.60/GJ and \$0.20/GJ, respectively.

The GTAC, like the MPOC, applies a daily charge based on approved nominations. We expect the pricing methodologies to be different, but each will result in daily capacity charges which do not discourage demand variations from day to day, or across the seasons.

Zone based prices can give rise to concerns about price jumps between adjacent zones. This is not a concern within the Maui pipeline because the prices are broadly distance based. However, because the Maui pipeline runs adjacent to non-Maui pipelines, which have a different price structure, pricing anomalies can arise between geographically close DPs. At present the SA mechanism in the VTC allows special prices to be struck in such situations. Since the GTAC has a similar SA mechanism, we would expect that it could be used if future pricing anomalies were to develop, either at zone boundaries or for other reasons. So we do not consider that the introduction of zones significantly changes this risk.

Some have queried whether a single receipt zone will be less cost-reflective and therefore less efficient than pricing based on individual receipt points. In a mature transmission system, it is likely to be more efficient to base prices on short-run rather than long-run marginal costs. This is because the prospects of further system expansion are unlikely, so the associated long-run costs are not relevant. This argument appears relevant in the New

⁹³ This refers to the prices indicated in the First Gas GTAC Stakeholders memo dated 31 July 2018 titled "Block 2 Support – 5 Pricing Methodology" which estimates the lowest DNC Fee as \$0.075 for the Faull Road Zone and the highest DNC Fee as \$2.40/GJ for the Eastland Zone.

Zealand context, and we therefore do not expect any loss of efficiency from the GTAC's use of zonal pricing.

Although the incentives to make accurate nominations are different in nature between the GTAC and MPOC – one linked to capacity prices and the other linked to gas prices – they appear to be of broadly similar scale, as found in our analysis in section C.4 of Appendix C.

2. GTAC v VTC Gas Transmission Charges

- GTAC: As above.
- VTC:
 - VTC's primary charge is based on annual reserved capacity.
 - Accurate annual reservations are incentivised by daily OR charges.

We believe the daily fee structure of the GTAC allows for more efficient pipeline usage decisions than the annual fee structure in the VTC, which discourages usage by parties whose demand varies from day to day, or across the seasons, irrespective of whether such usage imposes any additional system costs.

The VTC and GTAC both encourage pipeline users to minimise their nomination deviations, even though this may be inefficient when there is no pipeline congestion. Based on the analysis in section C.4 of Appendix C, we consider the scale or likelihood of such effects under the GTAC will not change appreciably as compared to the VTC. In particular, it focuses on the relative cost increase users will face in their total transmission charges, for differing levels of nomination deviation.

Peaking Charges

A detailed description of the GTAC peaking arrangements can be found in section C.5 of Appendix C.

Peaking Charges will be efficient where they are targeted towards gas flows that are sufficiently peaky to cause system problems, and where they signal the likely magnitude of system costs resulting from peaking.

3. GTAC v MPOC Peaking Charges

- GTAC:
 - Only Peaking Parties are required to make hourly nominations and to pay Peaking Charges.
 - The chargeable quantity is the hourly amount over or under 1.25 times a moving three-hour average of approved hourly quantities.
 - The price is the DNC Fee times a factor M which would initially be 1.5 (or 7.5 if First Gas has notified congestion) but which First Gas may increase to 5 (or above 7.5 if there is congestion) if it considers that a greater incentive is required.⁹⁴ So the amount over the tolerance would initially be charged at a premium of 50% over the DNC fee. Amounts under the tolerance are charged at a rate to balance this, so there is no bias to under-estimate or over-estimate the hourly quantity (GTAC s11.5).
- MPOC:

⁹⁴ In relation to peaking at an RP, the DNC fee will be the lowest published DNC fee for any Delivery Zone (GTAC s11.5). Although such an increase can only happen following a notification by First Gas that a higher factor is necessary, consideration of any Shipper views that an alternative approach would be better, and on the expiry of 60 Business Days' notice.

- Welded Parties at Large Stations are liable to pay the Peaking Charges.
- The chargeable quantity at a point is the amount by which a three-hour moving average exceeds the Peaking Limit (MPOC s13.3). Peaking Limits are set by First Gas for each physical Welded Point to be as large as reasonably practicable, and no lower than the minimums set out in MPOC Sch 7 (MPOC s13.1).
- The price is the difference between Marginal Buy price and Marginal Sell price for the day (MPOC s 13.4(e)).

The GTAC and MPOC both provide formula-based prices and provide processes for targeted peaking arrangements to particular points/parties and nominating/approving hourly quantities.

Both peaking arrangements allow First Gas to target loads that have the potential to cause system problems. However, the GTAC price is related to capacity usage whereas the MPOC price is related to the price of gas. We do not think that either pricing approach is necessarily more efficient. A user may peak for a number of reasons. It may be because a production process peaks by nature and that peaks can only be avoided by modifying or delaying a production process. It may be because the user is a power station seeking to rapidly increase generation take advantage of the increased spark spread opportunity created by high electricity prices. In either case, the private financial benefit of peaking is unrelated to the possible cost consequences of the peaking behaviour on other system users. It could be argued that the MPOC approach would be more effective in the case of peaking power stations because the spark spread would likely be higher when electricity prices are high (potentially increasing spot prices on the day). So in the case of power generation the commodity price of gas is likely to be more relevant than the price of capacity.

4. GTAC v VTC Peaking Charges

- GTAC: As above.
- VTC:
 - A Shipper expecting to cause peaking costs at interconnections with the Maui pipeline can seek First Gas consent (VTC s8.22). And First Gas will notify all Shippers where it expects an MPOC Peaking Limit to be exceeded (VTC s8.23).
 - As with balancing costs, the VTC allocates the peaking costs arising at Maui pipeline interconnections. This is done via the BPP, using the algorithm described in the Peaking Allocation Methodology set out in VTC Sch 9.
 - For the duration of any peaking event, the hourly receipt and delivery quantities for First Gas, each Shipper and Non-Code Shipper in the relevant BPP pool are determined. A party whose receipts exceed its deliveries is exempt. Otherwise, each party receives an allocation of the peaking cost pro-rata to its peaking contribution (i.e. net receipt-deliveries).

The VTC arrangements are more passive than those of the GTAC. They simply aim to pass on the incentives and prices provided under the MPOC regime. The above comments in relation to the GTAC/MPOC comparison therefore apply.

Congestion Management Charges

When there is congestion, prices should reflect the market value of capacity (i.e. allocate scarce capacity on a willingness to pay basis), and the incentives to make accurate nominations should reflect the relatively high value of such accuracy.

5. GTAC v MPOC Congestion Management Charges

Congestion on the Maui pipeline is not anticipated, but if it did develop, the code allows for the introduction of Authorised Quantities (AQs). AQs are not fully defined but are broadly analogous to the GTAC's PR concept.

6. GTAC v VTC Congestion Management Charges

- GTAC:
 - The GTAC provides for PR auctions to determine a market price for capacity. This is discussed in detail in section 4.7.
 - Where interruptible end-users can be identified, the GTAC also allows for the introduction of IAs. If any payments are made to Shippers/users under an IA, the costs will be recovered from other Shippers (the "beneficiaries") at the relevant Beneficiary DPs.
 - Accurate nominations are incentivised by daily OR/UR charges. However, when First Gas notifies that there is or is expected to be congestion, the daily OR/UR charge premium increases from 50% to 650%, providing a much stronger incentive for increased accuracy (GTAC s11.4).
- VTC:
 - None of the VTC gas transport prices change when congestion occurs.
 - Accurate annual reservations are incentivised by daily OR charges.

We consider the GTAC prices, both of PRs and IAs, would be a better reflection of the market price of scarce capacity than VTC prices. There is no VTC equivalent to PRs and, although IAs are possible under the VTC, they only allow for providing a discount on transmission fees whereas the GTAC allows for paying an addition premium for interruption. The GTAC provision is therefore more flexible than the VTC and is expected to be much more useful in situations where it is desirable to incentivise the use of interruptible transport rights.

The GTAC also provides for the IA costs to be recovered from the beneficiaries (the parties using the congested DP) rather than being socialised across all system users, as is done under the VTC. This provides more explicit assurance that available capacity will flow to, and be paid for by, the parties who value it the most, which should enhance efficiency.

Regarding the accuracy of nominations, the increased GTAC incentives to make accurate nominations at times of congestion should better reflect the higher value of such accuracy.

Other aspects of the congestion management provisions are discussed in section 4.7.

Balancing Charges

Using a pipeline to accommodate differences between receipts and deliveries (i.e. for gas storage) can limit its use for gas transport. Incentives to maintain balanced positions should reflect the opportunity cost of the reduced transport capacity caused by any imbalance.

From a pipeline usage perspective, efficiency will be enhanced if causers of system mismatch/imbalance bear any associated costs, and if arrangements seek to minimise overall transaction costs.

7. GTAC v MPOC Balancing Charges

- GTAC:
 - The GTAC provides two price-related incentives for parties to maintain balanced positions. For RMs beyond a tolerance level there is an ERM Charge.

Also, where First Gas takes a balancing action the cost is allocated among users with ERM positions.

- MPOC:
 - The Market Based Balancing (MBB) regime of the MPOC provides for automatic end of day cash-out of all Welded Parties with AEOI. The Cash-Out Quantity is the Running Operational Imbalance less m times the Running Operational Imbalance Limit, where m is normally equal to 1 but may be temporarily increased at one or more Welded Points, for example in the case of contingency or maintenance (MPOC s 12.18).

Both the GTAC and MPOC incorporate pricing mechanisms to encourage pipeline balancing. The MPOC provides for automatic cash-out at the end of each day whereas the GTAC cash-outs would only occur on days when balancing actions are taken.⁹⁵

Because of the universal OBA arrangements under the MPOC, it is the Welded Parties rather than the Shippers who are concerned about balancing. And because of the MPOC's automatic end-of-day cash-outs, such Welded Parties may be less inclined to go to market to balance their excess imbalances. We think the absence of automatic end-of-day cash-outs under the GTAC, combined with the ever-present incentive for system users to more actively balance their positions (the ERM Charge), should cause them to undertake more self-balancing via the market, where it is efficient for them to do so (i.e. correct their own imbalances rather than relying on First Gas as system operator).

8. GTAC v VTC Balancing Charges

- GTAC: As above.
- VTC:
 - As with peaking costs, the VTC allocates the balancing costs attributable to its Maui pipeline interconnections. This is done via the BPP, using the algorithm described in VTC s8.19. In essence, allocations are made pro-rata to RM positions.

Both the GTAC and VTC incorporate pricing mechanisms to encourage pipeline balancing. In the case of the VTC the mechanism is a pass through of MPOC cash-outs.

As discussed above, the GTAC provides both cash-out when balancing actions are taken and an ever-present incentive (the ERM Charge) for system users to more actively balance their positions. We believe this will lead to more market activity.

Other Charges

We do not think the differences between the Other Charges in Table 9 are significant to our analysis but note that the GTAC would introduce an Over-Flow charge. It would apply in any hour where deliveries at a Dedicated DP exceed the maximum design flow rate (GTAC s11.7-11.8). We understand that these charges would apply very rarely and relate to protecting infrastructure so are not material to our analysis.

Single pricing framework covering all pipelines

The GTAC would apply a common transport pricing framework across the entire pipeline system – rather than the two quite different pricing systems at present.

⁹⁵ Under the MPOC, except where a default pricing rule applies, the prices associated with balancing actions that are passed to Welded Parties reflects the lowest/highest price at which balancing gas was sold/purchased on the day. The approach taken in the GTAC is for costs associated with balancing actions to be passed on to Shippers or OBA Parties at the weighted average price of balancing gas puts/calls on a day.

Conclusions in relation to Criteria 1, 2 and 14

In summary, we consider the DNC charge structure would bring some substantial improvements. In particular:

- The daily fee structure of the GTAC allows for more efficient pipeline usage decisions than the annual fee structure in the VTC. Importantly, where capacity is not constrained, it would not discourage parties whose demand is uneven across the year from using the system.
- At times of congestion, the GTAC prices would be a better reflection of the market price of scarce capacity than VTC prices. And the increased GTAC OR/UR charges at such times should better reflect the higher value of Shippers making better estimates of their daily requirements.
- The GTAC provides a certain and ever-present incentive on users to actively manage their balance positions (rather than waiting for automatic end-of-day cash-out).
- For parties using both Maui and non-Maui pipelines, the price of services and incentives is unified, and the complex interaction between the MPOC and VTC prices (such as through the BPP) is simplified.

Some increased costs would also result:

- There would be additional administrative costs in producing daily GTAC nominations, and we expect these would increase during congestion when stronger incentives for accuracy apply.
- Running PR auctions would introduce additional costs, even though (providing the auctions clear) these costs would be recovered from the parties who buy PRs, and not be socialised.

Taking all of the factors noted above into account, we assess the GTAC pricing structure to be substantially better at promoting the efficient use of the pipelines. However, while incentive prices are on a par with current incentives, we believe they would result in more administrative effort in preparing daily nominations at times when the value of such nominations is doubtful. However, we have assessed that issue in relation to gas transmission products in section 4.1 above, so we do not repeat it here.



In relation to Criterion 3 (reducing barriers to competition):

Zero price in single Receipt Zone

The GTAC would create a single receipt zone within which all current gas production and storage facilities are located. This is also the zone in which gas in the wholesale spot market is traded. All gas sold within this zone would be perfectly substitutable, with no associated transport charge to add on. This should facilitate gas trading and competition among suppliers. Although it is not possible to quantify this benefit, we note that the commodity value of gas is typically much larger than the transmission charge. So reducing the barriers to gas trading should be valuable.

Daily price

The GTAC would no longer apply annual capacity reservation fees on the non-Maui parts of the system, instead basing transport fees on daily capacity nominations. This is likely to be beneficial for new entrant retailers supplying smaller gas consumers. This is because an

annual capacity fee regime tends to favour parties that have larger customer portfolios (because of diversity benefits) and those with established and predictable customer bases (who therefore have less relative forecasting risk). Hence, the move from annual to daily capacity charges under the GTAC is expected to be pro-competitive.

Market based prices for scarce capacity

The GTAC would allocate PRs for scarce capacity based on willingness to pay and replace the current allocation via grandfathering (under the VTC), which favours incumbent Shippers. Concerns have been raised previously that the auction terms and conditions might be formulated in a way that has the unintended effect of hindering competition. While this is a potential risk, it appears relatively low given that the GTAC requires First Gas to develop the auction terms and conditions in consultation with Shippers, and to submit them to Gas Industry Co for approval. Accordingly, the GTACs pricing terms for congestion management are assessed as a moderate improvement for competition.

Rebates

We do not see any significant differences in the rebate arrangements.

Conclusion in relation to Criterion 3

We conclude that a moderate improvement should be achieved through a single receipt zone, single pricing regime, charges based on daily rather than annual capacity, and allocating scarce capacity rights via auction. All should reduce barriers to competition.



In relation to Criterion 4 (providing incentives for investment):

The GTAC pricing provisions are not expected to materially alter incentives for investment in gas processing, transmission and distribution since these are largely determined by factors outside the transmission code (e.g. wholesale gas price outlook, Part 4 of the Commerce Act).



In relation to Criterion 5 (sustained downward pressure on costs and prices):

See the discussion in relation to Criterion 3. We expect the pricing terms to facilitate competition in some respects, but the additional administrative burden of nominations is a modest concern.



In relation to Criterion 8 (efficient use of energy and other delivery resources):

We would not expect a noticeable change.



In relation to Criterion 9 (facilitating competition in upstream and downstream markets):

In relation to gas transmission product design, we concluded (see Criterion 9 assessment in section 4.1) that the design would generally facilitate competition in upstream and downstream markets. In relation to the pricing of those products, we consider that certain aspects would moderately support increased competition. In particular, the zero price for transport within the receipt zone would reduce the cost of gas trading, thus facilitating upstream competition. We see the move from annual capacity charges to daily capacity charges as generally making it possible for a wider range of retailers, including new entrants, to bid to supply end-users.



In relation to Criterion 10 (full costs of producing and transporting are signalled to consumers):

At times of congestion PRs and IA charges should improve the signalling of costs. But congestion is likely to be rare, so we rate this as only a modest improvement.



In relation to Criterion 11 (price/quality trade-off reflects customer preferences):

The GTAC has more developed pricing provisions than either MPOC or VTC in relation to capacity pricing if scarcity arises. In principle, this should enable pipeline users to make better trade-offs between price and service quality (i.e. the priority of their access to capacity if scarcity arises).



Overall efficiency assessment of pricing arrangements

Based on our consideration of each of the efficiency criteria, our overall assessment for efficiency is that the GTAC pricing terms would have a moderately positive aspect. However, the additional administrative burden of daily nominations and occasional PR auctions would modestly raise costs. The factors with the greatest influence on this conclusion are those that have a pervasive influence on efficient outcomes, rather than those that have an occasional influence (such as PR auction pricing).



Pricing – Reliability assessment

In relation to Criteria 1, 2 and 6 (providing reliable and competitive arrangements and allocating risks properly and efficiently):

As discussed above, the GTAC pricing provisions should enable better management of capacity scarcity situations, therefore reducing the risk of interruption or contingency.



Pricing – Environmental assessment

In relation to Criteria 8, 12 and 13 (contributing to environmental sustainability by using energy and resources efficiently, minimising gas losses and promoting demand side management):

Allowing payments to be made for the curtailment of interruptible end-users should have a modestly positive effect in furthering the GPS objective of promoting demand-side management and energy efficiency.

Assessment



Pricing – Fairness assessment

In relation to Criteria 13 and 18 (gas is delivered to existing and new customers in a fair manner, and transmission pipelines can be accessed on reasonable terms and conditions):

In terms of procedural fairness, the GTAC, MPOC and VTC all have similar provisions, with First Gas annually setting the level of individual charges, subject to a requirement for charges to be consistent with the relevant price-quality path approved by the Commerce Commission, and pre-defined pricing methodologies etc. The GTAC, MPOC and VTC also have similar provisions in relation to pipeline users' ability to challenge First Gas's charges under the dispute provisions, except that the VTC has a prohibition on challenging balancing charges.

As regards the charge structures, we consider that adopting a daily nominated capacity charge as the primary transport fee would be fairer because it would not discourage demand that is uneven across the year, unless such usage genuinely imposes higher costs.

Regarding the auto-nomination service, Specified Shippers would pay an auto-nomination charge and not pay overrun or underrun charges (GTAC s11.4). The auto-nomination charge is, in essence, the same average cost per unit of DNC as is paid by non-Specified Shippers. So, the auto nominations process would ensure that Specified Shippers pay no more in OR/UR charges (per GJ of DNC) as the rest of the market. Although it is difficult to make a comparison between this and any existing arrangements, we consider that it is not unfair.













We are aware of stakeholders who believe some existing prices charged by First Gas are unfair and who are concerned that these unfair prices could continue under the GTAC. We note that the fairness of any particular price is a subjective matter. In any case, if a price (fair or unfair) was to continue unchanged into a GTAC regime then it would be no better or worse than at present.

Our overall assessment is that charging based on usage (unless congestion applies) is moderately fairer.

Assessment



Table 10 – Summary of GTAC Pricing assessment

Summary of GTAC Pricing assessment		
Efficiency		
Criterion 1, 2 & 14	The GTAC daily fee structure would not discourage demand that is uneven across the year, unless such usage genuinely imposes higher costs. At times of congestion, the prices would better reflect the market price of scarce capacity. Increased OR/UR charges at such times should provide better estimates of demand. The ever-present ERM charge should encourage active management of balance positions. And a single price structure across all pipelines is a simplification.	
Criterion 3	A moderate reduction in barriers to competition should be achieved through a single receipt zone, single pricing regime, charges based on daily rather than annual capacity, and allocating scarce capacity rights via auction.	
Criterion 4	No noticeable change expected.	
Criterion 5	The positive effects of pricing on competition should moderately increase downward pressure on prices but with some additional cost from increased nominations.	
Criterion 8	Pricing is not expected to noticeably change fuel costs.	
Criterion 9	Receipt zone trading free of transport charges should facilitate upstream gas trading, and the move to daily capacity charges should facilitate downstream competition.	
Criterion 10	At times of congestion, PRs and IAs should improve the signalling of costs.	
Criterion 11	The GTAC's more developed pricing provisions should allow customers to make a moderately better price/quality trade-off.	
Criterion 15	Weak relevance to pricing terms.	-
Criterion 16	Weak relevance to pricing terms.	-
Criterion 17	Weak relevance to pricing terms.	-
Criterion 19	Weak relevance to pricing terms.	-
	Overall Efficiency assessment	
Reliability		
Criteria 1, 2 & 6	The proper allocation of risk should be moderately strengthened by the GTAC's pricing provisions during congestion.	
Safety		
Criteria 1 & 7	Weak relevance to pricing terms.	-
Environment		
Criteria 8, 12 & 13	Allowing for demand side management payments would give modestly better compliance with Criterion 12.	
Fairness		
Criteria 13 & 18	Charges based on usage (unless congestion applies) would be moderately fairer.	

4.3 System operation – Energy quantity determination: analysis

(Principally GTAC s5 Energy Quantity Determination.)

Energy quantity determination – description of arrangements

GTAC energy quantity determination

The GTAC specifies:

- Metering is required at every RP, DP and Bi-directional Point, unless First Gas considers it impractical or uneconomic (GTAC s5.1-5.2);
- Shippers may request unscheduled testing (no more frequently than 3 months and not within one month of a scheduled test). If the meter is found to be accurate, the Shipper will pay the costs of testing, otherwise First Gas will pay for the testing and adjust the meter. If First Gas is not the meter owner, the Shipper will exercise its rights or, failing that, First Gas will exercise its contractual rights to get the test done (GTAC s5.3-5.4);
- At points monitored by telemetry, First Gas will publish Daily Delivery Reports (DDR) and Hourly Delivery Reports (HDRs), on the next Business Day, otherwise at month-end (GTAC s5.5-5.7);
- For all DPs, First Gas will publish Gas Composition Data on the next Business Day (GTAC s5.8);
- Corrections for inaccurate metering will be as per the Metering Requirements document (as also referenced in the VTC) (GTAC s5.9);
- The Metering Requirements are to provide for transitional arrangements for existing Metering equipment at Receipt Points which exist as of 1 October 2019, such transitional arrangements to not apply for a period of more than two years (GTAC s7.13(g)); and
- The Metering Requirements document will be amended according to the process specified in the document (GTAC Sch 6 s4.7).

MPOC energy quantity determination

Gas quantities injected into or delivered from the Maui Pipeline at a Physical Welded Point are to be determined by Metering from the Metering Owner (MPOC s16.1).

The MPOC specifies:

- the requirements on station owners (MPOC s5.1-5.2, MPOC Sch1, Part1);
- metering standards (MPOC s16.2-16.3, MPOC Sch1, Part 2);
- testing arrangements (MPOC s16.4-16.6, MPOC Sch 1, Part 3); and
- corrections for inaccurate metering (MPOC s16.7, MPOC Sch1, Part 4).

VTC energy quantity determination

The VTC specifies:

- metering ownership, standards, special testing, and metering corrections (VTC s11); and
- the timing of Daily and Hourly Energy Delivery Reports (DDR and DHR) is specified in VTC Sch 4.

The VTC references a Metering Requirements document, outside the VTC, for more detail.

Energy quantity determination – assessment

In essence, the energy quantity determination arrangements, including the issuing of DDRs, HDRs and gas composition data, would not significantly change. However, metering standards and procedures, including the methods of testing and correcting for any metering errors found, would become common across the system. These would be contained in a Metering Requirements document, referenced in the GTAC but existing outside the GTAC. This document is an update of the Metering Requirements document referenced in the VTC.

Note that RP meters are generally owned by the RP IP, whereas First Gas generally owns the DP meters.

Energy quantity determination – Efficiency assessment

In relation to Criteria 1, 2 and 14 (delivering gas efficiently and facilitating ongoing supply by providing access and competitive market arrangements):

Although the MPOC and VTC metering arrangements are substantially similar, the GTAC requirement that all metering is subject to the same technical standards (rather than MPOC Sch 1 and the VTC Metering Requirements document), the same testing requirements, correction methodology etc, should modestly reduce costs. Earlier publication of validated DDRs should also allow for earlier self-balancing decisions.

Assessment



Energy quantity determination – Reliability assessment

In relation to Criteria 1, 2 and 6 (providing reliable and competitive arrangements and allocating risks properly and efficiently):

In general, we expect that having a single set of Metering Requirements would improve reliability. The Metering Requirements document is not part of the GTAC, but it does contain a change process that involves industry consultation on proposed changes, and First Gas publishing its reasoning where it does not progress changes proposed by Shippers, IPs, the Gas Transfer Agent, and Allocation Agent. While this process is not enforceable under contract, we expect that changes to the GTAC would be proposed if the process was not followed.

Regarding legacy metering:

- the VTC provides that the owner of metering that existed before 30 November 2005 need not comply with Parts 1 and 2 of the Metering Requirements providing, for example, that it continues to ensure that the metering is accurate (VTC s11.3); and
- the MPOC requires that stations in existence on 1 January 2005 are only required to comply with the MPOC Sch 1 requirements to the extent that they did so at that date (MPOC s 5.1).

The GTAC would only allow a further 2 years grandfathering of these legacy arrangements. This raises fairness issues which are discussed in the next section, but here we consider the effect on reliability. Our understanding is that the accuracy and reliability of metering systems has significantly improved over recent years and it would improve reliability to bring these legacy systems up to date.

We conclude that introducing the GTAC would modestly improve reliability.

Assessment



In relation to Criteria 13 and 18 (gas is delivered to existing and new customers in a fair manner, and transmission pipelines can be accessed on reasonable terms and conditions):

The question of fairness arises in relation to MPOC contract holders who will lose the protection of having the Metering Requirements contained in the MPOC (MPOC s5 and MPOC Sch 1). In particular, the protection of the MPOC change and dispute processes. While we agree with First Gas that technical documents such as this should sit outside the code, we also recognise that there is a measure of unfairness when contractual protections are removed.

In relation to VTC parties, the GTAC Metering Requirements contains an amendment process (GTAC Metering Requirements s4) which is not in the VTC Metering Requirements. It involves First Gas:

- publishing a proposed amendment on OATIS;
- consulting with the industry on proposed amendments;
- considering stakeholder feedback; and
- deciding what amendment should occur.

Any person with an interest in generating or using metering information can propose an amendment, including a Gas Transfer Agent or Allocation Agent. We consider its addition to be more fair.

Regarding legacy metering, as explained in relation to the Reliability discussion above, the GTAC would require that, 2 years after its introduction, legacy metering systems that are currently grandfathered under the MPOC and VTC would need to comply with modern standards.

However, we think it is fair that after 15 years of protection these legacy systems should be brought up to date and conform to the common standard. Our understanding is that the accuracy and reliability of metering systems has significantly improved over recent years and it would be unfair to other system users if legacy systems were protected indefinitely. We think 15 years of protection is more than reasonable.




We conclude that introducing the GTAC would be modestly unfair on parties with legacy rights but also modestly more fair on other users of the system who would then operate on a level playing field.



Table 11 - Summary of GTAC energy quantity determination assessment

Summary of GTAC energy quantity determination assessment		
Efficiency		
Criterion 1, 2 & 14	The GTAC would introduce one set of technical standards, testing requirements, and correction methodology, which should modestly reduce costs.	

Summary of GTAC energy quantity determination assessment

Criterion 3	Weak relevance to energy quantity determination arrangements.	-
Criterion 4	Weak relevance to energy quantity determination arrangements.	-
Criterion 5	Weak relevance to energy quantity determination arrangements.	-
Criterion 8	Weak relevance to energy quantity determination arrangements.	-
Criterion 9	Weak relevance to energy quantity determination arrangements.	-
Criterion 10	Weak relevance to energy quantity determination arrangements.	-
Criterion 11	Weak relevance to energy quantity determination arrangements.	-
Criterion 15	Weak relevance to energy quantity determination arrangements.	-
Criterion 16	Weak relevance to energy quantity determination arrangements.	-
Criterion 17	Weak relevance to energy quantity determination arrangements.	-
Criterion 19	Weak relevance to energy quantity determination arrangements.	-
	Overall Efficiency assessment	
Reliability		
Criteria 1, 2 & 6	Introducing a single set of technical standards, testing requirements etc. as well as requiring pre-2005 metering systems to comply with modern standards is expected to modestly improve reliability.	
Safety		
Criteria 1 & 7	Weak relevance to energy quantity determination arrangements.	-
Environment		
Criteria 8, 12 & 13	Weak relevance to energy quantity determination arrangements.	-
Fairness		
Criteria 13 & 18	MPOC users lose the protection of having the Metering Requirements in the MPOC. Also, the owners of pre-2005 legacy metering systems (who are not required to upgrade them under the MPOC and VTC), would need to comply with modern standards within two years. While it is modestly unfair for these parties to lose their contractual protection, it is modestly more fair on other system users that modern standards should apply to all parties.	

4.4 System operation – Energy allocation: analysis

(Principally GTAC s6 Energy Allocations.)

Energy allocation – description of arrangements

GTAC energy allocation

The GTAC specifies:

- Shipper receipts would be determined by:
 - **OBA**, where the RP IP has determined that an OBA should apply (GTAC s6.1); or
 - **GTA**, where an OBA does not apply (GTAC s6.2). For GTAs, First Gas will be the Gas Transfer Agent unless Shippers at the RP agree an alternative acceptable to First Gas (GTAC s6.5). GTAs are required to set out the rules the Gas Transfer Agent will apply to allocate the metered quantity among Shippers (GTAC s6.3) and notify those quantities (GTAC s6.4). The requirements for GTAs are set out in GTAC Sch 3.
- Shipper deliveries would be determined by:
 - **Downstream Reconciliation Rules** (DRRs) (GTAC s6.10), with initial allocations determined by the Allocation Agent (GTAC s6.11(a)), or by Gas Industry Co in accordance with the 14/12/2015 D+1 Agreement (s6.11(b)), or in proportion to DNC (GTAC s6.11(c)). If an SA or IA applies to an end-user supplied from a Distribution Network, First Gas will advise the Allocation Agent of the daily delivery quantities (GTAC s6.16);
 - **OBA**, where the DRRs do not apply and the DP IP has determined that an OBA should apply (GTAC s6.9); or
 - **Allocation Agreement**, at a Dedicated DP (GTAC s6.12). And if an end-user at a Dedicated DP buys gas from more than one Shipper (GTAC s6.18), those Shippers will enter into an Allocation Agreement (GTAC s6.19). The requirements for Allocation Agreements are set out in GTAC Sch 4.
- Secondary trades would be determined by:
 - **GTA**;
 - **Gas Market**; or
 - **OATIS trading functionality**.

Trades are final and will not be altered by wash-up or otherwise (GTAC s6.7). Buyers and sellers are responsible for notifying First Gas of any trade.
- Wash-ups would be determined by a
 - **Wash-up Schedule** (GTAC Sch 8)
- For all OBA Parties, receipts and/or deliveries are determined by metered quantities.

MPOC energy allocation

The MPOC specifies:

- For Shippers, at all RPs and DPs, energy is allocated according to OBA principles (MPOC s10.1) with Shippers being allocated their Approved Nominations (MPOC s10.2);
- For all Welded Parties, receipts and/or deliveries are determined by metered quantities; and
- Wash-ups are not addressed.

VTC energy allocation

The VTC specifies:

- Shipper receipts will be determined by a GTA (VTC s6.1);
- Shipper deliveries will be determined by the metered quantity where it is the only Shipper to that point (VTC s6.5(a)), or by an Allocation Agreement where it shares the point with other Shippers (VTC s6.5(b)). Where the point supplies a single end-user buying gas from more than one Shipper, those Shippers' deliveries will be determined under an Allocation Agreement (i.e. the DRRs do not apply) by the Allocation Agent specified in the agreement;
- Special arrangements apply at Frankley Road (VTC s6.5(c)), Kapuni (VTC s6.5(d)), and Pokuru #2 (VTC s6.5(e)); and
- Wash-ups are addressed by an *ad hoc* agreement that sits outside of the VTC and may be cancelled on notice by First Gas.

Energy allocation – assessment

The major change to allocation arrangements under the GTAC would be that OBAs would no longer be required at all Maui pipeline RPs and DPs. Instead, OBAs would only apply at the IP's election.

Energy allocation – Efficiency assessment

In relation to Criteria 1, 2, and 14 (delivering gas efficiently, facilitating ongoing supply by providing access and competitive market arrangements):

Whereas OBAs are compulsory at every RP and DP under the MPOC and do not feature in the VTC, the GTAC offers OBAs as an option, at the IP's election, at any RP or DP where the DRRs do not apply.

For a Maui pipeline IP, the consequences of being an OBA Party under the GTAC would be different than under the MPOC,⁹⁶ but in terms of energy allocation, we consider that the GTAC preserves the OBA option while also offering alternatives. While some stakeholders argue that more choice is not necessarily good, and that stability is more important than variety, we consider that the GTAC strikes a good balance. Where Maui pipeline IPs wish to continue their OBAs, or where non-Maui pipeline IPs wish to adopt OBAs, the GTAC provides that choice. We think this is modestly positive for most efficiency criteria.

Assessment



In relation to Criterion 17 (accurate, efficient and timely arrangements for reconciliation of upstream gas quantities):

Regarding Criterion 17, seeking that the arrangements for upstream reconciliation are accurate, efficient, and timely, the arrangements appear to be neutral. The MPOC provides for Shippers to be allocated their approved nomination at a Welded Point each day. Where an OBA applies, the GTAC similarly specifies that a Shipper's Receipt Quantity and Delivery Quantity will be its Approved NQ (GTAC s6.1 and s6.9). To the extent that an existing gas sales agreement reflects the precise wording in the MPOC, it is possible that some renegotiation of that agreement might be required to conform to the GTAC. However, such a change would be minor and should be able to be worked through quickly and efficiently. Given the strong similarity in the wording, we see no reason why the upstream reconciliation

⁹⁶ In particular, the charges that apply to all OBA Parties under the GTAC are in relation to: ERM, possibly peaking, occasionally cash-outs, and possibly Over-Flow. In addition, OBA Parties at DPs are subject to charges for OR and UR.

arrangements under GTAC would be any less accurate, efficient, or timely than the arrangements that currently exist under the MPOC. This indicates that the comparative assessment should find no change under this criterion.

Assessment	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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Energy allocation – Reliability assessment

In relation to Criteria 1, 2 and 6 (providing reliable and competitive arrangements and allocating risks properly and efficiently):

Gas Industry Co has carefully considered the need to advance D+1 alongside the GTAC development. D+1 would be a necessary adjunct to the GTAC, just as it is necessary under the current arrangements. If the GTAC proceeds, Gas Industry Co would make progress with developing the necessary changes to the DRRs so that the consultation process would commence in parallel with IT development for the GTAC.

Regarding wash-ups, the Wash-up Schedule (GTAC Sch 8) brings a number of important wash-up algorithms into the code, and subject to the GTAC governance arrangements. We have not considered these in detail but the GTAC change process would allow for any errors to be remedied.

We consider the energy allocation arrangements are neutral in relation to reliability.

Assessment	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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Energy allocation – Fairness assessment

In relation to Criteria 13 and 18 (gas is delivered to existing and new customers in a fair manner, and transmission pipelines can be accessed on reasonable terms and conditions):





No noticeable change expected.

Assessment	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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Table 12 – Summary of GTAC energy allocation arrangements assessment

Summary of GTAC energy allocation arrangements assessment		
Efficiency		
Criterion 1, 2 & 14	The optionality of using OBA allocation or alternative allocation methods at any RP or DP not subject to the DRRs should modestly improve efficiency.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Criterion 3	Weak relevance to energy allocation arrangements.	-
Criterion 4	Weak relevance to energy allocation arrangements.	-
Criterion 5	Weak relevance to energy allocation arrangements.	-
Criterion 8	Weak relevance to energy allocation arrangements.	-
Criterion 9	Weak relevance to energy allocation arrangements.	-
Criterion 10	Weak relevance to energy allocation arrangements.	-
Criterion 11	Weak relevance to energy allocation arrangements.	-

Summary of GTAC energy allocation arrangements assessment

Criterion 15	Weak relevance to energy allocation arrangements.	-
Criterion 16	Weak relevance to energy allocation arrangements.	-
Criterion 17	No noticeable change.	
Criterion 19	Weak relevance to energy allocation arrangements.	-
Overall Efficiency assessment		
Reliability		
Criteria 1, 2 & 6	No noticeable change expected.	
Safety		
Criteria 1 & 7	Weak relevance to energy allocation arrangements.	-
Environment		
Criteria 8, 12 & 13	Weak relevance to energy allocation arrangements.	-
Fairness		
Criteria 13 & 18	No noticeable change.	

4.5 System operation – Balancing: analysis

(Principally GTAC s8 Balancing.)

Balancing – description of arrangements

GTAC gas transmission balancing

Primary balancing obligations

System-wide, reasonable endeavours balancing obligations require:

- Shippers to match daily receipts and deliveries (GTAC s8.2);
- OBA Parties to match daily metered and Scheduled Quantities (GTAC s8.3);
- First Gas to match daily operational gas purchase and use (GTAC s8.4); and
- All parties to minimise RM (GTAC ss8.2-8.4).

Line Pack management

Also subject to a reasonable endeavours standard is the requirement on First Gas to maintain the Line Pack between the Acceptable Line Pack Limits (GTAC s8.5) published on OATIS from time to time. Between these limits it maintains Line Pack at a level sufficient to provide all DNC and Supplementary Capacity, provide RM Tolerance for Shippers and OBA Parties and comply with any other obligations under the GTAC and any other obligations it has to IPs (GTAC s8.5).

Where First Gas anticipates a breach of these limits, without any corrective action, and has sufficient time, it will issue a High or Low Line Pack Notice and may buy or sell Balancing Gas (GTAC s8.6). Balancing Gas transactions would be executed effectively, efficiently, and transparently, including via a gas market (GTAC s8.7).

Also subject to a reasonable endeavours obligation is for First Gas to (GTAC s3.33):

- Maintain the Target Taranaki Pressure (TTP) between 42 and 48 bar gauge or bring it back within those limits; and

- Manage the TTP to be as low as practicable within the range.⁹⁷

TTP is defined as the pressure determined by First Gas at or near the Bertrand Road Offtake allowing for:

- (a) delivery of Shippers' approved Nominated Quantities;
- (b) reasonable coverage of events that may impact the transmission of gas such as Emergency and Critical Contingency; and
- (c) reasonable coverage of Agreed Hourly Profiles and/or relevant RM Tolerance.

To keep the TTP under 48 bar gauge, First Gas may take a gas balancing action or adjust or curtail any gas flow and/or relevant nominations (including pursuant to GTAC s9, Curtailment).

Changes to the TTP can be made through a Change Request and would only apply 12 Months after the approval of such a request.

Cash-outs⁹⁸

If First Gas buys/sells balancing gas on a day it would pass on the associated cost/receipt by selling/buying gas to/from each party that had negative/positive RM at the end of the previous day. These volumes would be allocated *pro rata* to each relevant party's respective RM.⁹⁹ These transactions would be subject to the effects of any wash-ups (GTAC ss8.8-8.10).

Incentive charges

Each Shipper and OBA Party is subject to Excess Running Mismatch (ERM) Charges whenever it has RM in excess of its RM Tolerance (GTAC s8.11). The aggregate tolerances for Shippers and IPs would be determined and published by First Gas (GTAC Sch 2). Each Shipper or IP would be allocated a share of the aggregate tolerances based on its respective delivery quantity (Shipper) or metered quantity (IP). RM Tolerances are discussed in more detail in section C.6 of Appendix C.

The standard fee for excess negative/positive RM would be \$0.50/GJ (GTAC s8.14). However, the fee for negative/positive RM on a day when an Acceptable Line Pack Limit has been breached would be multiplied by 5. Negative ERM charges would not apply on days when Line Pack has exceeded the upper Acceptable Line Pack Limit (provided the Line Pack has not also fallen below the lower Acceptable Line Pack Limit during that same day) and positive ERM charges would not apply on days where Line Pack has fallen below the lower Acceptable Line Pack Limit (provided the Line Pack has not also exceeded the upper Acceptable Line Pack Limit during that same day) (GTAC ss8.12-8.13). It is worth noting that ERM Charges may be levied multiple times, i.e. if a Shipper does not correct its RM then it would be subject to ERM Charges on successive days.

Transparency

RM would not be confidential information under the GTAC and First Gas would publish each Shipper's and OBA Party's RM at the end of each day (GTAC s8.15 and Sch2). The current estimate of a Shipper's or OBA Party's RM and the current forecast of their closing RM for that day will be given to Shippers on an hourly basis on a confidential basis (GTAC s8.15).

Park and loan

The GTAC provides that First Gas may offer a park and loan service to Shippers and OBA Parties (GTAC ss8.16-8.22). A park and loan service would only be offered after First Gas has had regard to meeting its other Line Pack management obligations (GTAC s8.5(d)). First Gas

⁹⁷ A comparison of the GTAC treatment of TTP and that of the MPOC is provided in section C.8 of Appendix C.

⁹⁸ Note that the term "cash-out" is not used in the GTAC. This is because First Gas considers the term implies that the full amount of mismatch/imbalance is being cashed-out, whereas under the GTAC it is the full amount of balancing gas that is being allocated. However, we use the term simply to mean a forced sale or purchase of gas, as we believe is commonly understood in the industry.

⁹⁹ A "relevant" party in this context is a party that has mismatch in the direction that contributed to the need for the balancing gas transaction.

would be the party who determines the aggregate quantities of gas that may be temporarily parked in, or borrowed from, the pipeline, and those quantities would be published. Park and loan would only be available on application and the service would be offered on a first come, first served basis. Fees for park and loan would be determined by First Gas and published. Park and loan fees would be regulated revenue.

Any approved volume of Parked Gas or Loaned Gas will be excluded from the calculation of that Party's Mismatch or RM for that day (GTAC s8.20).

MPOC gas transmission Market Based Balancing (MBB)

Scope and primary balancing obligations

The balancing arrangements apply in respect of the entire Maui pipeline. Due to the MPOC's OBA Principles, each Shipper's daily system-wide receipt and delivery nominations are matched. Each OBA party (a Welded Party in the MPOC) aims to match its daily scheduled and metered quantities. In practice, Shippers very rarely have MPOC Mismatch, so balancing is primarily a matter for OBA parties. First Gas buys and sells balancing gas where necessary to manage the Line Pack within limits.

With the change to market-based balancing (MBB) in 2015, the MPOC provided for tolerances (Running Operational Imbalance Limits (ROIL)) at RPs and DPs, outside of which parties are subject to automatic end-of-day cash-out. Thus MBB sharpened the previous primary balancing obligation under the MPOC that a Welded Party must use reasonable endeavours to manage its ROI towards zero over a reasonable period of time.

Line Pack management

Under the MPOC First Gas is required to maintain flow Line Pack (necessary to support the day's nominated flows), a contingency volume (to provide for contingencies, maintenance, etc), plus a quantity of gas to meet posted flexibility (e.g. for Peaking Limits and ROILs. First Gas also has an obligation to use reasonable endeavours to manage the TTP within the range of 42 to 48 bar gauge in the southern section of the Maui pipeline. While this obligation is expressed in terms of the management of a *target* rather than actual pipeline *pressure*, First Gas has stated in practice it interprets this as requiring management of pressure.¹⁰⁰ The mechanics of how these balancing constraints are managed are set out in a Standard Operating Procedure (SOP).¹⁰¹

Cash-outs

At the end of each day, any OBA party that has accumulated excess operational imbalance will have that excess amount cashed-out. This is executed as a sale to, or purchase from, that party by First Gas, i.e. the transaction includes title transfer for that volume of gas. Prices for cash-outs are intended to reflect the value of gas in the spot market or the price at which First Gas has actually bought or sold balancing gas, but they are adjusted up or down in order to provide an incentive for parties to undertake their own transactions. First Gas publishes a default rule from time to time that determines what the cash-out price will be on days when there has been insufficient spot market activity (which is a high proportion of days).

Transparency

The MPOC provides for the BGIX, an information platform, on which the cash-outs and balancing gas transactions are published. On any day, an interested party can see the cash-out transactions that occurred at the end of the prior day. The platform also shows the net position, i.e. the closing imbalance position of the Maui pipeline as a whole together with the net volume cashed-out.

¹⁰⁰ First Gas 18 January PAP submission, Q20.

¹⁰¹ The current Balancing SOP, dated 15 September 2015, is available on OATIS

VTC gas transmission balancing

Scope and primary balancing obligations

The balancing arrangements apply in respect of each BPP. Each Shipper aims to match its daily BPP receipts and deliveries. Although the VTC provides for First Gas to buy or sell balancing gas to maintain the Line Pack, in practice this is rarely done as First Gas effectively relies on there being sufficient pressure in the Maui pipeline to maintain balance in the non-Maui (BPP) Pipelines.

Shippers under the VTC have an obligation to manage their BPP receipts and deliveries to reduce their RM towards zero. The incentives for this were heightened once MBB came into effect under the MPOC, as the interconnections between the Maui and (then) Vector systems (so-called TP Welded Points or TPWP) became subject to daily cash-outs of excess imbalance. Those cash-outs were passed to VTC Shippers (and Vector in respect of its running imbalance as pipeline operator (VRI)).

Line Pack management

Operation of the non-Maui pipelines is often more about providing sufficient pressure in those pipelines to deliver the expected load rather than First Gas undertaking active secondary balancing. The result of that pressure management can mean that volumes of gas can move across a TPWP and create imbalance that is not reflective of either Shipper imbalance or VRI.

Cash-outs

For each BPP, the VTC provides for the daily cash-out at any associated TPWP to be spread *pro rata* among those Shippers and the pipeline owner with mismatch, or VRI, in the direction of the cash-out.

Transparency

There is little transparency concerning the BPP arrangements as each Shipper's BPP information is included in the list of information that is confidential under the VTC.

Balancing – assessment

The major change to balancing arrangements under the GTAC would be for each user's balance position to be assessed system-wide (rather than by individual pipeline or balancing pool), and for primary balancing to be encouraged by ERM Charges, with cash-outs only occurring when First Gas takes a balancing action.

Balancing – Efficiency assessment

In relation to Criteria 1, 2 and 14 (delivering gas efficiently and facilitating ongoing supply by providing access and competitive market arrangements):

System-wide balancing

The GTAC balancing provisions relate to the overall system balance. Each party would be subject to ERM Charges and/or cash-outs depending on its overall RM position at the end of the day. By contrast, the combined MPOC/VTC arrangements are computationally more complex with Welded Parties on the Maui pipeline being cashed-out in the first instance, and then Shippers in each VTC BPP receiving a share of any relevant cash-out.

Under MPOC/VTC it is quite possible for a Shipper to have positive positions in one or more BPPs and negative positions in the rest. As a result, that Shipper might be cashed-out for having both positive and negative mismatch on the same day. Under the GTAC, that same

Shipper (or OBA party) would be exposed to a balancing cash-out and/or an ERM Charge on a day, but only based on its system-wide RM position.

To give some indication of the significance of the change, we look at the 2017/18 calendar years as an example: cash-outs totalling 3.7 PJ were transacted (with a total of \$25.47 million changing hands), whereas Maui balancing transactions totalled 2.1 PJ (with a total value of \$13.4 million).¹⁰² So the pipeline required a much smaller level of physical balancing activity than the volume of the cash-outs. All other things being equal, those unnecessary cash-out transactions would not occur under the GTAC.

The change to addressing balancing across the whole transmission system would relieve non-Maui Shippers (and, in some cases, their customers) of another inefficiency. Under the MPOC, the cash-outs that take place at TPWPs are occasionally of a magnitude that exceeds the aggregate of the downstream Shipper mismatch and TPWP Running Imbalance. The effect of this, when First Gas cashes-out a Shipper, is that the Shipper can be cashed-out for more than (and sometimes multiples of) its RM position. Under the GTAC, because its RM position would be based on comparing each Shipper's receipts into, and deliveries from, the entire transmission system, a Shipper would never be cashed-out for more than its net RM on a day.¹⁰³ This would be an improvement over the MPOC/VTC. While this is not a frequent occurrence (as the system is now operated so as to minimise these situations while staying within operational constraints) it is something that the GTAC arrangements explicitly avoid.

We consider that system-wide balancing would be more efficient than the current two-stage allocation.

Primary Balancing

Efficient pipeline operation requires that pipeline users take responsibility for maintaining balanced positions, with the pipeline operator having the secondary role of managing any residual imbalance. The GTAC aims to encourage primary balancing in two ways:

1. Through an ERM Charge (GTAC ss8.11–8.14); and
2. Where residual balancing actions are taken, by allocating the cost (or credit) of such actions, and title, to the parties who caused them, or contributed to causing them (GTAC ss8.8–8.10).

In relation to point 1 above, we note that the ERM Charge is set in the GTAC, so there will likely be times when it provides a more attractive alternative to self-balancing, and times when it is less attractive. However, we expect that the GTAC arrangements would reduce the instances where users inefficiently incur costs to balance their positions, when there is no system-wide need for balancing actions. Our reasoning is illustrated with the following stylised example.

Imagine a pipeline user on the Maui system with a negative excess ROI position that will be cashed-out at the close of the day. Let's also assume that the pipeline as a whole is in balance, because of an offsetting ROI position held by another user.

Notwithstanding the system being in balance, the pipeline user with negative excess ROI will be incentivised to act to reduce this because of the automatic cash-out rule in the MPOC. One of the alternatives available to the user is to buy more gas in the spot market. Let's assume in this example that the market offers (i.e. sell) price is \$8/GJ, and that our party is unwilling to pay that price. Let's also assume that the market bid (i.e. buy) price is \$4/GJ. Our party presumably thinks the true value of gas to it is somewhere around the bid price, i.e. \$4/GJ. (If it thought gas was worth more, it would bid at a higher price.)

¹⁰² Data was sourced from the Balancing Gas Information Exchange (www.bgix.co.nz) operated by First Gas.

¹⁰³ Note that a Party could be levied an ERM charge and be subject to a balancing gas allocation on a day.

If the party does nothing, it will be cashed-out at the end of the day. For simplicity we will assume the cash-out price equates to the mid-point of the bid-offer price range (this ignores transaction costs etc.) – i.e. \$6/GJ in this example.

The cost to the user of the cash-out will therefore be around \$2/GJ, i.e. the difference between the cash-out price and its valuation of gas. If the user had other alternatives to clear the ROI that are cheaper, it would be driven to use them to avoid a cash-out. For example, it might reduce its gas withdrawals by cutting demand, or increase gas injections by paying a supplier. As long as the net cost of those actions is less than \$2/GJ, that would be commercially rational for the user. However, it would be inefficient for the system as a whole because there is no pipeline ROI position that needs to be addressed.

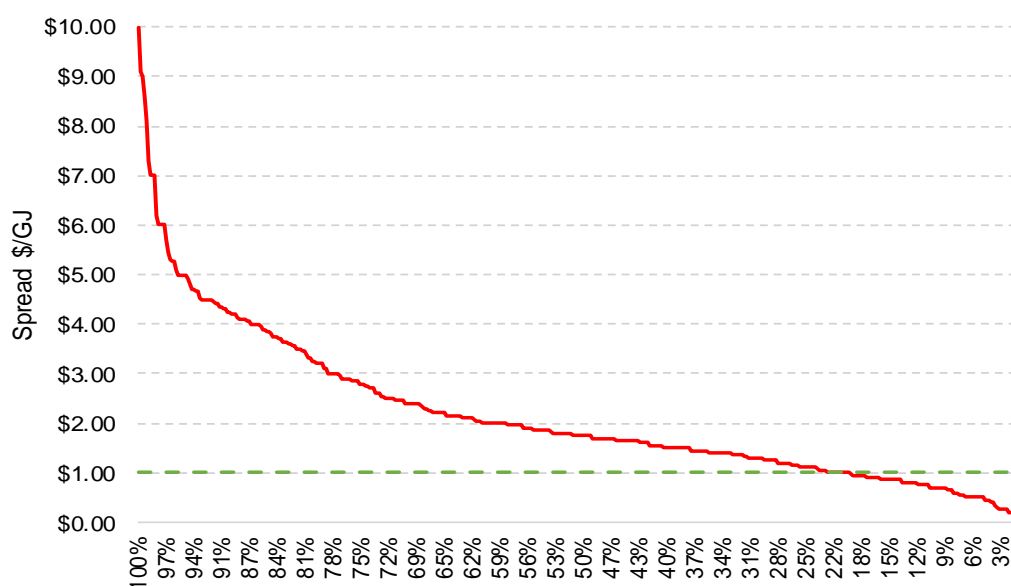
Likewise, the party with the offsetting positive ROI position will be cashed-out irrespective of the fact that the system is in balance. That party would also be driven to incur some costs to avoid cash-outs, and the upper limit is set by the difference between the cash-out price and its gas value (i.e. the \$8/GJ offer price).

Now consider what the position would be under the GTAC. No automatic cash-out would occur because the system is in balance and no physical action is needed. Instead, the two parties would pay Excess Running Mismatch charges of \$0.50/GJ for positive RM and \$0.50/GJ for negative RM.

In this stylised example, the party with the negative excess RM would incur a net cost of \$0.50/GJ instead of \$2/GJ (assuming no balancing action is needed by First Gas), and likewise the party with the positive excess RM would pay only \$0.50/GJ. In both cases, the incentive to undertake actions to balance their individual positions (and which have no effect on the system position) would be much reduced.

Of course, the preceding section discussed a stylised example with a sizeable spread between market bid and offer prices that could drive parties to undertake inefficient actions. To assess whether the GTAC is likely to reduce inefficient incentives in practice, we have analysed historical spot price data between July 2016 and October 2018. Earlier data was excluded because there was a noticeable tightening in spreads around mid-2016. Figure 4 shows the daily spreads at the close of trading, ranked from highest to lowest value.

Figure 4 – Closing spread between bid and offer prices (July 2016 - October 2018)



On around 80% of the observed days, the spread divided by two exceeded \$0.50/GJ (the ERM charge in the GTAC).¹⁰⁴ This suggests that the GTAC would substantially reduce the incentive on parties with excess RM to inefficiently incur balancing costs.

However, there are some caveats to bear in mind:

- The chart does not distinguish days when a physical balancing action was required. On those days, the observed spread would continue to be the relevant incentive under the GTAC. This reduces the extent of improvement that can be expected under the GTAC, although we are unable to quantify the size of this effect;
- The chart does not include transaction costs which are incurred for spot market trades. These costs are likely to increase the incentive on parties to avoid cash-outs, and mean the extent of improvement under the GTAC may be greater than implied by the chart; and
- The analysis assumes that historical spreads provide a reasonable indication of future conditions. While we have no specific reason to expect any change, spot market spreads are influenced by a wide range of factors, including the strength of balancing incentives in the transmission codes.

In addition, since we consider that the ERM Charges would encourage more primary balancing, we would expect some increased activity in the spot market by Shippers seeking to self-balance (which would offset some decrease in First Gas trading due to a reduced need for secondary balancing).

The ability to efficiently undertake primary balancing is dependent upon timely delivery of both daily allocation and Shipper mismatch data. The GTAC timing for publication of validated DDRs is midday, which is two hours earlier than the time required by the VTC. That earlier delivery will also facilitate earlier delivery of D+1 allocations and improve efficiency by enabling Shippers to make earlier self-balancing decisions.

In relation to point 2 above, i.e. when there is a need for residual balancing, the cost and title would be passed directly to the causer, rather than being allocated through the two-stage allocation process we have at present (MPOC followed by VTC).

We consider the primary balancing outcomes would be positive for efficiency.

Secondary balancing

Currently, by cashing-out excess imbalance following the end of each day, First Gas transfers the resulting net imbalance position to itself. Under the GTAC, First Gas would only cash-out a Shipper or OBA Party when it takes a balancing action. On all days, First Gas would levy ERM Charges on any excess RM. Given the potential for an ERM Charge to be applied multiple times on successive days if an excess mismatch position is not corrected, and given that paying the ERM Charge does not involve any title transfer, there appears to be a clear incentive to take action to minimise exposure to ERM Charges. We consider this should minimise the amount of secondary balancing that First Gas would need to perform.

Furthermore, to the extent that primary balancing on any day does not achieve a wholly satisfactory outcome under the GTAC, First Gas could undertake secondary balancing secure in the knowledge that it can pass on the costs (or credits) associated with that action via cash-outs (up to the aggregate level of the relevant RMs at the close of the previous day).

We consider the secondary balancing outcomes would be positive for efficiency.

¹⁰⁴ The spread divided by two gives a measure of the cost incurred by the party facing cash-out – i.e. the difference between the cash-out price and the value of gas to the party with mismatch.

Balancing tolerances

We consider balancing tolerances in section C.6 of Appendix C. There we conclude that, if the GTAC is introduced, MPOC Welded Parties would find it harder to estimate the total level of tolerance. However, VTC Shippers would likely find it easier to estimate their allocation of tolerance under the GTAC than at present. It is worth noting that every Shipper and OBA Party under the GTAC will know their minimum level of tolerance (400 GJ or such other quantity as notified by First Gas).

Although some pipeline users will wish to assess their tolerances each day¹⁰⁵, we note that the primary balancing obligation on Shippers and OBA Parties is to manage their mismatch towards zero. Parties should not be managing their positions to stay just within tolerance. So we do not think the greater difficulty for some users to estimate their tolerance should affect their balancing performance.

RM information

In Section 2.5 where we consider stakeholder submissions in relation to the availability of data to assist primary balancing, we note that under the MPOC each Welded Point imbalance is published while RM positions under the GTAC would not be. Although individual parties would have information regarding their own RM positions to help them make informed balancing decisions, the public availability of scheduled quantity v flow information at major stations would be lost. We consider this to be a modest negative.

Conclusion in relation to Criteria 1, 2 and 14

In summary, we consider that the removal of automatic end-of-day cash-out, a move to system-wide balancing and the introduction of ERM Charges would improve primary balancing, reduce secondary balancing and be positive for efficiency. However, the loss of publicly available scheduled quantity v flow information at major stations would be a modest detriment.



In relation to Criterion 3 (reducing barriers to competition):

The change to system-wide balancing, together with the formulae for allocating balancing gas costs and credits in GTAC s8.8, would ensure that a Shipper does not get cashed-out for more than its RM on a day. Removing this uncertainty should modestly reduce this barrier to entry and improve competition.



In relation to Criterion 4 (providing incentives for investment):

Because the incentives for First Gas to invest are expected to be largely a function of the price-quality economic regulation regime, we do not think that the design of the balancing arrangements will have a substantial bearing on First Gas's incentive to invest.

In relation to Criterion 5 (sustained downward pressure on costs and prices):

If the GTAC balancing regime were to replace MBB, First Gas would no longer be taking responsibility for end of day imbalances (by cashing-out excess imbalance). We believe this

¹⁰⁵ In section 2.5 we acknowledge that in response to PAP Q18 Greymouth's 18 January PAP submission took the view that parties would try to calculate their tolerances each day in order to manage RM.

would result in First Gas being less active in the gas market and other users taking a more active role in managing their positions. Increased activity in the spot market would make it more attractive for parties who have not traditionally traded (such as smaller Shippers and end-users) to take part. If that were borne out, then we would expect such parties would be better able to compete in the retail market. In addition, a more vibrant spot market would be expected to facilitate entry by new retailers, leading to increased competition, and hence increased downward pressure on prices.



In relation to Criterion 8 (efficient use of energy and other delivery resources):

Under MPOC/VTC, when First Gas cashes-out a user it takes responsibility for that user's RM, so the user no longer needs to balance that RM in the primary market. However, the system still needs to balance so, to the extent the net mismatch position that First Gas has assumed responsibility for needs to be balanced, First Gas will take balancing actions to do this.

Under the GTAC we would not expect cash-outs to occur every day, as they generally do under the MPOC, so a user would have a greater incentive to balance its RM in the primary market (or face the cost of paying ERM Charges). To the extent that users can self-balance it is expected that pipeline inventories would be more stable. However, as discussed in section 2.5, the compressors are also used to provide flexibility and, on balance, we consider that their future use is too uncertain for us to confidently predict an improvement, so our assessment is neutral.



In relation to Criterion 9 (facilitating competition in upstream and downstream markets):

It was noted in relation to Criteria 1, 2 and 14 above that the ERM Charges in the GTAC balancing arrangements are likely to incentivise increased primary balancing activity through the spot market. Assuming that proves to be the case then we would expect to see a corresponding increase in the rate of balancing-related transactions through the spot market (given that under MBB First Gas both takes on the net position across all of the parties and does not necessarily clear that position through the market). Increased transactions in the spot market would assist in increasing liquidity and depth and that would make the market more attractive to a broader range of participants. We would also expect reduced scope for parties to act 'strategically' in the spot market, as compared to the MPOC where the cash-out rules make it easier to predict First Gas's behaviour. While some of that activity could be trades between Shippers, we would still expect this to result in a modest increase in upstream competition.



In relation to Criterion 10 (full costs of producing and transporting gas are signalled to consumers):

No noticeable change is expected.



In relation to Criterion 11 (price/quality trade-off reflects customer preferences):

No noticeable change is expected.



Overall efficiency assessment of balancing arrangements

Based on our consideration of each of the efficiency criteria, our overall assessment for efficiency is that the GTAC balancing arrangements would be moderately positive. The factors with the greatest influence on this conclusion are those that have a pervasive influence on efficient outcomes (such as the move to system-wide balancing), rather than those that have an occasional influence (such as avoiding the occasional anomalous outcomes of the BPP allocation).



Balancing – Reliability assessment

In relation to Criteria 1, 2 and 6 (providing reliable and competitive arrangements and allocating risks properly and efficiently):

The GTAC places a reasonable endeavours obligation on First Gas to maintain Line Pack within pre-defined lower and upper limits. MPOC s3.1 does not define any specific obligation, and simply states that the TSP *"may undertake"* balancing actions to fulfil defined goals. More generally, the GTAC, MPOC and VTC all require First Gas to act as an RPO in relation to balancing (and other) obligations.

In relation to TTP, we consider the differences between the GTAC and MPOC in section C.8 of Appendix C. There we observe that both codes:

- fix the range for TTP at 42 to 48 bar gauge (MPOC s2.19 and GTAC s3.33(a)); and
- require First Gas to use reasonable endeavours to manage TTP to be as low as practicable within the range (MPOC s2.5(c) and GTAC s3.33(b)).

However we also note some differences:

- MPOC s3.1 provides that First Gas may (but is not required to) undertake balancing actions to maintain pressure within operating limits. And MPOC s2.20 requires First Gas to adjust nominations if necessary to keep the expected Maui Pipeline pressure under the maximum TTP limit (48 bar gauge). These provisions relate to actual pressure management. In contrast, GTAC s3.33 places reasonable endeavours obligations on First Gas to take balancing actions, or exercise rights to adjust gas flow or nominations to keep the TTP under the upper limit of the TTP.
- MPOC s8.5 requires the daily calculation of total capacity of the Maui Pipeline to be based on a maximum TTP of 48 bar gauge. There is no similar requirement in the GTAC.

However, we also note in section C.8 of Appendix C that the drafting in both the MPOC and GTAC is somewhat unclear. Both codes refer to "managing" and/or "maintaining" TTP. We suspect that those references are not about managing or maintaining a target but, instead, are meant to refer to the management or maintenance of the pressure in that section of the Maui pipeline. Indeed, First Gas has confirmed that in both cases it interprets the codes as requiring the management of pressures.¹⁰⁶

¹⁰⁶ First Gas, PAP submission 18 January, Q20

On balance we do not consider that the differences between the codes would have any practical consequences as to how the pipeline would be operated. We expect no noticeable change against this criterion.



Balancing – Environmental assessment

In relation to Criteria 8, 12 and 13 (contributing to environmental sustainability by using energy and resources efficiently, minimising gas losses and promoting demand side management):

As discussed earlier in relation to Criterion 8, we consider that the future use of the compressors is too uncertain for us to confidently predict an improvement, so our assessment is neutral.



Balancing – Fairness assessment

In relation to Criteria 13 and 18 (gas is delivered to existing and new customers in a fair manner, and transmission pipelines can be accessed on reasonable terms and conditions):

As noted earlier, the MPOC and VTC occasionally cause a Shipper to be cashed-out for volumes greater than its RM, which appears unfair. The construct in the GTAC is that no party should ever be cashed-out for more than its RM, and therefore the unfairness inherent in the existing VTC balancing arrangements would be eliminated. However, it is not often that a Shipper is cashed-out for more than its RM, so we do not weigh this benefit as very significant.

Of more importance is that the flexibility of the GTAC arrangements would allow Shippers to manage their RM positions. The GTAC allows for two different types of nominations for each day: nominations for gas receipts into the pipeline, and nominations for capacity (generally referred to as DNC nominations or delivery nominations). The de-linking of receipt and capacity nominations under the GTAC would make it possible for a Shipper to make accurate delivery nominations while at the same time correcting its RM position. We believe this is modestly more fair than the MPOC arrangements which do not allow for the decoupling of gas and transportation nominations.



Table 13 – Summary of GTAC balancing arrangements assessment

Summary of GTAC balancing arrangements assessment		
Efficiency		
Criterion 1, 2 & 14	The proposed system-wide balancing and the introduction of ERM Charges should bring on-going substantial efficiency benefits. However, the loss of publicly available scheduled quantity v flow information at major stations would be a modest detriment.	

Summary of GTAC balancing arrangements assessment		
Criterion 3	The GTAC should ensure that Shippers are not cashed-out for more than their RM, modestly reducing a possible barrier to entry.	
Criterion 4	Weak relevance to balancing arrangements.	-
Criterion 5	More spot market activity is expected, improving wholesale and retail competition and facilitating entry, overall bringing moderately increased downward pressure on prices.	
Criterion 8	No change to compressor use.	
Criterion 9	We expect competition in upstream and downstream market to be modestly improved by the GTAC balancing arrangements.	
Criterion 10	No change to cost signalling.	
Criterion 11	No change to price/quality trade-offs.	
Criterion 15	Weak relevance to balancing arrangements.	-
Criterion 16	Weak relevance to balancing arrangements.	-
Criterion 17	Weak relevance to balancing arrangements.	-
Criterion 19	Weak relevance to balancing arrangements.	-
	Overall Efficiency assessment	
Reliability		
Criteria 1, 2 & 6	No noticeable change expected.	
Safety		
Criteria 1 & 7	Weak relevance to balancing arrangements.	-
Environment		
Criteria 8, 12 & 13	No change to compressor use.	
Fairness		
Criteria 13 & 18	The de-linking of receipt and capacity nominations, allowing a Shipper to make accurate delivery nominations while at the same time correcting its RM position, would be modestly more fair.	

4.6 System operation – Curtailment: analysis

(Principally GTAC s9 Curtailment, Sch5 s9 Curtailment Sch6 s9 Curtailment.)

Curtailment – description of arrangements

GTAC curtailment arrangements

In the GTAC, “curtail” includes to reduce either partly or to zero, to interrupt or to shut or close down” (GTAC s1.2(b)). So, depending on the context, the term “curtail” may refer to reducing:

- a physical flow of gas; or
- a Shipper’s nominations of DNC, Supplementary Capacity, Interruptible Capacity, or AHP.

Curtailment of physical flow

Curtailment of physical flow is primarily dealt with in GTAC s9, which is reflected, wherever relevant, for RP ICAs in GTAC Sch 5 s9, and for DP ICAs in GTAC Sch 6 s9. First Gas may curtail gas flow (injection at an RP, flow through the system, or delivery at a DP) broadly because of:

- an Emergency;
- a Force Majeure Event;
- breach of a Security Standard Criteria;
- avoiding a Critical Contingency;
- expiry, termination or absence of a contract (e.g. ICA, TSA, SA, GTA, or Allocation Agreement);
- need to perform Maintenance (scheduled and unscheduled); and
- need to maintain the TTP.

If practical, First Gas will allow for quantities of gas needed to shut down plant safely if the Shipper supplying that end-user has notified First Gas of such a requirement (GTAC s9.6).

Operational Flow Orders (OFOs)

In the event of any of the above, First Gas may issue an OFO to one or more Shippers (GTAC s9.5), and/or IPs at RPs or Dedicated DPs (GTAC s9.7, GTAC Sch 5 s9.6 and GTAC Sch 6 s9.6). First Gas will determine who best to direct an OFO to depending on the circumstances and will publish the OFO on OATIS as soon as practicable (GTAC s9.7).

If a Shipper fails to comply with an OFO, using its best endeavours, First Gas may curtail that Shipper's gas take, and the Shipper would not have acted as an RPO and would indemnify First Gas for any resulting losses (GTAC s9.12).

Similarly, if an IP fails to comply, the RP ICAs and DP ICAs provide for First Gas to curtail gas flows and for the IP to be deemed not to have acted as an RPO and indemnify First Gas for any resulting losses (GTAC Sch 5 s9.10 and GTAC Sch 6 s9.10).

Curtailment of nominations

Only Shippers make nominations. The GTAC allows for these to be curtailed where an OFO has been issued (GTAC s9.8 and s9.9), or where there is Congestion (GTAC s10.3), or a Critical Contingency has occurred (GTAC s9.11), or where any of the circumstances listed in GTAC s9.1 (Emergency, Force Majeure Event, etc.) occur (GTAC s4.15). But First Gas must use reasonable endeavours to avoid curtailing any Shipper's DNC or Supplementary Capacity (GTAC s9.1).

GTAC s4.15 provides that, where First Gas curtails a Shipper's NQ (including AHP), due to congestion or a GTAC s9.1 circumstance, it will do so according to GTAC s10.3. That provision sets out a hierarchy of steps First Gas will follow to align NQs (or actual offtake) with Available Operational Capacity. In essence, this involves curtailing all requests for Interruptible Capacity, curtailing requests for Supplementary Capacity (where the relevant contract allows), *pro rata* curtailment of Shipper NQs not covered by PRs, and, if necessary, *pro-rata* curtailment of Shipper NQs that are covered by PRs.

First Gas may also curtail interruptible capacity at any time, for any reason (GTAC s7.9(d)).

OBA Parties could also curtail nominations for any reason up to 30 minutes after any nomination deadline (GTAC s4.12(a)).

First Gas will approve any requested AHP except where doing so would: adversely impact other users; require the curtailment of previously approved DNC or Supplementary Capacity; or exceed the physical MHQ of the relevant point; or unduly increase the risk of breaching an acceptable line pack limit or the requirements relating to maintaining Target Taranaki Pressure (GTAC s3.31).

Standard Operating Procedure (SOP)

First Gas has issued a draft SOP titled "GTAC Curtailments & Operational Flow Orders", last updated on 14 September 2018, which give examples of the circumstances that could give rise to curtailment how First Gas would initiate GTAC curtailments and execute curtailments and OFOs.

MPOC curtailment arrangements

The MPOC refers to "*interrupting*" a physical gas flow and "*curtailing*" a Welded Party's Scheduled Quantity, and/or a Shipper's Nominated Quantity.

Interruption of physical flow

Physical flows may be interrupted because of:

- A Pipeline Contingency Event (including an Emergency) (MPOC s15.1(b)(iv));
- Non-specification gas (MPOC s15.1(b)(i));
- Maintenance (MPOC s15.1(b)(ii));
- A Force Majeure Event (MPOC s15.1(b)(iii));
- Welded Party Excess Daily Imbalance or exceeding Peaking Limit (MPOC s15.1(b)(v)); or
- Potential Operational Imbalance at Notional Welded Points (MPOC s15.1(b)(vi)).

Operational Flow Orders (OFOs)

Under the MPOC First Gas can issue OFOs to Welded Parties for any of the above matters. If a Welded Party is in breach of an OFO, First Gas is entitled to suspend injections/offtakes at the Welded Point if that is necessary to protect the operational integrity of the Maui Pipeline or the wider New Zealand gas pipeline system (MPOC s15.1 and s2.23).

Curtailment of nominations

First Gas may curtail Approved Nominations and associated Scheduled Quantities due to any of the above matters (MPOC s15.1 and s8.27-8.28) and a shortage of capacity in the pipeline (MPOC s8.24(a)) or at a particular Welded Point (MPOC s8.24(b)).

The Welded Party may also reduce its Scheduled Quantity (with a consequent reduction of Approved Nominations) at any time by notifying the system operator:

- to prevent non-specification gas from entering/exiting;
- for unscheduled maintenance; or
- where a FM or Contingency Event occurs (MPOC s15.2)

The amount of curtailment is shared according to a capacity allocation algorithm and curtailment hierarchies that give priority to certain types of nominations (MPOC s8.23-8.28), such as:

- Approved Nominations;
- Balancing Gas nominations;
- "Category A Nominations" (i.e. covered by AQ); and
- "Category B Nominations" (pro-rated on net historical usage).

VTC curtailment arrangements

Interruption of physical flow

VTC s10 addresses interruptions of transmission. "*Curtailment*" under the VTC refers to reducing the physical flow of gas, and not nominations (since nominations are not a standard feature of its core no-notice service).

The possible reasons for curtailment may be:

- An Emergency (VTC s10.1(a)(i));
- A Force Majeure Event (VTC s10.1(a)(ii));
- To avoid a Critical Contingency (VTC s10.1(a)(iii));
- A Shipper exceeding its MDQ or MHQ (VTC s10.1(b)(i));
- An Operational Imbalance (VTC s10.1(b)(ii));
- Low Line Pack (VTC s10.1(b)(iii));
- Maintenance (VTC s10.1(c));
- an Interconnection Agreement ceases (VTC s10.1(d)); or
- a Gas Transfer Agreement or Allocation Agreement ceases (VTC s10.1I).

Curtailment of nominations under IAs occurs whenever necessary to maintain the availability of Shippers' Reserved Capacity.

Operational Flow Orders (OFOs)

First Gas can issue OFOs under the VTC for any of the above matters. The OFO may require a Shipper to ensure that its offtake at a DP is curtailed and/or its Maui Pipeline nominations are reduced (VTC s10.2).

Curtailment – assessment

The GTAC curtailment arrangements relate to both curtailment of physical flows and to the curtailment of nominations. They are most comparable to the MPOC arrangements since the VTC does not commonly require nominations and only covers physical curtailment.

Curtailment – Efficiency assessment

In relation to Criteria 1, 2 and 14 (delivering gas efficiently and facilitating ongoing supply by providing access and competitive market arrangements):

Curtailment is more efficient where it better matches supply/demand to the capability of the system, and where it is directed at those who value continuous service least.

Reasons for curtailment

The reasons for physical curtailment are very broad in the GTAC, MPOC and VTC because they all include Emergency, which is drafted widely in all three codes.

Socialised curtailment

"Socialised curtailment" is a term Methanex coined to describe the situation where the pipeline operator is unable to deal with an adverse event by means of a targeted curtailment and resorts to an across the board curtailment. The term clearly captures the idea of an indiscriminate response to system problems, and there is no defined term for this, so we will adopt the Methanex term. There is a concern that the GTAC generally allows for more flexible use of the pipelines so that adverse events would occur more frequently and the probability of a socialised curtailment response to those events would increase.

We are not persuaded. In fact, we think that the increased flexibility of the GTAC may even reduce the need for socialised curtailment. The increased flexibility is accompanied by requirements for more information. In particular, the system operator will have more nomination information to help it target a curtailment to the Shipper or group of Shippers

whose nominations should be curtailed. Also the Curtailment SOP notes that a Capacity Check would be performed at each nomination cycle, and this should allow any over-nomination to be dealt with before a problem arises.

We also believe that the peaking arrangements (discussed in section 4.2 and section C.5 of Appendix C) would reduce the risk of socialised curtailment. They involve identifying the parties most likely to put the system at risk by peaking, and requiring those parties to make hourly nominations. This information would allow First Gas, in its system operator role, to be more vigilant.

For the above reasons we consider the risk of socialised curtailment to be reduced, but should one be necessary, we believe that the GTAC arrangements would allow Shippers to respond more effectively because receipt and delivery nominations are not linked:

- curtailment of RP nominations could be balanced by the Shipper adjusting other RP nominations or nominations at its Delivery Zones or at Individual DPs; and
- Likewise, curtailment of Delivery Zone or Individual DP nominations could be balanced by the Shipper adjusting its Receipt Point nominations.

While we recognise that stakeholder concerns about increased socialised curtailment are sincere, we can find no inherent problems with the GTAC arrangements to support those concerns. In fact, as explained above, we consider that the risk and impact of socialised curtailments would reduce.

Curtailment algorithm

Except where curtailment is directed at a single Shipper, it will be directed to a number of Shippers at a single RP or DP, or it will be socialised across the whole Delivery Zone. In that case there needs to be a formula for sharing the curtailment across Shippers' approved nominations.

The MPOC allows for several different types of nominations; daisy chain, pooled (including the possibility to rank nominations to/from the pool) and displaced. The MPOC also distinguishes between Category A Nominations (part of a Nominated Quantity within a Shipper's Authorised Quantity) and Category B Nominations (part of a Nominated Quantity that is not either a Category A Nomination or a Nominated Quantity of Balancing Gas). The MPOC also sets out certain curtailment priorities depending on the nomination cycle, the type of nominations and the operational conditions at any given point in time. Such operational conditions include whether there is a general shortage of pipeline capacity or a particular shortage at an individual interconnection point. Other relevant factors include whether the curtailment needs to be initiated by either First Gas or the Welded Party outside of set nomination cycles (MPOC ss15.1 & 15.2).

The GTAC's pro-rata curtailment of approved nominations (GTAC s9.8) is simpler.

Conclusion in relation to Criteria 1, 2 and 14

In summary, improved nomination information, including the identification of Peaking Parties and the requirement for hourly nominations when peaking is a threat, should reduce the risk of socialised curtailment. The GTAC would also introduce a simplified curtailment algorithm. However, the absence of an MPOC s15.2 equivalent could mean that it may take longer to adjust nominations in response to certain adverse events.



In relation to Criterion 3 (reducing barriers to competition):

The GTAC approach of curtailing nominations pro-rata to approved nominations basis would be more competitively neutral than the MPOC approach of curtailing based on historic usage. So barriers to competition would be modestly reduced.



In relation to Criterion 5 (sustained downward pressure on costs and prices):

The complexity of the MPOC curtailment algorithms (discussed above in relation to Criteria 1, 2 and 14) makes OATIS design modifications and testing costly. The simpler GTAC approach would lower the cost of IT modifications providing a moderate, sustained downward pressure on costs and prices.



In relation to Criterion 9 (facilitating competition in upstream and downstream markets):

Since the GTAC approach of curtailing nominations on a pro-rata basis is more competitively neutral than relating it to historical usage, it should modestly improve downstream competition.



Overall efficiency assessment of curtailment arrangements

Based on our consideration of each of the efficiency criteria, our overall assessment for efficiency is that the GTAC curtailment arrangements would be moderately positive. The factors with the greatest influence on this conclusion are those that have a pervasive influence on efficient outcomes (such as the replacement of the MPOC curtailment algorithms).



Curtailment – Reliability assessment

In relation to Criteria 1, 2 and 6 (providing reliable and competitive arrangements and allocating risks properly and efficiently):

For reliability, curtailment arrangements should unambiguously describe the circumstances that could give rise to curtailment, the process that would follow if those circumstances arise, and provide sufficient incentive to provide a physical response.

OFOs

Under the GTAC an OFO could require a Shipper or IP to reduce its injections or offtakes of gas (GTAC s1.1), as circumstances dictate. The VTC only provides for OFOs to be issued to Shippers (VTC s10.2), and the MPOC only provides for OFOs to be issued to Welded Parties (MPOC s15.1). We think a standardised approach to OFOs, including a single Curtailment SOP covering all pipelines, would improve reliability.

Regarding the incentives to comply with OFOs. Each regime incentivises a response differently. The ultimate GTAC sanction for non-compliance is that a Shipper or IP indemnifies First Gas for any loss incurred by it and is deemed not to have acted as an RPO if it does not comply. Neither of these sanctions apply under the MPOC or VTC, so we would expect a moderately more reliable response to OFOs.

Socialised curtailment

Regarding concerns that the incidence of socialised curtailment could increase under the GTAC. As discussed above in relation to Criteria 1, 2 and 6, we do not consider that a likely outcome.

Curtailment initiated by IPs

MPOC s15.2 permits a Welded Party to curtail its Scheduled Quantity immediately on encountering specified problems, with consequent curtailment of the underlying approved Shipper nominations. There is no equivalent provision in the GTAC.

Stakeholders have previously argued that the provision allows an efficient means for a RP Welded Party to quickly notify its customers and the system operator when a source of supply is down. Or, in the case of a DP Welded Party, that a major plant is coming down. Flow targets (Scheduled Quantities and approved nominations) for affected parties are immediately adjusted, without needing to wait for the next nomination cycle.

Under the GTAC, unless the problem experienced by an IP is coincident with one of the 7 nomination cycles, it (or one of its Shippers) would need to request an Extra Nomination Cycle under GTAC s4.18. Or First Gas may initiate such a cycle without any such request (GTAC s4.19). In any case, the GTAC requires that all parties are given at least 60 minutes prior warning of the additional cycle. The concern is that this delay could, for example, make the impact of any outage worse and cause unnecessary OR, UR or ERM charges to be incurred.

We accept that these concerns are valid and could modestly reduce reliability.

Overall, we believe the stronger incentives to comply with OFOs would moderately improve reliability while the loss of MPOC s15.2 would modestly reduce it.



Curtailment – Safety assessment

In relation to Criteria 1 and 7 (providing access in a manner consistent with the Government's gas safety regime):

No noticeable change anticipated.



Curtailment – Environmental assessment

In relation to Criteria 8, 12 and 13 (contributing to environmental sustainability by using energy and resources efficiently, minimising gas losses and promoting demand side management):

No noticeable change anticipated.

Assessment	
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Curtailment – Fairness assessment

In relation to Criteria 13 and 18 (gas is delivered to existing and new customers in a fair manner, and transmission pipelines can be accessed on reasonable terms and conditions):





Curtailment would be more fair if it better protected the majority of pipeline users and if it better targeted those most capable of making a physical response.






Regarding the timeliness of OFOs, each code allows for OFOs to be issued when needed. GTAC s9.5 provides for a Shipper to use its best endeavours to comply with an OFO “in the shortest practicable time” whereas the VTC s10.2 specifies “immediately (acknowledging in the case of major plant the need to shut down in accordance with safe operating procedures)”, and the MPOC s 15.1(b) requires the Welded Party to “comply with such order”. All provide for a timely response.

Regarding who the OFO is directed to, in the VTC it is Shippers, in the MPOC it is Welded Parties, and in the GTAC it is Shippers or the IP, as circumstances dictate (GTAC s9.7). Arguably the MPOC and GTAC are more fair than the VTC since they allow OFOs to be directed to the party best able to control the physical flow, the IP. However we think that in practice this is a relatively minor difference.

Assessment	
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Table 14 – Summary of GTAC curtailment arrangements assessment

Summary of GTAC curtailment arrangements assessment		
Efficiency		
Criterion 1, 2 & 14	Improved nomination information, including the identification of Peaking Parties and the requirement for hourly nominations when peaking is a threat, should reduce the risk of socialised curtailment. The GTAC would also introduce a simplified curtailment algorithm.	
Criterion 3	The GTAC pro rata curtailment rules are expected to modestly decrease barriers to competition.	
Criterion 4	Weak relevance to curtailment arrangements.	-
Criterion 5	Removing the complexity of the MPOC curtailment algorithms should modestly reduce costs and prices over time.	
Criterion 8	Weak relevance to curtailment arrangements.	-
Criterion 9	Modest benefit to downstream competition should arise from more neutral treatment of curtailments.	
Criterion 10	Weak relevance to curtailment arrangements.	-
Criterion 11	Weak relevance to curtailment arrangements.	-

Summary of GTAC curtailment arrangements assessment		
Criterion 15	Weak relevance to curtailment arrangements.	-
Criterion 16	Weak relevance to curtailment arrangements.	-
Criterion 17	Weak relevance to curtailment arrangements.	-
Criterion 19	Weak relevance to curtailment arrangements.	-
	Overall Efficiency assessment	
Reliability		
Criteria 1, 2 & 6	Stronger incentives to comply with OFOs would moderately improve reliability while the loss of an MPOC s15.2 equivalent could mean that it may take longer for the system to respond to an adverse event, modestly reducing reliability.	
Safety		
Criteria 1 & 7	No noticeable change anticipated.	
Environment		
Criteria 8, 12 & 13	No noticeable change anticipated.	
Fairness		
Criteria 13 & 18	No noticeable change anticipated.	

4.7 System operation – Congestion management

(Principally GTAC s10 Congestion Management.)

Congestion management – description of arrangements

GTAC congestion management arrangements

Under the GTAC, Congestion means a situation where aggregate NQs, or current offtake associated with DNC exceed, or are expected to exceed the Available Operational Capacity (GTAC s1.1). Congestion can apply to a single DP or a group of DPs.

Anticipation and notifying congestion in the year ahead

Each year First Gas would look ahead to:

- identify the DPs likely to experience congestion in the year ahead, and in what periods of the year, and notify all Shippers and relevant IPs (GTAC s3.4); and
- determine whether new investment is justified, IAs can be put in place, and/or PRs will be required (GTAC s3.4).

Predicting and managing congestion as it occurs

On a day-to-day basis, First Gas would:

- use reasonable endeavours to predict congestion (GTAC s10.1) and notify Shippers if it intends to initiate Congestion Management¹⁰⁷ (GTAC s10.2); and
- during a day, First Gas would notify Shippers if its analysis of nominated quantities in a nomination cycle (GTAC s4.14, s10.3(a)) indicates that Congestion

¹⁰⁷ The measures First Gas may take to alleviate congestion include curtailing requests for interruptible, supplementary capacity, NQ not covered by PRs and, as a final resort, NQ covered by PRs.

would occur, or if Congestion is in effect due to Shippers' current offtake (s10.3(b)).

Priority Rights (PRs)

- A PR would give its holder priority to have its NQ approved ahead of other Shippers. A Shipper may use its PRs in any nomination cycle (GTAC s 3.14).
- First Gas would offer PRs for Congested DPs exclusively by auction (GTAC s3.17). First Gas would develop the terms and conditions of a PR auction, and Gas Industry Co would consider them (following the same process as a code change). Subject to Gas Industry Co's approval following a code change process, they would be published at least 30 business days prior to the auction (GTAC s3.18).
- First Gas would schedule a PR auction for the first business day of the month prior to the first month in which it expects congestion to occur (but may cancel the auction if it considers there is no longer a threat of congestion) (GTAC s3.17).
- Unless circumstances dictate a shorter period, 20 days prior to an auction First Gas would notify Shippers which DPs were affected, the estimated Available Operation Capacity at those DPs, the number of PRs on offer and how that amount had been determined. It would also notify the start date, term, and reserve price of each PR. (GTAC s3.19).
- The basic structure of PR auctions is set out in GTAC s3.20, including that Shippers may bid for 5 tranches of PRs at different prices, and that PRs will be allocated to the highest value bids. Each Shipper's current PR holdings would be available on OATIS (GTAC s3.20).
- Once a Shipper has acquired PRs, those PRs would be tradeable on a trading platform specified by First Gas (GTAC s3.21). First Gas would not be involved in any trade but would publish the number of PRs traded and the trade price (GTAC s3.22).
- A Shipper will use reasonable endeavours to trade PRs if no longer has a legitimate interest in holding (GTAC s3.23).
- A Shipper would pay for its PRs monthly based on previously established auction clearing prices (GTAC s11.2). And, in the following month, First Gas would credit that revenue to Shippers in proportion to their DNC charges (GTAC s11.14).

Interruptible Agreements (IAs)

- First Gas, at its sole discretion, may offer IAs (GTAC s7.7 – 7.11). Where First Gas enters into an IA for the purposes of Congestion Management, it will publish the agreement and the DP where Available Operation Capacity has increased as a result (Beneficiary DP) (GTAC s3.11). First Gas will recover any amounts payable to such an IA holder from Shippers who use the Beneficiary DP, as set out in GTAC s11.12.

Supplementary Agreements

- Shippers may apply for Supplementary Agreements, which (among other matters) can set priority in relation to DNC with PRs during congestion (GTAC s7.4(g)), term of agreement (including renewal rights) and transmission fees payable.
- First Gas would assess the request against the criteria in GTAC 7.1 which includes consideration of the impacts of the agreement on available transmission capacity (including the potential for congestion).
- First Gas would detail these matters further in a Supplementary Agreement policy document (GTAC s7.2).

MPOC congestion management arrangements

- Primary transmission service is based on daily nominations.
- If physical congestion occurs on a day, First Gas may reduce nominations, while respecting priorities for service:
 - 1st balancing gas;
 - 2nd category A nominations; and
 - 3rd category B nominations based on *pro rata* net historic usage. (MPOC s8.20-8.28).
- Category A nominations are those subject to Authorised Quantities (AQ). First Gas is required to obtain approval from Gas Industry Co for queuing rules before issuing AQ (such rules have not been proposed or approved).

VTC congestion management arrangements

- Annual Reserved Capacity is the primary transmission service. Each Shipper has a right to reserve capacity up to the amount it held in the previous year (VTC s4.5). If there is insufficient capacity to meet the remaining reservation requests (i.e. “contractual congestion” occurs), the capacity is allocated “based on the proportion that the Shipper’s request for increased capacity from the previous Year on that Pipeline bears to the aggregate of all Shippers’ requests for increased capacity from the previous Year on that Pipeline” (VTC s4.3).
- If physical congestion occurs (i.e., insufficient capacity to flow desired volume on the day), First Gas would curtail gas receipts, flows or deliveries in relation to IAs first (VTC s10.1(f), and then curtail “on a fair basis” (VTC s10.1(g)).

Congestion management – assessment

In section 4.1, we considered the relative merits of PRs and IAs being part of the GTAC’s gas transmission product mix. Here we look more specifically at how the GTAC would perform against the Criteria when capacity is constrained. We recognise that the Maui pipeline is large, with a lot of spare capacity, so at a practical level congestion is more likely to emerge on the long, small diameter non-Maui pipelines, as it has in the past. Our assessment therefore focuses on the relative merits on the GTAC and VTC congestion management arrangements.

Congestion management – Efficiency assessment

In relation to Criteria 1, 2 and 14 (delivering gas efficiently and facilitating ongoing supply by providing access and competitive market arrangements):

In relation to congestion management, efficiency will be promoted where:

1. Well in advance:
 - the likelihood of congestion is anticipated, and measures put in place to manage it; and
 - system users are notified.
2. When congestion occurs:
 - physical capacity is fully utilised by users who value it most;
 - information is available to inform capacity management decisions; and
 - undue cost and complexity are avoided.

Core GTAC design should allow for better congestion management

The core design of the GTAC, based on approved daily nominations, would allow:

- Shippers to adjust their nomination positions each day; and

- the system operator to manage pipeline conditions by deciding what level of nominations to approve each day.

This would be more flexible than the VTC's annual reservation regime and should permit greater use of the physical capacity of the pipeline as well as providing less opportunity for contractual congestion. Under the VTC, where capacity is purchased in annual blocks, it is more likely that a Shipper will have more reserved capacity than it is using on a day. This capacity is "sterilised"; i.e., not available for other Shippers to reserve. In contrast the GTAC allows capacity nomination decisions to be taken each day, so capacity sterilisation is less likely. Also, there would be no grandfathering of capacity under the GTAC, so less opportunity for Shippers to sit on capacity rights that they will not use, as discussed in relation to Criterion 3 below.

IA design should allow for better congestion management

First Gas has considerable discretion to negotiate SAs and IAs, as discussed in section C.2 of Appendix C. GTAC IAs, unlike VTC IAs, allow for an IP to be paid to interrupt, rather than just receiving a discounted transmission price. The GTAC arrangement makes it more likely that a suitable interruptible end-user can be found.

However discretion over IA terms and conditions is also a feature of the VTC, and under the GTAC First Gas is required to recover the IA costs from Shippers at the Beneficiary DP (GTAC s3.11), and that should put an added discipline on the price negotiation, as well as directing cost to beneficiaries.

PR design should allow for better congestion management

PRs should make capacity available to its highest value use. The PR auctions would provide price signals to all market participants that should be a useful guide to decision making, including to inform First Gas in its capacity investment decisions.

The effectiveness of PRs will depend to a large extent on the PR auction rules. Once they are developed, they would be subject to Gas Industry Co approval (GTAC s3.18). While we cannot assess the quality of the rules that would emerge, we hope that they would be able to address our greatest concern in relation to PRs. This concern relates to the possibility of mass-market Shippers being unable to obtain PRs in either the primary or secondary market. In that case, such Shippers would be left with a risk that they cannot readily manage since they have no practical means of turning down the demand of their mass-market customers. While this is a significant concern, we recognise that the counter-factual (i.e. how a Shipper would manage congestion risk under the VTC) is equally unsatisfactory. Under both the GTAC and the VTC, a mass-market Shipper who does not hold capacity (be it DNC under the GTAC or MDQ under the VTC) would face high OR fees and potential liability.

Identifying and managing congestion

We consider that, when physical congestion arises under the GTAC, the situation would be better notified, and that the transmission capacity would be more efficiently managed. In particular:

- Congestion would be signalled well in advance, allowing Shippers time to consider how to manage their positions and to put a value on PRs. First Gas would be required to use reasonable endeavours to predict congestion (GTAC s10.1) and notify Shippers when congestion management measures were to be initiated (GTAC s10.2). In addition, First Gas would publish likely Congested Delivery Points on OATIS annually, by 20 June (GTAC s3.4 and Sch2). Or, if congestion arose during the year, First Gas would notify Shippers as soon as practicable (GTACs3.25) and would aim to give 20 business days' notice of a PR Auction (GTAC s3.19); and

- First Gas would have more comprehensive nomination information on which to base its curtailment decisions.

The costs of managing congestion

The substantial benefits of the GTAC discussed above could only be achieved at some incremental cost, including the cost of the additional administrative burden of additional nominations, and the cost of running auctions to allocate PRs.

Conclusion in relation to Criteria 1, 2 and 14

In summary, we consider that the GTAC design would facilitate supply and improve competition in a number of respects when congestion occurs:

- The greater flexibility of the DNC product should permit greater use of the physical capacity and reduce the risk of contractual congestion;
- GTAC notifications would signal congestion risk in advance;
- IAs could be priced to better reflect the value of scarce capacity, and IA costs could be directed to beneficiaries;
- PRs should allow Shippers to compete for available capacity.

These are substantial improvements. However, the arrangements have some associated costs, and the First Gas discretion to negotiate IAs, although constrained to vary only certain provisions, could lead to outcomes that undermine the benefits of PRs to a modest extent.



In relation to Criterion 3 (reducing barriers to competition):

In 2009 gas consumers in the Auckland region found that they could not easily switch supplier because alternative suppliers were unable to obtain transmission capacity. All of the available capacity had been sold. However, not all of that capacity was being used. This situation is known as “contractual congestion”. It is inefficient because it locks up unused capacity.

Contractual congestion is a barrier to competition, and in the case of the VTC the harm to competition is made worse by the “grandfathering” of capacity – i.e. allowing existing users to buy capacity up to the level of their previous use before it is offered to other users.

Under the GTAC a Shipper could not sterilise capacity ahead of a constraint emerging, as it can with annual capacity reservations under the VTC. And when capacity becomes scarce priority is determined by the auctioning of PRs. This should allow maximum use of the pipeline by Shippers over time and make that capacity contestable.



In relation to Criterion 4 (providing incentives for investment):

We consider that the incentives for investment in the transmission system are mostly determined by price-quality regulation and would not be substantially affected by the GTAC congestion management arrangements. However, we believe the GTAC arrangements would generally increase the awareness of the market needs, and this may incline First Gas towards investment where there is a customer demand (and vice versa).



In relation to Criterion 5 (sustained downward pressure on costs and prices):

Two matters are in play here: price reductions from increased competition and the cost of enabling that competition.

While end-user prices at congested DPs would be expected to increase, the overall level of First Gas revenue would remain as determined by price-quality regulation. So over time there would be a rebalancing of transmission prices, with higher prices at constrained locations. However, the price of gas to end-users is not only a function of transmission cost, it also reflects the level of competition between gas suppliers. The GTAC would introduce a degree of competition that is absent under current congestion management arrangements. This should put downward pressure on prices.

Inevitably there will be added cost involved in running PR auctions. However, we do not think they will be substantial in relation to total system costs, and they would be limited to occasions where there is congestion.

In short, we anticipate that there would be a mix of modest cost increases and reductions as well as modest price increases and reductions.



In relation to Criterion 9 (facilitating competition in upstream and downstream markets):

As noted in section 4.1, we believe that an end-user at a congested DP may still find it difficult to switch its supplier in some circumstances. However, in the absence of grandfathered capacity, and with the greater daily flexibility, we think that new arrangements would generally make it easier for end-users to switch suppliers.



In relation to Criterion 10 (the full costs of producing and transporting gas are signalled to consumers):

We consider that managing congestion via IAs and PRs would introduce costs, but that these costs would only arise when congestion looms. Further, the costs would be targeted towards the beneficiaries of the arrangements, so they would better signal the full costs than current arrangements (where the congestion management costs are not explicit and not directed to beneficiaries). We consider this would moderately improve the efficient signalling of costs.

The GTAC congestion management arrangements would moderately better direct the cost of congestion towards the beneficiaries (those willing to pay for a more reliable supply).



In relation to Criterion 11 (price/quality trade-off reflects customer preferences):

Under the GTAC, consumers would need to discuss with their suppliers at what price they may be willing to curtail supply (if an IA is an option), or how much extra they would be willing to pay for a more secure supply (if PRs are to be bought). In either case the customer's preference for un-interrupted supply is revealed and traded-off against price. We also believe that the proposed congestion management arrangements would make the prices

more transparent and better directed towards the beneficiaries. We consider this would be a substantial improvement on the current situation.



Overall efficiency assessment of congestion management arrangements

Based on our consideration of each of the efficiency criteria, our overall assessment for efficiency is that the GTAC congestion management terms would have a substantial positive aspect but also a moderately negative aspect. The factors with the greatest influence on this conclusion are those that would have a pervasive influence on efficient outcomes when congestion emerges (such as efficient use of all available physical capacity, minimising the opportunities for contractual congestion, and introducing IAs with more scope for demand side management), rather than those that have an occasional influence (such as the added cost of running PR auctions).



Congestion management – Reliability assessment

In relation to Criteria 1, 2 and 6 (providing reliable and competitive arrangements and allocating risks properly and efficiently):

The GTAC explicitly provides for the prediction and notification of possible congestion well in advance, and for First Gas to consider how best to address it (investment/IAs/PRs).



Congestion management – Safety assessment

In relation to Criteria 1 and 7 (providing access in a manner consistent with the Government's gas safety regime):

No significant change.



Congestion management – Environmental assessment

In relation to Criteria 8, 12 and 13 (contributing to environmental sustainability by using energy and resources efficiently, minimising gas losses and promoting demand side management):

No significant change.



In relation to Criteria 13 and 18 (gas is delivered to existing and new customers in a fair manner, and transmission pipelines can be accessed on reasonable terms and conditions):



We consider that giving priority rights to scarce capacity through a transparent market-based mechanism is more fair than giving existing users grandfathered rights to that capacity.

Assessment



Table 15 – Summary of GTAC congestion management arrangements assessment

Summary of GTAC congestion management arrangements assessment		
Efficiency		
Criterion 1, 2 & 14	The GTAC congestion management arrangements provide for the options of demand management IAs, and market pricing of scarce capacity via PRs. We regard this as a substantial addition to competitive market arrangements. However, a modest reduction could arise from the discretion that First Gas has to negotiate SAs and IAs. This could lead to outcomes that undermine the benefits of PRs.	
Criterion 3	Barriers to competition would be moderately reduced by making access to scarce capacity more contestable.	
Criterion 4	Incentives for investment are mostly determined by price-quality regulation, but a modest improvement in awareness of the need for investment is expected.	
Criterion 5	PR auctions allow for more competition, but prices will increase to reflect the added costs. Modest opposing outcomes could occur.	
Criterion 8	Weak relevance to congestion management arrangements.	-
Criterion 9	Absence of grandfathering and greater flexibility of DNC should modestly facilitate competition.	
Criterion 10	Costs should be moderately better targeted and signalled to consumers.	
Criterion 11	More awareness of, discussion about, and pricing of supply security should result in substantially better price/quality trade-offs.	
Criterion 15	Weak relevance to congestion management arrangements.	-
Criterion 16	Weak relevance to congestion management arrangements.	-
Criterion 17	Weak relevance to congestion management arrangements.	-
Criterion 19	Weak relevance to congestion management arrangements.	-
	Overall Efficiency assessment	
Reliability		
Criteria 1, 2 & 6	Risks should be moderately better managed by enabling prediction and notification of possible congestion.	
Safety		
Criteria 1 & 7	No noticeable change anticipated.	

Summary of GTAC congestion management arrangements assessment		
Environment		
Criteria 8, 12 & 13	No significant change anticipated.	
Fairness		
Criteria 13 & 18	Allocation of scarce capacity on the basis of willingness to pay is moderately more fair than basing it on historic usage.	

4.8 System operation – Gas quality and odorisation: analysis

(Principally GTAC s12 and GTAC s13 and Sch5 s16).

Gas quality and odorisation – description of arrangements

GTAC gas quality and odorisation terms

Gas quality

Core obligations

The GTAC requires that Shippers and First Gas ensure that contracts with third parties to buy or sell gas transported in the transmission system require such gas to be specification gas (GTAC s.12.1). GTAC s12.2 requires First Gas to ensure that any new RP ICA requires the IP to:

- Ensure all injected gas is specification gas;
- indemnify First Gas for any loss it suffers as a result of the injection of non-specification gas; and
- on First Gas request, demonstrate to it that adequate facilities, systems, procedures and monitoring are in place to ensure only specification gas is injected.

These IP obligations are reflected in the Common Receipt Point Interconnection Agreement Provisions at GTAC Sch 5 s6.

If First Gas becomes aware that non-specification gas has entered a pipeline or may be delivered, it must promptly notify all Shippers and IPs (GTAC s12.4).

If a Shipper becomes aware of the same situation, it will notify First Gas, providing what information it can, which First Gas will summarise and disseminate to Shippers and IPs (GTAC s12.5).

Non-specification gas incidents

If an IP becomes aware it has injected, or is injecting, non-specification gas, the obligations on it are more extensive. It must:

- notify First Gas why, the likely duration, and the extent of the excursion, and First Gas will post this on OATIS (GTAC Sch 5 s6.5(a));
- mitigate the effects to the maximum extent practicable (GTAC Sch 5 s6.5(b)); and
- remedy the cause before resuming injection and take all practicable steps to prevent a recurrence (GTAC Sch 5 s6.5(c)).

Demonstrating compliance

The IP must have all the systems in place and operational to ensure that only specification gas is injected and demonstrate this to First Gas on written request. First Gas may publish

such information on OATIS (GTAC Sch 5 s6.6). A Shipper may make a written request to First Gas to ask the IP to demonstrate compliance (GTAC s12.6).

Liability

RP IP indemnifies First Gas for damage resulting from it injecting non-specification gas.

First Gas indemnifies a Shipper for loss where the Shipper takes non-specification gas at a DP, unless the Shipper contributed to that outcome, or failed to mitigate the loss (GTAC s12.10), regardless of whether First Gas was the causer (GTAC s12.11).

Generally, liabilities are subject to the direct loss limitations of GTAC s16. But in the case of loss incurred by First Gas arising from non-specification events, third party damages may also be claimed. These arrangements are mirrored in the RP ICAs through GTAC Sch 5 s16.

Odourisation

First Gas will continue to odourise gas in the pipelines that are currently odourised. First Gas can cease odourisation of gas in a pipeline or at a DP if all Shippers agree (GTAC s13.1), or by providing 18 months' notice (GTAC s13.6). First Gas must inject odorant to meet (in normal circumstances) NZS 5263 detectability requirements. If First Gas becomes aware that detectability standard is not being met, it will promptly advise each affected Shipper and take all reasonable steps to remedy the situation (GTAC s13.3).

Where First Gas receives what it considers to be a reasonable Shipper request, it will conduct odorant spot checks (GTAC s13.4).

Each month, First Gas will publish the results of any odourisation spot checks completed in the previous month. Each year, First Gas will publish a summary report on the facilities, systems, procedures and monitoring it has in place to comply with the requirements of NZS 5263:2003 for the odourisation of pipelines. (GTAC s13.5).

MPOC gas quality and odourisation terms

Gas quality

Parties injecting gas into the Maui Pipeline (directly or indirectly) must ensure that they comply with the NZ specification and monitor their injections. Injecting parties must be able to demonstrate upon reasonable request that they have adequate facilities, systems and procedures to ensure compliance (MPOC s17.9). First Gas may enter relevant premises, conduct its own tests and/or request a party to immediately cease gas injections (s17.13). Any failure to comply with s.17 by an injecting party shall constitute a failure to act as an RPO (s17.21). First Gas indemnifies welded parties for Loss arising from the injection of Non-Specification Gas. In turn, injecting parties indemnify First Gas for any Loss arising from the injection of Non-Specification Gas (MPOC s17.22 and 17.33).

Odourisation

Not applicable to Maui pipeline system.

VTC gas quality and odourisation terms

Gas quality

Shippers and First Gas must ensure that contracts with third parties to buy or sell gas in pipeline system include a requirement that only specification gas may be bought or sold (VTC s12.1). First Gas must ensure that ICAs at Receipt Points require IPs to ensure injected gas meets the gas specification, and require the injecting counterparty (if asked by First Gas) to promptly demonstrate they have adequate facilities, systems and procedures to comply. If First Gas becomes aware that non-specification gas has entered pipelines, it must promptly notify all Shippers. First Gas shall indemnify Shippers for loss arising out of them taking non-specification gas at a DP, except to extent that Shippers did not mitigate loss (VTC s12.7). First Gas indemnities are subject to limitations and exclusions which vary depending on whether First Gas caused gas to become non-specification (VTC s12.8-12.9).

Odourisation

First Gas will not odourise gas in an unodorised pipeline, or cease odourisation in an odorised pipeline, unless each Shipper using the pipeline agrees – although First Gas can cease odourisation of a pipeline with 12 months' notice. First Gas must inject odorant to meet (in normal circumstances) NZS detectability standard. If First Gas becomes aware that standard is not being met, it will advise each affected Shipper and take all reasonable steps to remedy situation (VTC s13.3).

Gas quality and odourisation – assessment

In respect of gas quality, the key features of GTAC s12 reflect those of MPOC s17 and VTC s12, except that the MPOC and GTAC contain some provisions specifically related to IPs. For example, MPOC s17.13(a) provides an express right to enter premises, conduct tests etc if First Gas suspects the injecting party of not satisfying its obligation to monitor compliance with injection quality obligations. In the GTAC that right is provided for in GTAC Sch 5 s6.7(b).

In respect of odourisation, gas in the Maui pipeline is unodorised so none of the MPOC provisions relate to odourisation. The GTAC s13 odourisation provisions are broadly the same as VTC s13, except that:

- Under the GTAC, if First Gas becomes aware that NZS5263:2003 is not being met, it is required to take reasonable steps to remedy the situation (GTAC s13.3);
- The GTAC provides for spot checks to be done in response to a Shipper's written request (GTAC s13.4) whereas the VTC provides for such checks to be done "from time to time" (VTC s13.3);
- A minimum 18 months' notice period applies if First Gas decides to cease odourisation of a pipeline (GTAC s13.6), compared to 12 months under the VTC; and
- First Gas will also publish monthly reports on the results of any odorant sport checks and will provide an annual report that describes the facilities, systems, procedures and monitoring that it uses in order to verify its compliance with the odourisation standard (GTAC s13.5).
- The specific liability disclaimer in VTC s13.4 is removed.

Gas quality and odourisation – Efficiency assessment

In relation to Criteria 1, 2 and 14 (delivering gas efficiently and facilitating ongoing supply by providing access and competitive market arrangements):

Gas quality

Non-specification gas can cause significant costs for pipeline users. It is important for pipeline arrangements to place robust incentives on injecting parties and First Gas to maintain gas specification, and to promptly detect and remedy any situation where non-specification gas is flowing. The GTAC arrangements are functionally similar to those in the MPOC and VTC, with obligations on RP IPs to only inject specification gas, and to put in place the systems etc. needed to ensure compliance.

In our view gas quality arrangements will be efficient if they put responsibilities on the parties who are best able to manage them at least cost. Both the current arrangements and the GTAC recognise that it is largely the RP IPs who are in this position. First Gas would mostly only influence gas quality through the (unintended) addition of compressor oil or dust and (intentional) addition of odorant.

The obligation on First Gas, Shippers and IPs in respect of gas quality are fundamentally the same as in the current access arrangements. However, since the availability of information is a key component of efficiency, we see a modest improvement from the publication of:

- information on gas specification events or issues that First Gas and/or users become aware of (GTAC s12.4 and 12.5); and
- A summary of information obtained from a RP IP in response to First Gas requesting it to confirm that it has the necessary facilities, systems procedures and monitoring in place to comply with its gas quality obligations (GTAC s12.6).

Odourisation

The odourisation provisions in GTAC largely mirror those in the VTC (the Maui pipeline would continue to be unodorised). The First Gas obligation to remedy lack of odourisation under GTAC requires it to "*take reasonable steps*" (GTAC s13.3), compared to the obligation under VTC to "*take all reasonable steps*" (VTC s13.3). This is a lower obligation. On the other hand, the GTAC removes the specific liability exclusion in relation to loss of odourisation (VTC s13.4).

Conclusions in relation to Criteria 1, 2 and 14

In summary, the gas quality and odourisation provisions would modestly improve efficiency through the provision of additional information.



Gas quality and odourisation – Reliability assessment

In relation to Criteria 1, 2 and 6 (providing reliable and competitive arrangements and allocating risks properly and efficiently):

The GTAC contains an express requirement that First Gas install and maintain equipment at each DP to ensure compliance in relation to dust and compressor oil (GTAC s12.9). Although there is no such requirement in the current arrangements, we understand it is common practice.

In other respects we consider that the obligations on parties to provide reliable service by protecting customers from non-specification gas would be fundamentally the same between the proposed and current arrangements.



Gas quality and odourisation – Safety assessment

In relation to Criteria 1 and 7 (providing access in a manner consistent with the Government's gas safety regime):

The provisions relating to odourisation of gas are important from a safety perspective. The GTAC provisions largely mirror those in the VTC (and the Maui system is not odorised). The GTAC also provides for odourisation to continue in previously odorised pipelines and at previously odorised DPs, if the GTAC comes into force. Accordingly, the GTAC is rated as neutral on this dimension.

One new feature that GTAC s13.5 provides for is the monthly reporting of the results of any odourisation spot checks completed by First Gas in the previous month and annual reporting of a summary of the facilities, systems, procedures and monitoring First Gas has in place to

comply with the requirements of NZS 5263:2003 for the odourisation of pipelines (GTAC s13.5). We think this extra focus on odourisation warrants recognition as a modest improvement to safety.



Gas quality and odourisation – Environmental assessment

In relation to Criteria 8, 12 and 13 (contributing to environmental sustainability by using energy and resources efficiently, minimising gas losses and promoting demand side management):

The system operation terms are not expected to materially alter the risk of harm to the environment, so GTAC is rated as neutral on this dimension.



Gas quality and odourisation – Fairness assessment

In relation to Criteria 13 and 18 (gas is delivered to existing and new customers in a fair manner, and transmission pipelines can be accessed on reasonable terms and conditions):

It is more fair that Shippers would be given a minimum 18 months' notice period if First Gas decides to cease odourisation of a pipeline (GTAC s13.6), compared to 12 months under the VTC. But such an occurrence is likely to be very rare.




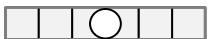

More significantly, we consider that the right for a Shipper to call for spot checks (GTAC s13.4) of odorant levels is more fair than the "conduct spot checks from time to time" undertaking in the VTC.

The Safety Regulations oblige retailers to ensure that gas delivered to their customers is odorised. The requirement in the GTAC for First Gas to publish information on monthly spot checks and the annual report under s13.5 is more fair for Shippers who, otherwise, might struggle to demonstrate compliance with the Safety Regulations in this area.



Table 16 – Summary of GTAC gas quality and odourisation arrangements assessment

Summary of GTAC gas quality and odourisation arrangements assessment		
Efficiency		
Criterion 1, 2 & 14	A modest improvement in the availability of information.	
Criterion 3	Weak relevance to gas quality and odourisation arrangements.	-
Criterion 4	Weak relevance to gas quality and odourisation arrangements.	-
Criterion 5	Weak relevance to gas quality and odourisation arrangements.	-
Criterion 8	Weak relevance to gas quality and odourisation arrangements.	-

Summary of GTAC gas quality and odorisation arrangements assessment		
Criterion 9	Weak relevance to gas quality and odorisation arrangements.	-
Criterion 10	Weak relevance to gas quality and odorisation arrangements.	-
Criterion 11	Weak relevance to gas quality and odorisation arrangements.	-
Criterion 15	Weak relevance to gas quality and odorisation arrangements.	-
Criterion 16	Weak relevance to gas quality and odorisation arrangements.	-
Criterion 17	Weak relevance to gas quality and odorisation arrangements.	-
Criterion 19	Weak relevance to gas quality and odorisation arrangements.	-
	Overall Efficiency assessment	
Reliability		
Criteria 1, 2 & 6	No noticeable change expected.	
Safety		
Criteria 1 & 7	Publication of new monthly and annual odorization reports would bring an added focus.	
Environment		
Criteria 8, 12 & 13	No noticeable change expected.	
Fairness		
Criteria 13 & 18	Shippers may call for spot checks of odorant levels and these are published. Annual report on systems, procedures, etc for odorant compliance.	

4.9 Governance: analysis

This section addresses the GTAC provisions relating to prudential requirements (GTAC s14), force majeure (FM) (GTAC s15), general liability terms (GTAC s16) code changes (GTAC s17), dispute resolution (GTAC s18), termination (GTAC s 19), confidentiality (GTAC s 20) and assignment (GTAC s 20). For brevity, we collectively refer to these as "governance" terms.

Stakeholders will note that the discussion of the liability arrangements in this section is brief, as liability is a matter that is given specific attention in section C.7 of Appendix C.

Governance – description of arrangements

GTAC governance terms

Prudential

Shippers are required to have a minimum long term credit rating equivalent to Baa3 (Moody's) BBB- (Standard & Poors), B (AM Best or Fitch) or provide an equivalent credit rating or reference acceptable to First Gas, or provide credit support equivalent to three times their estimated monthly transmission charges plus \$100k specifically for Balancing Gas Charges (GTAC s14.1-14.4).

Force Majeure

Shippers or First Gas may seek relief from liability due to an event or circumstance beyond their reasonable control, including (in the case of a Shipper) the inability to inject or take gas (GTAC s15.1). The party claiming force majeure (FM) must take all reasonable steps to minimise loss (GTAC s15.3(c)). Shippers cannot claim FM due to performance or non-performance of their customers (GTAC s15.5). FM claims must be notified as soon as practicable and no later than 48 hours after an event occurs (GTAC s15.3(a)). Shippers and First Gas are required to provide a report setting out details of the Force Majeure Event. First Gas will publish the report (or a summary) on OATIS (GTAC s 15.7 and 15.8).

Liability

Liability will only arise where a party failed to act as an RPO (GTAC s16.1). Parties will only be liable for direct Loss, except in relation to the injection of Non-Specification Gas, OR, Over-Flow, or Excess Peaking that causes Loss to First Gas (GTAC s16.2). First Gas indemnifies Shippers for Loss incurred as a result of delivery of Non-Specification Gas as a Delivery Point (GTAC s12.10). The maximum liability of a Party will be \$12.5 million for a single event or related events or \$37.5 million in a gas year (GTAC ss16.4 and 16.5). The caps may be adjusted in certain circumstances to reflect First Gas's recovery (GTAC ss16.6 to 16.11). In certain circumstances, a Shipper may defend a claim in the name of First Gas or bring a claim against another Shipper or IP (GTAC ss16.11).

Code change

See Table 17 below for a summary of the code change provisions.

Dispute resolution

Disputes that cannot be resolved by negotiation will be referred to an independent expert jointly appointed by the parties or, failing that, to arbitration for determination (GTAC s18.2).

Term and Termination

The GTAC will expire on a date that is 10 years after the date of the GTAC with an extension of not less than five years unless there is good reason to propose a shorter extension (GTAC s19.2). TSAs will expire on that date unless an earlier termination date is specified (GTAC s 19.1). A Shipper may terminate on any date that is more than three months after the date on which First Gas receives written notification, subject to the expiry or sale, or payment of amounts in respect of any PRs held by the Shipper (GTAC s19.3). Either party may terminate for specified events of default (including a material breach that is not remedied within 20 Business Days), or First Gas may exercise a right of suspension (GTAC ss19.4 and 19.5).

Confidentiality

The GTAC defines certain information as "*Confidential Information*" with a general catch-all of

"any other material a Party wishes to disclose to the other Party on the basis that it is commercially sensitive confidential information and which the first-mentioned Party identifies in writing prior to actual disclosure of the information to the other Party is commercially sensitive confidential information (it being acknowledged that any such identification must relate to specific information provided to the other Party rather than general categories or types of information)" (GTAC s20.3).

First Gas's use or disclosure of Confidential Information is permitted in certain circumstances (GTAC s20.10). The GTAC provides for an audit of First Gas's operating procedures (GTAC s20.6).

Assignment

A Shipper must not assign or transfer its rights and obligations under a TSA without First Gas's consent (GTAC s20.20). First Gas must not assign or transfer any of its rights or obligations under any TSA, unless it can reasonably demonstrate that the assignee is capable of meeting First Gas's obligations under that TSA (GTAC s20.21). Liability remains with the

assignor on assignment, unless prior written consent has been obtained (GTAC s20.22). Prior to assignment, the Assignor must execute a deed of covenant binding the assignee to perform the Assignor's obligations (GTAC s20.23).

MPOC governance terms

Prudential

Shippers and Welded Parties are required to have a minimum long-term credit rating equivalent to Baa2 (Moody's) or BBB (S&P) or B (AM Best), or (for Shippers) provide a security equivalent to three months' transmission charges, or such other arrangements as agreed by the parties (MPOC s20).

Force Majeure

Shippers, IPs and First Gas may seek relief from liability due to an event or circumstance beyond their reasonable control, or any inability take or deliver gas (MPOC s27.1–27.3). Claims must be made as soon as reasonably practicable and no later than 2 days of becoming aware of an event. A party claiming FM must take all reasonable steps to minimise loss (MPOC s27.3).

Liability

Liability will only arise where a party failed to act as an RPO (MPOC s28.1(a)). Parties will only be liable for direct Loss, except in relation to breaches of the provisions regarding the injection of Non-Specification Gas (MPOC s28.2). The maximum liability of a Party will be \$10 million for a single event or related events or \$30 million in a gas year (MPOC s28.4). The caps may be adjusted in certain circumstances to reflect First Gas's recovery (MPOC ss28.4 to 28.6). In certain circumstances, a Shipper may defend a claim in the name of First Gas (MPOC s28.13). First Gas provides an indemnity to Welded Parties in relation to Loss arising from Non-Specification Gas but receives an indemnity from Injecting Welded Parties (MPOC ss17.22 and 17.33). First Gas administers an *"Incentives Pool"* to compensate Welded Parties due to another Welded Party having Excess Daily Imbalance or exceeding a Peaking Limit (MPOC s14).

Code change

See Table 17 – Summary of code change provisions.

Dispute resolution

Disputes between the First Gas and Shippers or Welded Parties that cannot be resolved by negotiation will be referred to any available standard industry dispute resolution procedure or, failing that, a jointly agreed mediation or independent expert determination process. If the parties cannot agree a process, either party may refer the matter to a court for resolution (MPOC s23.3). Some issues are reserved for expert determination, including metering disputes and matters arising in relation to compliance with Gas Specification (MPOC s23.4).

Termination

There is no provision under the MPOC, TSAs or ICAs that contemplates expiry of those arrangements. A Shipper may terminate a TSA that has an AQ Volume of zero on 30 Days' notice, otherwise termination may not be before the AQ Expiry Date (MPOC ss22.10 and 22.11). Either party may terminate for a material event of default (MPOC s22.1). For events of default, there is a 30-day period for the breaching party to remedy the default (MPO s22.4). Either party may terminate an ICA or TSA at any time with the other party's agreement (MPOC s22.14).

Confidential Information

Much of the confidentiality arrangements in the MPOC are directed at ring fencing the control of the Maui Pipeline from the influence of the Maui Mining Companies (including a detailed Confidentiality Protocol in Schedule 4). In terms of the general confidentiality provisions, Confidential Information shall not be disclosed other than with the consent of the other party or in other particular circumstances (MPOC s24.2). *"Confidential Information"* includes

specific information (predominantly nomination and forecast-based) and *"other information identified by a Shipper or Welded Party (acting reasonably), and notified to the TSP, to be confidential"* (MPOC s1.1). The MPOC provides for an audit of First Gas's operating procedures if a Shipper or Welded Party reasonably believes that First Gas has used Confidential Information for any unauthorised purpose in breach of the MPOC (MPOC s24.6).

Assignment

A Shipper or Welded Party must not assign or transfer its rights and obligations under a TSA without First Gas's consent, not to be unreasonably withheld (MPOC s36.1). First Gas must not assign or transfer any of its rights or obligations under any TSA, unless it assigns or transfers all TSAs and ICAs, ensures that the assignee is capable of meeting First Gas's obligations and executes a deed of covenant (MPOC s36.2). A deed of covenant must also be executed by a Shipper or Welded Party in the event of any transfer or assignment by that party (MPOC s36.3)

VTC governance terms

Prudential

Shippers are required to have a minimum long-term credit rating equivalent to Baa3 (Moody's) or BBB- (S&P) or B (AM Best or Fitch), or provide security equivalent to three times the estimated monthly transmission charge plus \$115k, or such other arrangements as agreed by the parties (VTC s14).

Force Majeure

Shippers or First Gas may seek relief from liability due to an event or circumstance beyond its reasonable control, or (in the case of a Shipper) an inability to take or deliver gas (VTC s22.1). FM claims must be made as soon as practicable, and no later than 48 hours after an event occurs. A party claiming FM must take all reasonable steps to minimise loss (VTC s22.3). Shippers cannot claim FM due to customer performance (VTC s22.4).

Liability

Liability will only arise where a party failed to act as an RPO (VTC s23.1). Parties will only be liable for direct Loss, except in relation to breaches of the provisions regarding the injection of Non-Specification Gas or a Shipper's obligation to indemnify First Gas for Loss where that Shipper caused or contributed to a Force Majeure (VTC s23.2). The maximum liability of a Party will be \$10 million for a single event or related events or \$30 million in a gas year (VTC s23.4(a) to (d)). The caps may be adjusted in certain circumstances to reflect First Gas's recovery (VTC ss23.4 and 23.5). In certain circumstances, a Shipper may defend a claim in the name of First Gas (VTC). First Gas provides an indemnity to Shippers in relation to Loss arising from Non-Specification Gas (VTC s12.7). First Gas administers a BPP to allocate any amounts it may recover from the Incentives Pool as a result of it making a claim as an MPOC Welded Party. (VTC ss8.14 to 8.16)

Code change

See Table 17 – Summary of code change provisions.

Dispute resolution

Disputes between First Gas and Shippers that cannot be resolved by negotiation will be referred to any available standard industry dispute resolution procedure or, failing that, a jointly agreed mediation or independent expert determination process (VTC s17). If the parties cannot agree a process, either party may refer the matter to arbitration (VTC s18). Invoicing issues are reserved for expert determination (VTC s16.17 and 17.1).

Term and Termination

The VTC expires on 30 September 2018 (VTC s20.2).¹⁰⁸ TSAs will expire on that date unless terminated earlier (VTC s20.1). A Shipper may terminate at the end of any gas year provided that it has given written notice by the second Friday in August of the relevant gas year. Either party may terminate for specified events of default (including a material breach), or First Gas may exercise a right of suspension (VTC ss20.3 and 20.4). For events of default, there is a 30-day period for the breaching party to remedy the default (VTC s20.3(g) to (j)).

Confidentiality

The starting position in the VTC is that First Gas and a Shipper may disclose information made available by the other party except for certain types of information (VTC s19.1). There is a limited set of circumstances in which Confidential Information may be disclosed, which includes the consent of the other party (VTC s19.2). There is a requirement that First Gas only use confidential information for the purpose of the VTC and not to advance any gas trading business (VTC s19.4). There is also a specific complaints procedure (VTC s19.5).

Assignment

A Shipper must not assign or transfer its rights and obligations under a TSA without First Gas's consent, not to be unreasonably withheld (VTC s24.1). First Gas must not assign or transfer any of its rights or obligations under any TSA, unless it can reasonably demonstrate that the assignee is capable of meeting First Gas's obligations under that TSA (VTC s24.2). Liability remains with the assignor on assignment, unless prior written consent has been obtained (VTC s24.3). Prior to assignment, the Assignor must execute a deed of covenant binding the assignee to perform the Assignor's obligations (GTAC s24.4).

Table 17 – Summary of code change provisions

Issue	GTAC (s.17)	MPOC (s.29)	VTC (s.25)
Who can propose Code changes?	Shippers, ICA parties or First Gas.	Shippers, ICA parties or First Gas.	Shippers or First Gas.
How are change requests formulated?	Proposer is required to follow a progressive refinement process involving notification to interested parties.	Proposer decides whether to confer with other parties or directly lodge a final change request.	Proposer is required to follow a progressive refinement process involving notification to interested parties.
Who makes final decision on change request (excl. any First Gas veto)?	Gas Industry Co.	Gas Industry Co.	Shipper vote
What criteria must be used to assess change request?	Objectives in s.43ZN of Gas Act and s.43ZO Government Policy Statements.	Not specified in the MPOC, but separate MoU requires Gas Industry Company to "have regard to" the objectives in s43ZN.	Not specified.
On what grounds may First Gas veto a final change request that is otherwise valid?	First Gas may only withhold its consent if First Gas has given prior notice of not supporting a draft change, and it considers the change request would cause a party to breach its	First Gas may withhold its consent to a change request provided that it does not do so unreasonably. Specific grounds on which First Gas may withhold consent are: if First Gas is required to incur	First Gas may withhold its consent to a change request provided that it does not do so unreasonably. Specific grounds on which First Gas may withhold its consent are: if First Gas is required to incur

¹⁰⁸ The VTC has been extended on an annual basis through the VTC change process.

Issue	GTAC (s.17)	MPOC (s.29)	VTC (s.25)
	RPO obligation, or if First Gas is required to incur expenditure it could not recover, or be likely to adversely affect current or future provision of transmission services, pricing structure or revenue recovery. First Gas may provide notice that it does not support the proposed change at the draft change request stage or the final change request stage if information provided after the draft change request stage changes its assessment of the change.	capex, or opex that cannot be recovered, or the change request will materially adversely affect pipeline business or tariffs, or open access compatibility.	capex, or opex that it cannot reasonably expect to recover, or be likely to adversely affect structure of transmission services, business structure, transmission revenue, or open access compatibility. First Gas may also withhold consent if it considers any Shipper has not acted in good faith during the change process.
When can First Gas change Code outside full change request process	<p>To correct a drafting error or reflect law change or court order – any such change will not take effect if any party objects. Such change may be proposed by any party.</p> <p>First Gas can make urgent change to address an unforeseen issue that threatens integrity of, or proper operation of transmission system – provided that change lapses after 6 months unless ratified via full change request process. GIC may revoke an urgent change at any time.</p>	To reflect change in law or court order – no consultation or notice is required.	To reflect change in law or court order – consultation and notice are required.

In relation to Criteria 1, 2 and 14 (delivering gas efficiently and facilitating ongoing supply by providing access and competitive market arrangements) and Criteria 19 (appropriate compliance and dispute resolution processes)

We consider that an efficient set of governance arrangements incentivises appropriate behaviour, allocates risk to those parties who are best able to manage the risk and avoids undue cost and complexity.

Prudential – efficiency could be impaired if prudential requirements are unduly tight (hindering competition) or relaxed (encouraging risky behaviour). GTAC requirements for Shippers are less restrictive than those in the MPOC and similar to those in the VTC, and they appear reasonable in overall terms.

Force Majeure – efficiency is expected to be promoted by allocating risks to those with best ability, information and incentives to control them, and by sharing "long-tail" risks that are genuinely beyond the reasonable control of any party. GTAC provisions are similar to those in the MPOC and the VTC, and they appear consistent with these principles.

Liability – liability arrangements are efficient when risks are allocated to those parties who are best able to manage them. An efficient liability arrangement is legally robust, reduces the risk of disputes and incentivises appropriate behaviour. The liability arrangements in the GTAC are closely aligned with the current codes. The key differences are discussed in section C.7 of Appendix C. The most noticeable change to the liability arrangements is the absence of an Incentives Pool and BPP arrangements in the GTAC. Removal of the pools means that there is no liquidated damages mechanism for parties who are unable to take quantities of gas due to another party's overrun or peaking. Whilst this may appear to represent a loss of the right for Welded Parties or Shippers to take action to remedy a potential loss, the GTAC provides incentives for Shippers to manage a balanced position (overrun/underrun charges, primary balancing obligations, ERM charges). The existence of those incentives and the lack of use of the Incentives Pool means that the absence of an equivalent mechanism in the GTAC does not result in any real detriment. There is also no evidence that the Incentives Pool, if used, would have been effective to compensate the aggrieved party. We do not consider that the differences between the GTAC liability arrangements and the current codes have a material impact on efficiency.

Code change – efficiency is generally promoted where code evolution is guided by pipeline users and First Gas, while ensuring checks are in place to ensure code changes do not inhibit competition. Arrangements should also avoid undue cost and complexity that can hinder adoption of desirable code improvements. GTAC provisions appear reasonable across these criteria. Change requests are initiated by pipeline users or First Gas and are refined via engagement among interested parties. Final decisions will be made by an external party (Gas Industry Co) that is required to consult interested parties and apply the objectives in the Gas Act and any applicable Government Policy Statement. We think that mitigates the risk of any one participant, or group of participants, being able to block a change proposal that has benefits for the wider industry (as may occur under a voting regime like the VTC). First Gas's right to block a code change is tighter than in the VTC and MPOC, and notification must be made at an early point to minimise wasted costs.¹⁰⁹ While the GTAC would allow First Gas to unilaterally amend the code to address an urgent and unforeseen issue, any such change automatically lapses after

¹⁰⁹ Although section 7.14(a) of the GTAC could be considered to provide some loosening of First Gas's right to veto, we think that limiting the veto to three criteria rather than "consent not be unreasonably withheld" (or similar drafting in the VTC) does result in an, overall, narrower right of veto.

six months unless ratified by the full change request process. In addition, Gas Industry Co may revoke an urgent change made by First Gas at any time. We consider that GTAC code change provisions are more efficient than the VTC and the MPOC.

Dispute resolution – efficiency is typically promoted where parties first seek to resolve disputes via negotiation or via alternative lower cost means (e.g. mediation), and failing this, can refer disputes to an independent decision maker for binding resolution. GTAC’s provisions are similar to those in the MPOC and the VTC, and they appear consistent with these principles (noting that GTAC and VTC both provide for arbitration as the ultimate backstop, whereas the MPOC provides for parties to refer unresolved matters to the courts). In our opinion the dispute resolution provisions in the GTAC are, overall, simpler than in the MPOC or VTC and likely to result in lower cost and less delay. Accordingly, we believe that efficiency is enhanced.

Termination – submitters have expressed concerns regarding the term that applies to the GTAC and TSAs (10 years after the date of the GTAC with an extension of not less than five years unless there is good reason to propose a shorter extension) and have referred to the evergreen nature of the MPOC.¹¹⁰ We do not consider that the term of the GTAC has any material impact on efficiency. Our view is influenced by the following:

1. There is provision for the GTAC to be extended, meaning that the term of the GTAC will be 15 years unless there is good reason to have a shorter term; and
2. There is provision for a review of the GTAC after eight years. We think that an assessment of the performance of the GTAC and consideration of possible changes is a sensible inclusion.

Assignment – we do not consider that the assignment provisions directly impact our efficiency analysis.

In relation to Criterion 3 (reducing barriers to competition):

Confidentiality – we have considered EMS Tradeport’s view (which Greymouth supports) that the current draft GTAC does not sufficiently ring-fence First Gas’s commercial operations from its system operations. We consider that the Gas Act objective of minimising barriers to competition is most relevant to EMS Tradeport’s concerns. We make the following observations regarding the provisions in the GTAC compared to the MPOC and the VTC:

1. The MPOC requirement for operational separation (Schedule 4) only applies if First Gas, or a related company, becomes a gas producer. The MPOC acknowledges that the Maui Mining Companies had upstream and downstream business interests. If First Gas did become involved in gas production, the requirements in GTAC s 2.7 are less prescriptive than the MPOC.
2. The requirements relating to “preference and priority” and “arm’s length access” in MPOC s24.1(b)(ii) to (vi), which apply even if First Gas does not have production interests, establish the following principles:
 - (a) First Gas shall not give preference or priority to any particular Shipper or Welded Party;
 - (b) It will provide arm’s length access to the pipeline;
 - (c) First Gas’s commercial functions (buying and selling balancing gas and fuel gas) or gas trading activities must not be performed by First Gas employees who perform other functions for First Gas that may put it in conflict with the “no preference or priority” obligation;

¹¹⁰ For example, Shell considers that the term of the GTAC should be 17 years from September 2019 as the life of the GTAC should reflect current production assets which will be operating after 2029. See Letter from Shell New Zealand (2011) Limited “Submission on First Gas Documents” dated 25 October.

- (d) Confidential information received by First Gas or a related company should not be accessible to First Gas employees who perform functions on behalf of First Gas that may put it in conflict with the “no preference or priority” obligation.

Compliance with the above principles is confirmed by an annual compliance certificate issued to Shippers and welded parties.

While the GTAC addresses paragraphs (a) and (b) above (and preserves the requirement that First Gas does not give any Shipper or IP preference or priority) in GTAC ss 2.6 and 2.7 other detailed requirements have been excluded.

3. The VTC contains a prohibition on First Gas using confidential information for purposes other than its Pipeline Business (e.g. to advance a gas trading business). The equivalent provision in the GTAC (s 20.4) requires First Gas not to disclose confidential information to third parties and requires that confidential information is only available to staff who need to know that information in connection with the operation of the transmission system.

As we noted in our assessment of the MPOC Change of Ownership Change Request (COCR)¹¹¹, the MPOC requirements in section 24.1(b) seem excessive. The extent of First Gas’s vertical integration is through its ownership of gas distribution networks and that is much less of a concern from a competition policy perspective than the vertical integration of the Maui Mining Companies into the competitive gas production market. In that context, inclusion of detailed ring-fencing provisions in the GTAC seems to add little additional value at this point in time. The GTAC is a living document. If First Gas’s commercial interests change, changes to the terms of the GTAC can be proposed to address specific concerns around First Gas involvement in the supply chain.

In section C.2 of Appendix C we consider whether the affiliation of the First Gas transmission business with the Ahuroa underground gas storage (UGS) business has any implications for our analysis. There we observe that First Gas will not take title to gas stored on behalf of its Ahuroa UGS customers and therefore will not be a producer, wholesaler, Shipper or retailer of gas. Also, the scope for First Gas to disclose commercially sensitive information about pipeline users to Gas Services NZ Limited (GSNZ) is constrained because GTAC s20.4 places an obligation on First Gas to implement suitable policies, procedures and systems to ensure confidential information is not disclosed, and GTAC s20.6 allows pipelines users to appoint a third party to audit compliance with this provision. Accordingly, the absence of detailed ring-fencing provisions is not a concern in the context of First Gas’s ownership of the Ahuroa UGS. That Shippers or other GSNZ customers may, outside the GTAC, have access to the UGS does not, in our opinion, have implications for how First Gas will operate its transmission business under the GTAC.

Overall efficiency assessment of governance arrangements

Our overall assessment is that the GTAC governance terms have a positive impact on efficiency. The improvement relates to the change process in the GTAC.



Governance – Reliability assessment

In relation to Criteria 1, 2 and 6 (providing reliable and competitive arrangements and allocating risks properly and efficiently):

We do not consider that the governance terms directly alter the risk of interruption or contingency.

¹¹¹ Draft Recommendation on 13 April 2016 MPOC Change of Ownership Change Request 14 April 2016.

The express requirement in the GTAC for all code change requests to be assessed against the Gas Act and GPS objectives should be positive for reliability (although we do not think that this is enough to justify a positive assessment).

Assessment	<div><div></div><div></div><div></div><div></div><div></div></div>
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Governance – Safety assessment

In relation to Criteria 1 and 7 (providing access in a manner consistent with the Government’s gas safety regime):

We do not consider that the governance terms directly alter the risk of harm to people or property. Overall, we rate the GTAC’s governance terms as being neutral for safety.

Assessment	<div><div></div><div></div><div></div><div></div><div></div></div>
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Governance – Environmental assessment

In relation to Criteria 8, 12 and 13, (contributing to environmental sustainability by using energy and resources efficiently, minimising gas losses and promoting demand side management):

The governance terms are not expected to directly alter the risk of harm to the environment. Overall, we rate the GTAC’s governance terms as being neutral for the environment.

Assessment	<div><div></div><div></div><div></div><div></div><div></div></div>
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Governance – Fairness assessment

In relation to Criteria 13 and 18 (gas is delivered to existing and new customers in a fair manner, and transmission pipelines can be accessed on reasonable terms and conditions):

The GTAC gives existing pipeline users and First Gas similar rights in respect of force majeure, prudential requirements and dispute resolution – and is therefore not expected to materially alter fairness for these parties.¹¹²

Code changes – We consider that the GTAC change process enhances fairness in the following respects:

1. In comparison to the VTC, there is less risk of code changes that favour incumbent pipeline users, because all changes will be assessed against the Gas Act and GPS objectives by an external party (Gas Industry Co). Voting processes, like the VTC change process, have the potential to favour the incumbent pipeline users or a subset of the existing pipeline users.
2. Unlike the VTC, both Shippers and IPs can propose changes to the GTAC.
3. In comparison to both the MPOC and the VTC, the circumstances in which First Gas may veto a change request are more clearly prescribed.
4. The process clarifies that there is scope for Gas Industry Co to consider factors other than the objectives under section 43ZN of the Gas Act and Government Policy Statement on gas,

¹¹² Stakeholders have suggested that referral of a dispute to arbitration is likely to be prohibitive for some stakeholders. We think that the position in the GTAC is no more prohibitive than the current MPOC and VTC, which refer disputes to court or arbitration.

meaning that other sensible or operationally useful matters can be taken into account even if they do not neatly fit within (without being at odds with) such objectives.

The ability for First Gas to undertake an urgent code change without going through the change request process has been expanded to include a response to “unforeseen circumstances”. However, there are appropriate safeguards, including a six-month limit on the duration of the change and the right for Gas Industry Co to revoke an urgent change request.

Liabilities – The differences between the liability arrangements in the GTAC and the MPOC/VTC are outlined in section C.7 of Appendix C. We do not consider that the differences materially alter the balance of the risk between First Gas, Shippers and IPs in a way that gives rise to material issues in terms of fairness of the overall liability framework. As we mentioned in the efficiency assessment, the most noticeable change to the liability arrangements is the removal of the Incentives Pool and BPP arrangements from the GTAC. While the removal of the pools means that there is no liquidated damages mechanism for parties who are unable to take quantities of gas due to another party’s overrun or peaking, the GTAC provides incentives for Shippers to manage a balanced position (overrun/underrun charges, primary balancing obligations, ERM charges). The existence of those incentives and the lack of use of the Incentives Pool means that the absence of an equivalent mechanism in the GTAC does not result in any real detriment. There is also no evidence that the Incentives Pool, if used, would have been effective to compensate the aggrieved party. The other differences between the liability provisions in the GTAC and the current codes are not of a magnitude to create any negative impact on fairness.

Termination – We are generally comfortable that the termination provisions in the GTAC are reasonably balanced (when compared to the current arrangements). We think that a Shipper’s right to terminate is more flexible than the VTC where termination must be notified before the second Friday in August for the following gas year. In terms of the expiry of the GTAC (10 years after the date of the GTAC with an extension of not less than five years unless there is good reason to propose a shorter extension), although that term is shorter than the MPOC (but longer than the VTC), we think that any concerns are mitigated by the following:

1. The term of the GTAC may be extended.
2. It is possible that the code will evolve through change requests, so believing that a long term provides certainty does not reflect reality.
3. ICAs would continue notwithstanding the expiry or termination of the GTAC.
4. Gas Industry Co is responsible for approving any extended term and has regulatory oversight of the terms and conditions of access.

Accordingly, we do not consider that the proposed term has a material impact on fairness.

Confidentiality – we have discussed the absence of the ring-fencing provisions in the GTAC in the context of the efficiency assessment above. We do not repeat that discussion here, except to note that we do not consider that the absence of those terms has a material impact on fairness. The VTC lists specific information that is confidential with no ability for the parties to identify other information as confidential. While we favour transparency, there may be some situations where information other than that listed is genuinely confidential and should be protected from disclosure. In the MPOC and GTAC, a right exists for the parties to determine information to be confidential. We consider this change to be positive relative to the VTC.

Assignment – we think that the assignment provisions are similar to the equivalent provisions in the MPOC. We do not expect these provisions to have any notable influence on our assessment of the GTAC. We do not think that assignment of TSAs and ICAs to different parties (as prohibited by the MPOC) is a realistic possibility without other changes to the GTAC (that would

be subject to Gas Industry Co's approval). The GTAC itself is not capable of assignment and nor should it be. The concern of the assignment provisions is First Gas's rights and obligations, not the underlying ownership of the pipeline infrastructure.

Overall, we rate the GTAC governance terms to be modestly positive for fairness.



Table 18 – Summary of GTAC governance assessment

Summary of GTAC governance assessment		
Efficiency		
Criterion 1, 2 & 14	We think that proposed code change process would moderately enhance the efficient delivery of gas to consumers. Barriers to making changes to the arrangements that existed under the MPOC and VTC (the extent of First Gas's veto and the requirement for a vote under the VTC) have been reduced).	
Criterion 3	No noticeable change expected	
Criterion 4	No noticeable change expected	
Criterion 5	No noticeable change expected	
Criterion 8	No noticeable change expected	
Criterion 9	No noticeable change expected	
Criterion 10	No noticeable change expected	
Criterion 11	No noticeable change expected	
Criterion 15	No noticeable change expected	
Criterion 16	No noticeable change expected	
Criterion 17	No noticeable change expected	
Criterion 19	We think that efficiency is enhanced by a dispute resolution process that has, overall, less complexity, that the processes in the VTC and the MPOC.	
	Overall Efficiency assessment	
Reliability		
Criteria 1, 2 & 6	We do not consider that the governance terms directly alter the risk of interruption or contingency.	
Safety		
Criteria 1 & 7	No noticeable change expected	
Environment		
Criteria 8, 12 & 13	No noticeable change expected	
Fairness		
Criterion 13 & 18	It is modestly more fair that the code change process would not favour incumbent pipeline users or a subset of users.	

5. Top-down analysis

This chapter discusses whether the GTAC will promote the objectives and outcomes.

For each of the five major groupings of Objectives – efficiency, reliability, safety, environment and fairness – we assess whether the GTAC is likely to be better than, the same as, or worse than current transmission access arrangements.

We compile this assessment by considering the results of the bottom-up analysis from the preceding chapter, and then considering the relative significance of the various positive and negative aspects of the GTAC, in terms of promoting efficiency, reliability etc.

5.1 Relative significance of different components of the code

While all significant aspects of the GTAC have been examined in our assessment process, we consider some components to be more significant in how they affect the objectives and outcomes. In particular, we consider additional emphasis should be placed on components of the code that:

- significantly affect many (if not all) pipeline users on a daily basis (e.g. transmission products); and/or
- are central to ensuring the reliable and safe operation of the pipeline system (e.g. balancing).

The components of the code that fall into one (or both) of these categories are:







- Gas transmission products;
- Pricing;
- Balancing;
- Gas quality and odourisation; and
- Liabilities.










As we discuss below, the performance ratings in these five categories have been given additional emphasis in determining the aggregate rating of the GTAC against each grouping of Objectives (efficiency, reliability etc).


5.2 Top-down assessment – efficiency

Table 19 summarises the assessment of the GTAC against the efficiency criteria. Readers should refer to Chapter 4 for the detailed explanation of reasoning in relation to each component of the GTAC.

Table 19 – Top-down efficiency assessment

Assessment	Key reasons
Gas transmission products (a component more significant to the overall assessment)	
	<p>The GTAC's transmission product design would provide a unified service that enhances competition relative to annual capacity bookings. Its daily nomination, zone-based design would increase flexibility for Shippers when capacity is unconstrained, and the requirement for daily nominations at individual DPs would reduce the risk of capacity sterilization when capacity is constrained. We assess that this would improve competition between Shippers and in upstream and downstream gas markets. However, adoption of the new products would result in transition costs and modestly increase the nominations workload for some Shippers.</p>
Pricing (a component more significant to the overall assessment)	
	<p>In relation to gas transportation, the daily, zone-based pricing structure would allow for more efficient pipeline usage decisions than the annual capacity booking fees of the VTC. Higher OR/UR charges at individual DPs when capacity is constrained would incentivize more accurate nominations, while demand side management would be encouraged and the value of constrained capacity would be signaled by IA and PR pricing. The latter prices would also provide useful investment signals. The zero price for transport within the Receipt Zone should reduce the friction on gas trading transactions, improving liquidity. The system-wide prices would also bring the complex interactions between the existing Maui and non-Maui prices to an end. However, the daily OR/UR prices would encourage more effort to be expended on nominations when congestion is not present.</p> <p>In relation to balancing, the certain and ever-present ERM Charge should encourage primary balancing.</p>
Energy quantity determination	
	<p>The GTAC would introduce one set of technical standards, testing requirements, and correction methodology, which should modestly reduce costs. Earlier publication of validated DDRs should also allow for earlier self-balancing decisions.</p>
Energy allocation	
	<p>The optionality of using OBA allocation or alternative allocation methods at any RP or DP should modestly improve efficiency.</p>
Balancing (a component more significant to the overall assessment)	
	<p>Replacement of the existing two stage balancing (on Maui and non-Maui pipelines, mediated by the BPPs) by a unified system-wide balancing regime is judged more efficient. The ERM Charge should encourage primary balancing but also reduce the instances where users inefficiently incur costs to balance their positions, when there is no system-wide need for balancing actions. By not automatically cashing-out AEOI at the end of each day, First Gas would not needlessly assume responsibility for mismatch/imbalance. However, the scheduled quantity v flow information at major stations would no longer be published, and we consider this would be a modest detriment.</p>
Curtailement	
	<p>The GTAC would provide improved nomination information, including the identification of Peaking Parties and the requirement for hourly nominations when</p>

Assessment	Key reasons
	peaking is a threat. This should reduce the risk of socialised curtailment. The GTAC would also introduce a simplified curtailment algorithm, simplifying IT design and reducing costs.
Congestion management	
	The GTAC congestion management arrangements explicitly provide for the assessment and notification of possible congestion well in advance. The IA and PR design allows for scarce capacity to be allocated on a willingness to pay basis, would allow better use of available physical capacity, and provide improved price signals. These are substantial improvements. However, the arrangements have some associated costs, and First Gas's discretion to negotiate IAs, although constrained to vary only certain provisions, could lead to outcomes that undermine the benefits of PRs to a modest extent.
Gas quality and odourisation (a component more significant to the overall assessment)	
	A modest improvement from the publication of information in relation to gas specification events, and a summary of any information First Gas obtains on the adequacy of RP facilities, systems and procedures to manage gas quality.
Prudential requirements	
	No noticeable change expected.
Force majeure	
	No noticeable change expected.
Liabilities (a component more significant to the overall assessment)	
	No noticeable change expected.
Code changes	
	Change requests would be initiated by pipeline users or First Gas and refined via engagement among interested parties. Final decisions will be made by an external party (Gas Industry Co) that is required to consult interested parties and apply the objectives in the Gas Act and any applicable Government Policy Statement. We think that mitigates the risk of any one participant, or group of participants, being able to block a change proposal that has benefits for the wider industry, as may occur under a voting regime like the VTC.
Dispute resolution	
	Modest reduction in the complexity of the dispute resolution process.
Term and termination	
	No noticeable change expected.
Confidentiality	
	No noticeable change expected.

Assessment	Key reasons
Assignment	
-	Weak relevance to efficiency.
Overall	
	

Overall, from a top-down perspective, we assess the GTAC as providing substantial efficiency gains, and modest efficiency losses. On the positive side, this assessment reflects our expectation that the GTAC would promote:

- stronger competition from the DNC structure and pricing resulting from a zero-tariff single gas receipt zone, removal of grandfathering provisions etc; and
- efficiency improvements from a common pipeline regime and system-wide gas balancing.

We rate both factors as important because they affect many pipeline users and are important from an operational perspective every day. We expect the GTAC would also yield efficiency gains in some other areas, including better arrangements for congestion management. While important, these are situations that only arise occasionally.

On the negative side, we think the GTAC would have adverse efficiency effects in some areas, particularly:



- the increased administrative burden of nominations; and
- scheduled quantity v flow information at major stations no longer being publicly available.












These are important because they influence daily operation on an ongoing basis. We are much less concerned about one-off transitional costs of adapting to a new regime, and possibly renegotiating contracts, or the occasional costs of running PR auctions.


5.3 Top-down assessment – reliability

Table 20 summarises the assessment of the GTAC against the reliability criteria. Readers should refer to Chapter 4 for the detailed explanation of reasoning in relation to each component of the GTAC.

Table 20 Top-down reliability assessment

Assessment	Key reasons
Gas transmission products (a component more significant to the overall assessment)	
	Increased nomination information available to the system operator should allow it to manage the system more reliably. Year-ahead consideration and notification of congestion risks would allow Shippers to be more aware of their security of supply risks and manage them more effectively. If congestion does arise, the GTAC provides for prompt notification of that congestion and any resulting PR auctions.
Pricing (a component more significant to the overall assessment)	
	The GTAC pricing provisions should enable better management of capacity scarcity situations, therefore reducing the risk of interruption or contingency.

Assessment	Key reasons
Energy quantity determination	
	A single set of Metering Requirements would improve reliability. Also, the GTAC would only allow a further 2 years' grandfathering of legacy metering which would allow these systems to be brought in line with modern standards, thereby improving reliability.
Energy allocation	
	No noticeable change expected.
Balancing (a component more significant to the overall assessment)	
	No noticeable change expected
Curtailment	
	Compliance with OFOs should moderately improve because of the stronger GTAC sanctions. However, the absence of an MPOC s15.2 equivalent could result in it taking longer to adjust nominations in response to an adverse event.
Congestion management	
	The GTAC explicitly provides for the prediction and notification of possible congestion well in advance, and for First Gas to consider how best to address it (investment/IAs/PRs).
Gas quality and odourisation (a component more significant to the overall assessment)	
	No noticeable change expected.
Prudential requirements	
	No noticeable change expected.
Force majeure	
	No noticeable change expected.
Liabilities (a component more significant to the overall assessment)	
	No noticeable change expected.
Code changes	
	No noticeable change expected.
Dispute resolution	
	No noticeable change expected.
Term and termination	
-	Weak relevance to reliability.

Assessment	Key reasons
Confidentiality	
-	Weak relevance to reliability.
Assignment	
-	Weak relevant to reliability.
Overall	
	

Overall, from a top-down perspective, we assess the GTAC as providing moderate reliability improvements, but we also recognise a modest detriment. On the positive side, we recognise the benefits of:

- Increased nomination information available for system operation;
- Increased consequences of failing to comply with OFOs; and
- Advanced notification of anticipated congestion.


On the down side, we recognise:







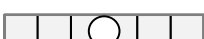

- Nominations may not be curtailed so quickly in response to certain adverse events, since IPs would no longer be able to curtail them directly as they currently can under MPOC s15.2.


5.4 Top-down assessment – safety

Table 21 summarises the assessment of the GTAC against the safety criteria. Readers should refer to Chapter 4 for the detailed explanation of reasoning in relation to each component of the GTAC.

Table 21 – Top-down safety assessment

Assessment	Key reasons
Gas transmission products (a component more significant to the overall assessment)	
	No noticeable change expected.
Pricing (a component more significant to the overall assessment)	
-	Weak relevance to safety.
Energy quantity determination	
-	Weak relevance to safety.
Energy allocation	
-	Weak relevance to safety.

Assessment	Key reasons
Balancing (a component more significant to the overall assessment)	
-	Weak relevance to safety.
Curtailment	
	No noticeable change expected.
Congestion management	
	No noticeable change expected.
Gas quality and odourisation (a component more significant to the overall assessment)	
	Publication of new monthly and annual odourisation reports would bring an added focus.
Prudential requirements	
	No noticeable change expected.
Force majeure	
	No noticeable change expected.
Liabilities (a component more significant to the overall assessment)	
	No noticeable change expected.
Code changes	
	No noticeable change expected.
Dispute resolution	
	No noticeable change expected.
Term and termination	
-	Weak relevance to safety.
Confidentiality	
-	Weak relevance to safety.
Assignment	
-	Weak relevant to safety.






Assessment	Key reasons
Overall	
	








Overall, from a top-down perspective, we assess the GTAC as providing modest safety improvement from the publication of the results of any odourisation spot checks during a month and of an annual summary report on the facilities, systems, procedures and monitoring in place to comply with the requirements of NZS 5263:2003 for the odourisation of pipelines.

5.5 Top-down assessment – environment

Table 22 summarises the assessment of the GTAC against the environment criteria. Readers should refer to Chapter 4 for the detailed explanation of reasoning in relation to each component of the GTAC.

Table 22 – Top-down environmental assessment

Assessment	Key reasons
Gas transmission products (a component more significant to the overall assessment)	
	The GTAC IA contracts have the potential to further the GPS objective of promoting demand-side management and energy efficiency.
Pricing (a component more significant to the overall assessment)	
	Allowing payments to be made for the curtailment of interruptible end-users should enable more demand-side management, giving a modestly better compliance with Criterion 12.
Energy quantity determination	
-	Weak relevance to environment.
Energy allocation	
-	Weak relevance to environment.
Balancing (a component more significant to the overall assessment)	
	No noticeable change expected.
Curtailment	
	No noticeable change expected.
Congestion management	
	No noticeable change expected.












Assessment	Key reasons
Gas quality and odourisation (a component more significant to the overall assessment)	
	No noticeable change expected.
Prudential requirements	
	No noticeable change expected.
Force majeure	
	No noticeable change expected.
Liabilities (a component more significant to the overall assessment)	
	No noticeable change expected.
Code changes	
	No noticeable change expected.
Dispute resolution	
	No noticeable change expected.
Term and termination	
-	Weak relevance to environment.
Confidentiality	
-	Weak relevance to environment.
Assignment	
-	Weak relevance to environment.
Overall	
	







Overall, from a top-down perspective, we assess the GTAC as a modest improvement in relation to environmental issues. This reflects our expectation that the GTAC will better enable the use of IAs to effect demand-side management, while recognising that such tools are likely to be required on a relatively infrequent basis.

5.6 Top-down assessment – fairness

Table 23 summarises the assessment of the GTAC against the fairness criteria. Readers should refer to Chapter 4 for the detailed explanation of reasoning in relation to each component of the GTAC.

Table 23 – Top-down fairness assessment

Assessment	Key reasons
Gas transmission products (a component more significant to the overall assessment)	
	Fairness should be substantially improved by the creation of a single Receipt Zone, the daily nature of the standard product, and the removal of grandfathered rights. However, the continuation of some SAs seems modestly unfair on those whose contracts must terminate.
Pricing (a component more significant to the overall assessment)	
	Charges based on usage (unless congestion applies) would be moderately fairer.
Energy quantity determination	
	The GTAC would be modestly unfair on parties who would lose their legacy metering rights but also modestly more fair on other users of the system who would then operate on a level playing field.
Energy allocation	
	No noticeable change expected.
Balancing (a component more significant to the overall assessment)	
	It would be moderately more fair that parties would no longer be cashed-out for more than their RM on a day.
Curtailement	
	No noticeable change anticipated.
Congestion management	
	Allocation of scarce capacity on the basis of willingness to pay is seen as moderately more fair than basing it on historic usage.
Gas quality and odourisation (a component more significant to the overall assessment)	
	Modestly more fair that Shippers can call for spot checks of odorant levels rather than relying on First Gas to conduct spot checks from time to time.
Prudential requirements	
	No noticeable change expected.
Force majeure	
	No noticeable change expected.
Liabilities (a component more significant to the overall assessment)	
	No noticeable change expected.

Assessment	Key reasons
Code changes	
	The GTAC would modestly improve fairness, particularly because there is less risk (than under the VTC) of code changes that favour incumbent pipeline users, both Shippers and IPs can propose changes to the GTAC (unlike the VTC, and the circumstances in which First Gas may veto a change request are more clearly prescribed than in the MPOC or VTC).
Dispute resolution	
	No noticeable change expected.
Term and termination	
	No noticeable change expected.
Confidentiality	
	In the MPOC and GTAC, a right exists for the parties to determine information to be confidential. We consider this change would be more fair than the VTC.
Assignment	
	No noticeable change expected
Overall	
	

Overall, from a top-down perspective, we assess the GTAC as having both moderately positive and modestly negative effects on fairness. Improvements would arise from:

- the daily nature of the standard product and the removal of grandfathered capacity rights; and
- parties no longer being cashed-out for more than their RM on a day.

Less fair would be:

- the continuation of a small number of SAs on the non-Maui pipelines while all contracts for use of the Maui pipeline would be terminated and replaced; and
- the loss of legacy capacity rights.

6. Overall assessment

This chapter sets out Gas Industry Co's overall assessment of whether the GTAC is materially better than the current terms and conditions for access to and use of gas transmission pipelines, having regard to the objectives for the industry body in the Gas Act 1992 and the objectives and outcomes in the GPS.

Our overall assessment considers:

1. The bottom-up and top-down analyses of the GTAC (discussed in Chapters 4 and 5 respectively);
2. The extent to which any aspects of the "associated arrangements" would affect our analysis;
3. Coverage of the MPOC, VTC and GTAC, to check that nothing material has been overlooked or inadvertently omitted; and
4. The overall costs and benefits in qualitative terms.

6.1 Bottom-up and top-down analyses

Table 24 summarises the results of the bottom-up and top-down analyses of the GTAC discussed in Chapters 4 and 5. The "all criteria" assessments in the right-hand column of the table show the result for each major component of the code (i.e. the bottom-up assessment). These "all criteria" results reflect the relative significance of different aspects of the GTAC on efficiency, reliability, safety, environmental outcomes, and fairness. For example, the GTAC proposals for balancing are assessed as being particularly significant for efficiency.

As discussed in Chapter 5, in our top-down assessment (with results summarised in the bottom row) we have placed additional emphasis on components of the code that:

1. significantly affect many (if not all) pipeline users on a daily basis (e.g. transmission products); and/or
2. are central to ensuring the reliable and safe operation of the pipeline system (e.g. balancing).

We have noted in the table where a component is considered to be "more significant", as defined in section 5.1. For explanations regarding individual cells in the table, readers should refer to Chapters 4 and 5.

Table 24 – Summary of bottom-up and top-down assessment of GTAC

Efficiency	Reliability	Safety	Environment	Fairness	All criteria
Gas transmission products (a component more significant to the overall assessment)					
Pricing (a component more significant to the overall assessment)					
		-			

Efficiency	Reliability	Safety	Environment	Fairness	All criteria
Energy quantity determination					
		-	-		
Energy allocation					
		-	-		
Balancing (a component more significant to the overall assessment)					
		-			
Curtailment					
Congestion management					
Gas quality and odourisation (a component more significant to the overall assessment)					
Prudential requirements					
Force majeure					
Liabilities (a component more significant to the overall assessment)					
Code changes					
Dispute resolution					
Term and termination					
	-	-	-		

Efficiency	Reliability	Safety	Environment	Fairness	All criteria
Confidentiality					
	-	-	-		
Assignment					
-	-	-	-		
Overall					

Bottom-up assessment

The right-hand column of the table summarises the bottom-up analysis for each major transmission code component (e.g. transmission products). The table shows:

1. The GTAC is expected to be neutral or have beneficial impacts on most transmission code components. In terms of positive impacts, these include substantial benefits for transmission products, moderate benefits for pricing, balancing, curtailment, congestion management, and code changes. A range of other components register modest benefits. Importantly, positive impacts are expected for four of the five areas we regard as especially significant for the overall assessment – being transmission products, pricing, gas balancing and gas quality and odourisation. The only significant area that did not register a gain is liabilities, which we assess as being neutral.
2. On the negative side, the GTAC is expected to have some detrimental effects. However, these effects are assessed as being modest in size and never reach moderate or substantial levels.

Top-down assessment

Turning to the top-down assessment for each assessment criteria (i.e. reading down the table), we assess the GTAC as providing:

1. A substantial efficiency improvement, and a modest detriment;
2. A moderate reliability improvement, and a modest detriment;
3. A modest safety improvement;
4. A modest environmental improvement; and
5. A moderate fairness improvement, and a modest detriment.

In short, we assess the GTAC as providing a range of benefits ranging from modest to substantial. Detriments (if any) are all considered to be modest.

Our finding of substantial and moderate benefits across several areas to which we accord the greatest weighting combines with the incremental cumulative effect of discrete additional benefits to produce, overall, a compelling improvement across both the bottom-up and top-down assessments.

6.2 Associated arrangements

As discussed in Chapter 2, we are required to assess *"the terms and conditions for access to and use of gas transmission pipelines"*. Our Chapter 4 analysis considered the codes and immediately related contracts – TSAs, ICAs, SAs and IAs – in detail. Other associated arrangements were considered where relevant to that analysis. Here we consider whether there are any aspects of those other “associated arrangements” (identified in Figure 1) that might influence our assessment.

We provide a brief description of the associated arrangements (other than the immediately related contracts already considered) that may be relevant to our assessment in Table 25, and consider their relevance below.

Table 25 – Associated arrangements that may be relevant to our assessment

Associated arrangement	Treatment under GTAC	Treatment under MPOC/VTC
Gas transmission pricing methodology	Outside the GTAC	MPOC – prescribes <i>"tariff principles"</i> (MPOC Sch 10), describing how costs will be allocated to the tariff components, but not explaining how these allocations relate to economic principles VTC – outside the Code
PR auction rules	Outside the GTAC, but subject to GTAC change process	Not a feature of either the MPOC or VTC
Wash-up provisions	Schedule Eight: Wash-Ups	MBB D+1 Pilot Agreement
SOPs for balancing, curtailment and Specified Shipper nominations	Outside the GTAC	Only SOPs in relation to balancing and curtailment in relation to the Maui pipeline are published. No non-Maui pipeline SOPs are published.
Park and Loan service provisions	Outside the GTAC	Not a service offered by either the MPOC or VTC

Each item is discussed further below.

Gas transmission pricing methodology

Under the GTAC, the Gas Transmission Pricing Methodology (GTPM) is outside of the code. The VTC takes the same approach. Under the MPOC, there are *"tariff principles"* in MPOC Sch 10.

We have considered the implications of placing the GTPM outside the code for the GTAC. Key factors we regard as relevant are:

- If the GTAC comes into force, First Gas’s transmission pipeline business will remain subject to the Commerce Act’s information disclosure provisions, including a requirement to report on how closely its pricing compares to the Commerce Commission’s pricing principles.
- The GTAC would maintain the approach that is currently applied to the non-Maui system, noting that this system accounted for over 70% of combined transmission charges paid in 2016.¹¹³

¹¹³ Based on disclosed annual line charge revenues for Maui system to December 2016, and for non-Maui system to June 2016.

- Although the MPOC contains tariff principles within the code, it is not clear whether adherence to these principles would necessarily promote the Criteria set out in Table 3 of this paper. The “principles” describe how costs will be allocated to the tariff components, but not how these allocations relate to economic principles.

Overall, we do not believe that placing the GTPM outside the GTAC raises any major concerns relative to the status quo.

PR auction rules

The GTAC makes provision for the auctioning of PRs to Shippers, based on auction terms and conditions that are outside the code. Neither the MPOC nor the VTC include any PRs.

As discussed in Chapter 4, we believe that providing for PRs is a positive feature of the GTAC, relative to the status quo. However, we also regard the detail of the auction terms and conditions as being important, to ensure they achieve their purpose and minimise any adverse effects.

Under GTAC s3.18, First Gas is tasked with developing the auction terms and conditions in consultation with Shippers. These require the approval of the Gas Industry Co under the code change provisions before they can come into effect. We believe this process provides adequate safeguards to minimise the scope for adverse outcomes.

Wash-up provisions

Wash-ups are required when input numbers for the calculation of various transmission charges are updated. This can occur because better information has come to hand or to correct errors. Neither the MPOC nor the VTC addresses wash-ups. This does not seem unreasonable to us. Wash-ups are essentially mathematical corrections that are best addressed by consensus of the technical experts in the industry (such as the Daily Allocation Working Group (DAWG)). However, FAP1 was critical of the absence of an agreed approach to wash-ups, so First Gas has now included GTAC Sch 8 to address the wash-ups that stakeholders are particularly concerned about.

The GTAC (sensibly in our view) does not address all possible wash-ups. In the context of the GTAC, Wash-ups relate to adjustments to previously determined Daily Delivery Quantities. GTAC s1.1 defines a Wash up as an adjustment:

- determined by an Allocation Agent, including adjustments arising from “*interim allocations*”, “*final allocations*”, and special allocations (as those terms are defined in the DRR); and
- to correct for Metering errors or the miscalculation of energy quantities; or
- any adjustment to a previously determined Receipt Quantity, where the effect of such an adjustment shall be as set out in GTAC Sch 8, the “Wash-up Schedule”.

The Wash-up Schedule sets out the algorithms for RM Wash-ups and Balancing Gas allocation Wash-ups, and ERM Wash-ups. We have made no attempt to assess whether the algorithms provided in the Wash-up Schedule are correct. No doubt that will be done by the industry experts and any errors will be corrected through the code change process, if required. In any event, ensuring the effectiveness of wash-up arrangements would be a transitional issue if the GTAC is adopted, and we do not consider it raises any concerns.

Standard Operating Procedures (SOPs)

Balancing SOP

Gas Industry Co does not offer an opinion on the relative technical merits of the MPOC and GTAC Balancing SOPs (and there is no published VTC Balancing SOP). We do not think that this would have much value because First Gas can change any of its SOPs at any time. The MPOC

Balancing SOP can be changed “from time to time”¹¹⁴ and the GTAC SOP can be changed on 30 Business Days’ notice to all Parties, after giving Shippers and OBA Parties an opportunity to comment on any proposed change.¹¹⁵ In this respect, the process for changing SOPs in the GTAC is arguably superior because it provides for explicit interaction with pipeline users.

For general reader interest we set out the broad coverage of the Balancing SOPs in Table 26. We note that they have similar coverage, although the MPOC Balancing SOP processes seem to be more detailed (providing decision flow charts and Line Pack graphs).

Table 26 - Comparison of GTAC and MPOC Balancing SOPs

	GTAC Balancing SOP	MPOC Balancing SOP
Critical contingency	Instructions from the Critical Contingency Operator (CCO) will take precedence over SOP.	
Capacity check	Automatic capacity check to prevent breaching operational limits at each nomination cycle, including analysis of Peaking Party AHPs.	Automatic capacity check at each nomination cycle to prevent breaching the TTP (assumes no Operational Imbalance).
Curtailment	Automatic curtailment of nominations where capacity check does not pass.	
Line Pack	SOP only relates to the management of the Line Pack in the Oaonui to Huntly pipeline (i.e. the Maui pipeline).	
Target Line Pack	Upper and lower limits tabulated with Mokau off and Mokau on.	Upper and lower limits graphed with Mokau off and Mokau on.
Line Pack composition	Assumed to comprise: <ul style="list-style-type: none"> • Flow Line Pack • Shutdown Quantities • Emergency Line Pack • Base Tolerance¹¹⁶ 	Assumed to comprise: <ul style="list-style-type: none"> • Flow Line Pack • Contingency Volume • Flexibility Volume¹¹⁷
Balancing gas actions	Will only consider taking a Balancing Action when Line Pack is within 10% of Acceptable Line Pack Limits and a breach seems likely.	Balancing gas decision tree set out based on whether Balancing Gas is available and considering pressure trend.

Curtailment SOP

Gas Industry Co does not offer an opinion on the relative technical merits of the MPOC Curtailment SOP and GTAC Curtailments and Operational Flow Orders SOP (and there is no published VTC Curtailment SOP). We do not think that this would have much value because First Gas can change its SOP at any time. The MPOC Curtailment SOP can be changed “from time to time”¹¹⁸ and the GTAC Curtailments and Operational Flow Orders SOP can be changed on 30 Business Days’ notice to all Parties, after giving Shippers and OBA Parties an opportunity to comment on any proposed change.¹¹⁹ Again, the GTAC change process is preferable to that in the MPOC.

¹¹⁴ MPOC Balancing SOP Introduction

¹¹⁵ GTAC Balancing SOP, p3, s1.4

¹¹⁶ To cover RM tolerances, analogous to MPOC Flexibility Volume

¹¹⁷ To cover OI tolerances, analogous to GTAC Base Tolerance

¹¹⁸ MPOC Curtailment SOP, p6, Introduction

¹¹⁹ GTAC Curtailments and Operational Flow Orders SOP, p4, s1.8

For general reader interest we set out the broad coverage of the SOPs. We note that they have similar coverage, although the MPOC Curtailment SOP processes seem to be more detailed (providing decision flow charts and Line Pack graphs).

Table 27 - Comparison of GTAC and MPOC Curtailment SOPs

	GTAC Curtailments and Operational Flow Orders SOP	MPOC Curtailment SOP
Coverage	<ul style="list-style-type: none"> • Curtailments • OFOs 	<ul style="list-style-type: none"> • Curtailments • OFOs • Critical Contingency Procedures
Categories of Curtailment	<ul style="list-style-type: none"> • Capacity Check Initiated (at each nomination cycle) • Operations Initiated (for any of the reasons listed in GTAC s9). Generally: <ul style="list-style-type: none"> ○ Issue at RP ○ Issue at DP ○ Regional high pressure in the receipt zone due to over-injection ○ Shortage of gas in a delivery location or low Line Pack due to overtaking ○ Regional high pressure in the receipt zone due to undertaking by users ○ Shortage of gas in a delivery location or low Line Pack due to under-injection 	<ul style="list-style-type: none"> • MPOC s15.2 Welded Party initiated curtailment • MPOC s15.1 RP flowing below SQ • MPOC s15.1 DP flowing below SQ • Gas shortage/low pressure • Gas surplus/high pressure • Physical Maui pipeline event
Curtailment decision making	Decision tree provided	Decision tree provided
Notices	Templates still to be developed	Standard wording for notices provided
Critical contingency	Both subject to Gas Governance (Critical Contingency Management) Regulations 2008	
End-user shut down quantities	Will accommodate shut down quantities notified under GTAC s9.6 where practical.	-
Changes to SOP	First Gas will give 30 Business Days' notice of changes to all Parties.	-

Although the GTAC SOPs and MPOC SOPs relate to different access arrangements, we do not think that the discretion First Gas has to develop the SOPs is materially different. Considering

that there are no non-Maui SOPs in the public domain at present, we assume the introduction of GTAC SOPs covering both Maui and non-Maui pipelines would be welcomed by system users.

Park and Loan service provisions

The GTAC contemplates that First Gas may offer a Park and Loan service to pipeline users. Key terms such as the amount of storage offered and the service fees would be defined by First Gas from time to time. The Park and Loan service would allow parties to temporarily add to, or borrow from, system Line Pack. The service is not provided for under either the MPOC or VTC.

GTAC s8.5 provides that First Gas must have regard to the flexibility needed to support gas transport obligations, balancing tolerances and any other Code obligations before considering the Line Pack flexibility that can be made available for a Park and Loan service. This section reduces the risk that other uses of pipeline flexibility will be adversely affected by the provision of a Park and Loan service.

To the extent that First Gas has residual discretion over the disposition of Line Pack flexibility among competing uses, the incentives acting upon it will be relevant. In that context we note Park and Loan revenues are subject to the Part 4 revenue cap applying to transmission services. We would therefore expect First Gas to allocate the Line Pack flexibility across the various sources of demand in a relatively neutral manner.

In principle, the provision of a Park and Loan service would be a positive development, as it would provide pipeline users with a new tool to address their short-term gas flexibility requirements. However, we treat the service as neutral to our analysis because it is not fully defined and may not be offered.

6.3 MPOC, VTC and GTAC coverage

Here we consider whether there are any matters that are addressed in the MPOC/VTC regime that are not present, or not dealt with to the same level of detail, in the GTAC; or matters in the GTAC that are not present in the MPOC/VTC regime. In short, we look at whether there are areas where the footprints of the access regimes do not overlap, and how that might affect our analysis.

Table 30 in section C.1 of Appendix C identifies the sections of each code which are common or unique. We believe that all the differences have been considered in our analysis, but for completeness we reference these below.

Interconnection

In the MPOC the common terms of interconnection are dispersed through the code. In the VTC interconnection is only dealt with to the extent that First Gas is required to ensure that ICAs contain certain terms (for example, that RP ICAs require the IP to only inject specification gas (VTC s12.2)). In the GTAC the common terms of ICAs are clearly distinguished and set out in detail (GTAC Sch 5 for RP ICA common terms and GTAC Sch 6 for DP ICA common terms).

As discussed in section 4.1 and section C.3 of Appendix C, we consider the GTAC interconnection arrangements are on a par with those of the MPOC and are more comprehensive and transparent than those of the VTC.

Incentives Pool (liquidated damages)

The most noticeable change proposed to the liability arrangements is the absence of the MPOC's Incentives Pool and the associated VTC allocation arrangement known as the BPP. There is no liquidated damages mechanism for parties who are unable to take quantities of gas due to another party's overrun or peaking.

As discussed in section 4.9 and section C.7 of Appendix C, the liability arrangements in the GTAC are closely aligned with the current codes aside from the absence of a liquidated damages

arrangement. However, while it may appear to represent a loss of the right for Welded Parties or Shippers to take action to remedy a potential loss, the GTAC provides incentives for Shippers to manage a balanced position (overrun/underrun charges, primary balancing obligations, ERM charges). The existence of those incentives and the lack of use of the Incentives Pool means that the absence of an equivalent mechanism in the GTAC does not result in any real detriment. There is also no evidence that the Incentives Pool, if used, would have been effective to compensate the aggrieved party. We conclude that the absence of an Incentives Pool equivalent would not have a material impact on efficiency.

Balancing and Peaking Pool (BPP)

In addition to facilitating the operation of the Incentive Pool (discussed above), the BPP is a mechanism defined in the VTC for ring-fencing MPOC balancing and peaking related costs and credits and allocating them among VTC Shippers via a trust account.

As discussed in sections 4.1 and 4.5, since the GTAC provides a unified transmission access regime, including system-wide arrangements for balancing and peaking, there would be no need for the two stage process currently mediated by the BPP.

Congestion management

GTAC s10 directly addresses congestion management and defines products to encourage demand side management.

As discussed in section 4.7, we assess these features as strongly positive, but also recognise that they are only likely to be used occasionally.

Wash-ups

GTAC Sch 8 directly addresses the calculation of wash-ups. This is not a feature of the MPOC or VTC.

As an associated arrangement, wash-ups are discussed in section 6.2, and in relation to energy allocation, they are discussed in section 4.4. We conclude that wash-ups do not raise any concerns.

Tariff principles

The MPOC contains a schedule entitled "Tariff Principles" which describes how costs will be allocated to derive Maui pipeline tariffs. Neither the VTC nor the GTAC has anything similar.

As an associated arrangement, pricing methodology is discussed in section 6.2, and pricing is discussed more generally in section 4.2. Our conclusion is that placing the GTPM outside the GTAC does not raise any major concerns relative to the status quo.

Contracts between Shippers and the owners of interconnected pipelines

MPOC s2.14 provides that gas cannot be received or delivered at a TP Welded Point unless there is a contract in place between the Shipper and the TP Welded Party that is consistent with the principles set out in MPOC Sch 9. These principles (of which there are 7) cover such matters as daily balancing of gas, agreement to abide by the Gas Transfer Code etc.

If the GTAC is progressed and another open access transmission pipeline owner wishes to interconnect with the First Gas system, any contracts between Shippers and the owners of such a pipeline would need to be workable with the GTAC. It should not be necessary to place GTAC obligations on Shippers to achieve that.

Station Access Rights

Under MPOC s26, each Welded Party grants First Gas access to its stations for a variety of purposes. This is not provided for in the VTC, and the GTAC only allows for the IP to give First Gas "a bare licence to access, occupy and use" land in respect of its odourisation facilities (RP ICA

s7.3). We assume that First Gas is satisfied that it can negotiate access on a case by case basis if needed.

6.4 Overall costs and benefits

While we have tried to avoid double-counting of costs and benefit, we recognise that our analysis may in some instances have recognised the same cost or benefit in relation to different aspects of the access regime. For example, we note the administrative burden of increased nominations in relation to Products in section 4.1 and Prices in section 4.2. However, overall we believe that a clear picture has emerged of the overall qualitative costs and benefits that would arise if the GTAC is introduced and we are satisfied that any scope for double-counting has not unnecessarily skewed our conclusions.

Costs

Costs would arise from the introduction of the GTAC, but most would only occur occasionally. For example, occasional costs would arise from:

- Initial set-up

There would be costs associated with re-alignment or re-negotiation of some contracts, consequential to changes in TSA and ICAs, in addition to costs to adapt business processes to the new code procedures.

- Slower response to some adverse events

Although the GTAC provides for more nomination cycles than at present (7 rather than 4) and allows for emergency nomination cycles in some situations, Maui pipeline IPs would lose their ability to reduce Shipper nominations immediately in the event of certain adverse events (MPOC s15.2). This could potentially delay a response to such an event.

- PR auction costs

PR auctions would only occur when there is congestion and, where the auctions clear, the costs of the auctions would be funded by the PR purchasers.

Since the above costs would not be incurred in normal day to day operation of the system, they do not weigh heavily in our overall assessment. However, one additional cost we have identified which would be persistent is:

- Increased transaction costs

We believe some Shippers who supply gas to mass-market end-users and do not opt for the auto-nomination service would incur ongoing increased administrative costs from a higher nomination workload.

Our analysis also recognises that introducing the GTAC could be unfair to parties who, for example, would no longer have grandfathered rights to capacity, or who unwillingly have to replace existing, often long-standing contracts with new TSAs or ICAs.

Benefits

In contrast to the predominantly transient costs, we believe the benefits of introducing the GTAC would generally be pervasive and enduring. These benefits include:

- Unifying and standardising transmission products and processes

Gas Industry Co agrees with those stakeholders who have expressed the view in workshops and submissions that a single code offers significant inherent benefits. One regime across the entire pipeline system would make it easier for Shippers to transport and trade gas without grappling with MPOC/VTC interface issues, and for First Gas to manage the pipeline and associated IT systems. In addition, the GTAC would also be able to evolve more easily,

without the alignment and co-ordination issues that have exacerbated MPOC and VTC changes.¹²⁰

- Adopting DNC as the primary transport product

Our analysis concludes that the inherent flexibility of the DNC transport product would promote more efficient use of the pipeline system and improve competition in upstream and downstream markets.

- Adopting a simple, system-wide approach to gas balancing

Replacement of the existing two stage regime (daily cash-outs for Maui pipeline Shippers followed by complex BPP cost allocations for non-Maui pipeline Shippers) with a unified system-wide balancing regime is judged more efficient.

- Removing grandfathering provisions that can impede competition

We have acknowledged that it may be unfair that incumbent Shippers lose their grandfathered rights to capacity, however, it would level the playing field for new entrants.

- Facilitating the trading of gas via a single receipt zone

Frictionless trading of gas in a single receipt zone should improve gas market liquidity.

Other benefits are only likely to be realised occasionally but contribute to the GTAC proposal being comprehensive and robust. For example:

- Widening and improving the tools available for management of pipeline congestion

Although congestion may be rare, when it does occur the IA and PR design should allow scarce capacity to be allocated on a willingness to pay basis, and permit better use of the available physical capacity, as well as providing improved price signals.

- Simplifying and strengthening the arrangements to manage curtailments

The identification of Peaking Parties, stronger incentives to comply with OFOs, and simplified curtailment algorithms, should facilitate more effective pipeline management when curtailment is necessary.

Conclusion

If the GTAC is introduced, we assess that the costs are modest in size and generally transient. We believe they are outweighed by the significant, pervasive and enduring benefits.

6.5 Overall conclusion

For the reasons expressed in this FAP and its supporting Appendices, and having considered the range of views expressed during the process and in submissions on the PAP, we have determined that the GTAC taken as a whole is materially better than the current terms and conditions for access to and use of gas transmission pipelines having regard to the objectives in section 43ZN of the Act and the objectives and outcomes in the April 2008 GPS issued under section 43ZO

¹²⁰ Stakeholders may recall the lengthy and complex changes that were required to introduce MBB into the MPOC together with the consequential changes needed to the VTC.

Appendix A MPOC s22.16

TSP [Transmission Service Provider i.e. First Gas] may terminate every ICA and TSA simultaneously with effect at 0:00 hours on the New Code Date provided that it has published the functional specifications and data interface of the information technology system selected to implement the New Code not later than 120 Business Days before the New Code Date and provided that the following conditions have been satisfied not later than 40 Business Days before the New Code Date:

- (a) TSP has published the New Code on the TSP IX which provides for the following:
 - (i) all Shippers using the Maui Pipeline, and VTC Shippers using the Transmission Pipelines governed by the VTC, may continue to transport gas through those pipelines; and
 - (ii) all Welded Parties may continue to connect their respective Pipelines to the Maui Pipeline, on and after the New Code Date;
 - (b) following an appropriate consultation process which includes GIC publishing a draft determination and asking each Shipper and Welded Party whether it supports the New Code, GIC has published a final determination that the New Code is materially better than the current terms and conditions for access to and use of gas transmission pipelines having regard to the objectives in section 43ZN of the Gas Act 1992 and any objectives and outcomes the Minister has set in accordance with section 43ZO of the Gas Act 1992;
 - (c) the VTC and all transmission services agreements incorporating the VTC shall terminate on the New Code Date;
 - (d) TSP has published the New Code Date on the TSP IX;
 - (e) TSP certifies that the information technology systems required to implement the New Code are fit for purpose and ready to be put into production on the New Code Date;
- and
- (f) TSP has delivered an executable contract to:
 - (i) Each Shipper and VTC Shipper for it to continue to transport Gas through the Maui Pipeline and the Transmission Pipelines covered by the VTC;
 - (ii) Each Welded Party for it to continue to connect its Pipeline(s) to the Maui Pipeline; and
 - (iii) emsTradepoint to allow the Trading Platform to continue functioning, on and after the New Code Date.

Appendix B Submissions on the PAP

This Appendix provides a summary of submissions on the PAP. We provide this for the reader's convenience and have tried to distil the stakeholder comments that are most directly relevant to the assessment. However, we recommend that readers refer to the original submissions in full.

We present the summarised submissions in two formats. Table 28 is a summary in the order of each submitter, Table 29 is a summary in order of each question posed in the PAP. The content of each table is not identical because, for example, some submitters responded to the questions but also had additional points to raise, and some submitters chose not to address each question directly.

While we hope our summaries capture the main points of each submission, not all those points are relevant to our MPOC s22.16(b) assessment. We appreciate that some stakeholders believe that some aspects of the GTAC could be improved, but our task in this FAP is to make a comparative assessment of what is before us, not to consider whether alternative options would be preferable.

Table 28 - Summary of submissions on PAP, by submitter

emsTradepoint
<ul style="list-style-type: none">• Supports First Gas's GTAC development process and considers GIC's assessment process is robust.• Positive about GTAC but believes it does not sufficiently ringfence First Gas's commercial and system operations. First Gas should consider:<ul style="list-style-type: none">◦ making a clear statement on how confidential information will be ringfenced (good models would be MPOC s24, and the Conflict of Interest framework included in the Electricity Industry Participation Code (EIPC));◦ establishing physically separate commercial and operational teams to give emsTradepoint and others comfort¹²¹; and◦ adding a confidentiality schedule to the Code.• Timely outage information is essential to a well-functioning gas market. This should have been addressed in the GTAC.
First Gas
<ul style="list-style-type: none">• PAP overstates additional workload and understates benefit of nominations:<ul style="list-style-type: none">◦ portfolios currently need to be managed to deliver the right amount of gas is uplifted and delivered;◦ the GTAC offers more options for doing this through greater choice of allocation arrangement and offering an auto-nomination service for mass market load;◦ nominations will allow the operator to anticipate events and operate the system pro-actively; and◦ additional ID cycles are optional so Shippers would only use them if there was a net benefit.• The risk of gaming the peaking regime is overstated because:<ul style="list-style-type: none">◦ the effort of assiduously managing flows is unlikely to be worthwhile; and◦ such behaviour would be mitigated by the RPO obligation.

¹²¹ For example, like Transpower's procedure PR-SD-004 Conflict of Interest, section 6.7.

- The unfairness of VTC SAs continuing while MPOC arrangements terminated is overstated because:
 - only a small number of Existing SAs could survive beyond a year without falling under the GTAC SA provisions, and some of these may be abandoned because of the more flexible DNC product; and
 - honouring existing SAs preserves diversity and magnitude of load.
- GTAC balancing retains the benefit of daily balancing within tolerance, while avoiding unnecessary secondary balancing activity.
- The removal of MPOC s15.2 should not be an issue because:
 - More ID cycles, and the option to call for an Extra ID cycle, diminish its importance;
 - MPOC 15.2 simply transfers responsibility for imbalance from producers to Shippers; and
 - Coordination between producers and Shippers is likely to improve as a result.
- Where PR auctions clear, the admin cost is recovered via the reserve price, and not socialised.
- An additional benefit in relation to odorisation is that GTAC s13.5 requires First Gas to publish an annual summary report, better enabling retailers to comply with their Safety Reg. obligations.
- Regarding confidentiality, MPOC ring fencing is not required because:
 - All parties have a right of audit; and
 - First Gas will produce a confidentiality protocol to ensure that information for managing the system is only available to operations personnel and not to commercial personnel.
- SAs bring benefits that should be highlighted:
 - more efficient usage is possible by making SAs an option for Maui pipeline Shippers; and
 - transparency and fairness is improved by the more detailed criteria for assessing SAs.
- The PAP analysis of OR/UR charges appears to ignore the option for Shippers to the mass-market to reduce their OR/UR exposure by opting for the auto-nomination service.
- VTC Shippers will have greater transparency of their balancing tolerances.
- The Incentives Pool is unused because it is impractical to link an event causing incentive pool credits with actual loss. Also, it only affects how money collected is distributed, and does not affect incentives. If a better liquidated damages regime can be designed, First Gas will consider it.
- Does not agree that there is any difference in construction of TTP between the MPOC and GTAC.
- Ahuroa ownership will not influence the operation of gas transmission, because:
 - Shippers own gas and instruct GSNZ when to inject and extract gas;
 - First Gas must treat all transmission system users equally and act as an RPO;
 - GTAC will provide greater transparency of Ahuroa nominations (on OATIS);
 - Commerce Commission rules require related party transactions to be valued (i.e., admin, commercial management, finance IT costs will be separately accounted for); and
 - The maximum ERM charge (\$1/GJ) is significantly lower than current or expected storage charges.

Genesis Energy

- Agrees that on the whole the GTAC is materially better than the status-quo arrangements and supports replacing the MPOC and VTC with the GTAC.
- Benefits include the daily capacity product, the auto-nomination service, and the single balancing regime.
- Considers the robust design process has resulted in a robust, fit-for-purpose code.
- Keen to progress to implementation and finalising design of matters such as the PR auction rules, auto-nomination service and park-and-loan service.
- Concerned about the short time for implementation and integrating stakeholder platforms.

Greymouth

- GIC must not approve the GTAC because certain flaws make it unworkable. In particular, the GTAC does not:
 - give a person the right to become a Shippers or an IP (if certain conditions are met);
 - allocate Stratford 3 (Ahuroa) deliveries; or
 - publish real time estimated RM data.
- The PAP analysis does not recognise:
 - the competitive effects of the auto-nomination regime;
 - the allocative inefficiency of zoning;
 - the potential harm from First Gas's discretion to decide which zone a DP is in;
 - that excluding DPs with OBAs from Delivery Zones makes no sense;
 - if a special price is struck under an SA, all prices for transport to the Delivery Zone of the SA's DP would need to be reduced because First Gas has an obligation not to give preferential pricing to any Shipper in a zone;
 - Shippers with Existing Supplementary Agreements will not be required to have GTAC TSAs, so there are two classes of Shipper;
 - flaws in the wash-up algorithms (hence missing the substantial effect of Ahuroa deliveries not being allocated and the unclear treatment of RM positions);
 - that the allocation method for bi-directional points is not specified;
 - that Shippers will not know their deliveries in time to make balancing decisions;
 - that there is already a system-wide balancing regime;
 - the inefficiency from punitive ERM charges;
 - that the Transmission System definition allows the system to transport hydrogen;
 - that GTAC Sch 2 does not require publication of which IPs have elected OBAs;
 - the potential harm of the peaking arrangement gaming GIC identified;
 - the scope for the balancing SOP to give discriminatory tolerances;
 - the incentive value of the Incentives Pool (it is irrelevant that it hasn't been used);
 - the unfairness/inefficiency of First Gas curtailing based on its own estimate of RM; or
 - that First Gas would make less well targeted curtailments.
- The PAP underweights:
 - the competitive advantage DNC gives to diverse shippers;
 - the complexity and uncertainty of the GTAC v status quo;
 - the potential harm from First Gas's discretion to create capacity that ranks ahead of DNC;
 - the potential for unfairness and inconsistency in First Gas's discretion re ICA terms;
 - the loss of reliability from more relaxed TTP provisions;
 - the potential harm from the Ahuroa affiliation, noting:
 - First Gas has been party to a Gas Transfer Agreement at Ahuroa (i.e., would own gas);
 - the same person has commercial responsibility for Ahuroa and the transmission business;
 - Ahuroa has already been used for temporary storage;
 - First Gas can change tolerances outside GTAC (so directing business to storage); and
 - the park-and-loan service could use Ahuroa.
- The PAP overweights:
 - compressor fuel savings (compressors will be used to provide balancing tolerances);

- the removal of the indefinite term of the MPOC;
- the benefit of wash-up arrangements being in the GTAC (since they are in VTC); and
- the benefit of balancing tolerances (current tolerances are double what GIC says).

MGUG

- Generally supports the overall assessment that GTAC is materially better than the existing arrangements.

Methanex

- Methanex sees general deterioration from MPOC (PAP benefits mostly relate to VTC).
- Outcomes largely depend on First Gas behaviour. If GTAC is progressed GIC must hold a post-implementation review.
- PAP reasoning for reduced risk of socialised curtailment is wrong because:
 - nominations are a less reliable basis for curtailment, because of wide tolerances;
 - Shippers have no better means to self-balance, so more reliance on this is misplaced;
 - there is less guidance (than in MPOC) for when First Gas will pro-actively balance; and
 - using Mokau compressors to provide flexibility means they are not available for unpredicted swings.
- PAP does not recognise that loss of Incentives Pool would mean:
 - a party curtailed due to another's action has no remedy; and
 - there is no compensation mechanism.
- PAP undervalues unfairness associated with ICA arrangements:
 - VTC ICAs continue, MPOC ICAs must be re-negotiated; and
 - First Gas will have undue negotiating power.
- PAP does not adequately address concerns about RM tolerances:
 - excessive free flexibility may be provided to shippers; and
 - Shippers get benefit of Mokau providing flexibility, but Mokau costs are shared with others.
- PAP overestimates benefit of peaking regime because of:
 - the size of peaking tolerances and ease of re-nominating hourly and daily quantities;
 - linking the peaking charge to location creates an inherent bias; and
 - peaking miscreants cannot be targeted with higher fees.
- PAP should not have ignored the Gas Transmission Pricing Methodology (GTPM), because:
 - the opportunity for stakeholder input is lost (First Gas may not consult);
 - the MPOC Tariff Principles are lost as is the concept or redesign occurring within the code;
 - there is a regulatory gap if the Commerce Commission is only concerned with overall revenue and not allocation methodologies; and
 - GTPM must be subject to consultation.

OMV

- Code may be workable, but OMV believes that deeming an IP a non-RPO when it injects non-specification Gas is un-necessary.
- OMV accepts that a party injecting non-specification gas should be liable whether it is an RPO or not, but deeming it a non-RPO is un-necessary and has consequences beyond the GTAC (for example the EPA may take it at face value that the party is a non-RPO).
- Suggests simple change to avoid the problem.

Nova

- Supports GIC's conclusion that the GTAC is materially better.
- Primary benefits are:
 - a single, simpler, more accessible IT system;
 - more efficient system management, aided by single Receipt Zone and separation of delivery and receipt nominations; and
 - users only pay for the capacity they use.
- The effectiveness of GTAC incentives will only be fully understood with experience, but GTAC is sufficiently flexible to adjust.
- A rebate system would be a better way of recycling incentive payments, but this can be re-visited in future.
- An IP should not be automatically deemed to be a non-RPO for injecting non-specification Gas.
- The removal of the Incentives Pool and Balancing and Peaking Pools should not have any significant detrimental effect. The GTAC incentives appear sufficiently strong, and it is not clear if accessing compensation for loss under the Incentives Pool would be any easier than seeking compensation under the GTAC.
- GTAC should provide improved control of Receipt Zone pressure. If it doesn't, there are sufficient GTAC levers to pull.
- Regarding Ahuroa ownership, there is sufficient protection in the GTAC to prevent First Gas using its transmission position to maximise non-regulated Ahuroa revenues.

Vector

- Agrees that the GTAC is materially better.
- Concerned about possible price shocks and how they might affect future demand for gas.
- Disappointed that the current 12.00 publication time for gas composition data could not be improved as it limits improvements to DDR timing.
- Note that PRs are untested.
- Agrees that allowing Shippers to request odorant spot checks is an improvement. But, more importantly, First Gas would publish the previous month's odorant test results and annual information to allow Shippers to demonstrate compliance with the Safety Regulations (although disappointed that RP IPs were not also required to provide similar information to First Gas).
- Would prefer a voting regime for code changes.
- Agrees that legacy agreements must be honoured, just as they were when the MPOC was introduced.
- GTAC pricing would likely need adjustment when the accuracy of Shipper nominations is known. Notes difficulties of comparing to the current pricing arrangements.
- First Gas has sufficient tools to ensure proper pipeline use, so the removal of the incentives pool mechanism is not detrimental.
- Notes that the First Gas RPO obligation makes it unlikely that it could manipulate transport arrangements to profit its Ahuroa operation.

Table 29 - Summary of submissions on PAP, by PAP question

GIC questions and Stakeholder responses on Preliminary Analysis

Q1: Do you agree with our assessment of the GTAC gas transmission products?

First Gas

1. The PAP overstates the additional workload from GTAC shipper nominations. The work needed to match gas receipts and deliveries must be done under both regimes. And the GTAC provides more flexibility in how the workload is allocated by:
 - allowing, but not mandating, OBAs at all RPs and DPs;
 - providing more nomination cycles to choose from; and
 - offering auto-nominations for mass-market load.
2. The PAP does not fully value the benefit from nominations allowing First Gas to better anticipate events and manage the system more efficiently.
3. The PAP wrongly considers the additional ID cycles as bringing additional cost. In fact, they are optional so Shippers would only use when there was a net benefit.
4. The risk of gaming the peaking regime is overstated because:
 - the effort of assiduously management flows is unlikely to be worthwhile; and
 - such behaviour would be mitigated by the RPO obligation.
5. The unfairness of VTC SAs continuing while MPOC arrangements terminated is overstated because:
 - only 7 Existing SAs could survive beyond a year without falling under the GTAC SA provisions, and some of these may be abandoned because of the more flexible DNC product; and
 - honouring existing SAs preserves diversity and magnitude of load.

Greymouth

1. The PAP argues that both VTC reserved capacity and GTAC DNC to some extent favour Shippers with a more diverse customer base. The analysis in section B.4 concludes the effects would be of a similar order. Greymouth disagrees and argues that, absent congestion:
 - VTC Shippers have discretion about how much reserved capacity to book and therefore exposure to overruns is a controlled decision with no competitive advantage. And there is no exposure to URs; while
 - GTAC Shippers have no control on exactly how accurate their nominations will be.So, the GTAC gives a greater competitive advantage to retailers with established, diverse customer bases.
2. The PAP fails to assess whether or not the auto-nomination regime creates competition issues.

Vector

Yes.

Q2: Do you agree with our assessment of the GTAC pricing arrangements?

First Gas

The PAP overstates the costs associated with nominations (see Q1).

Greymouth

1. Relative to the point-to-point pricing of the MPOC and VTC, the Receipt Zone to Delivery Zone pricing is less allocatively efficient.
2. Given First Gas discretion to decide which Delivery Zone a DP should be in, the absence of independent oversight should be assessed negatively.
3. It makes no sense to exclude DPs with OBAs from Delivery Zones. It also raises uncertainty about how such DPs would be priced.
4. New SAs could create price inequality and Existing SAs create two classes of Shipper.

Vector

The change to GTAC prices could result in price increases that affect the ability of some end users to continue using gas.

Q3: Do you agree with our assessment of the GTAC energy quantity determination?**First Gas**

The new Metering Requirements is a performance-based standard rather than a prescriptive standard. So, documentation and demonstration of compliance may change, but capital expenditure on metering equipment should not be required. In comparison the MPOC technical standards led to a rigid compliance regime rather than best practice.

Vector

Disappointed that First Gas did not improve on the 12:00 publication time for Gas Composition Data since that means Retailers cannot improve on the production of information for the downstream allocation process.

Q4: Do you agree with our assessment of the GTAC energy allocation?**First Gas**

The PAP overstates the additional workload from GTAC shipper nominations. The work needed to match gas receipts and deliveries must be done under both regimes. And the GTAC provides more flexibility in how the workload is allocated by:

- allowing, but not mandating, OBAs at all RPs and DPs;
- providing more nomination cycles to choose from; and
- offering auto-nominations for mass-market load.

Greymouth

1. The VTC already has allocation algorithms in the code.
2. GIC must assess the wash-up algorithms in detail and make a comparison with current arrangements.
3. Compared to the VTC the wash-up of GTAC Running Mismatch is confusing.
4. GTAC s6.3 and Sch4 s2.2 are unworkable for bi-directional points.

Vector

As noted in relation to Q3, the failure to improve publication times limits future improvements to the allocation process.

Q5: Do you agree with our assessment of the GTAC balancing?

First Gas

GTAC balancing retains the benefit of daily balancing within tolerance, while avoiding unnecessary secondary balancing activity.

Greymouth

1. Under current arrangements there is system-wide balancing, so the PAP is overstating the benefits.
2. The PAP is wrong to assume that validated DDRs will be available sooner to help Shippers take balancing decisions. Since the Gas Composition Data will still only be available at 12:00, as at present, DDRs will not be produced any earlier.
3. The punitive nature of ERM charges may encourage inefficient behaviour.
4. The modest reduction of compressor fuel use (PAP Balancing Environment assessment p66) may not happen because First Gas has a policy to maximise Mokau use and will probably want to maximise tolerances.

Vector

Yes.

Q6: Do you agree with our assessment of the GTAC curtailment?

First Gas

Does not agree that the absence of an MPOC s15.2 mechanism should not be an issue because:

- More ID cycles, and the option to call for an Extra ID cycle, diminish its importance;
- MPOC 15.2 simply transfers responsibility for imbalance from producers to shippers; and
- Coordination between producers and Shippers is likely to improve as a result.

Greymouth

See Q21 response.

Methanex

Believes the PAP reasoning for reduced risk of socialised curtailment is wrong because:

- nominations are a less reliable basis for curtailment, because of wide tolerances
- Shippers have no better means to self-balance, so more reliance on this is misplaced
- there is less guidance (than in MPOC) for when First Gas will pro-actively balance
- using Mokau compressors to provide flexibility means they are not available for unpredicted swings

Vector

Yes.

Q7: Do you agree with our assessment of the GTAC congestion management?

First Gas

Where PR auctions clear, the admin cost is recovered via the reserve price, and not socialised.

Greymouth

PRs may drive up consumer gas prices in congested areas, where curtailment of mass market customers is unlikely to affect the physical state of the pipeline.

Vector

Yes, but unsure that PRs will be effective.

Q8: Do you agree with our assessment of the GTAC gas quality and odourisation?**First Gas**

The PAP does not recognise the additional benefit of GTAC s13.5 requiring First Gas to publish an annual summary report, better enabling retailers to comply with their Safety Reg. obligations.

Greymouth

Yes.

Vector

Agrees that allowing Shippers to request odorant spot checks is an improvement. But, more importantly, First Gas would publish the previous month's odorant test results and annual information to allow Shippers to demonstrate compliance with the Safety Regulations (although disappointed that RP IPs were not also required to provide similar information to First Gas).

Q9: Do you agree with our assessment of the GTAC governance?**First Gas**

MPOC ring fencing is not required because:

parties have a right of audit;

- First Gas will produce a confidentiality protocol to ensure that information for managing the system is only available to operations personnel and not to commercial personnel.

Greymouth

1. Real time Running Mismatch positions are important for system users. These are currently available on the BGIX, but GTAC s8.15 expressly prohibits First Gas from publishing intra-day estimated Running Mismatch positions.
2. The removal of the indefinite term of the MPOC should be recognised as a negative.
3. The PAP does not assess how the GTAC would protect natural gas from hydrogen. The MPOC and (to a lesser extent) the VTC define the Transmission System with reference to physical reference points. The GTAC defines it as a system for the transportation of Gas. So First Gas could make the system unavailable by transporting hydrogen rather than Gas.
4. The length, complexity and uncertainty of the GTAC is a negative against the combined MPOC/VTC.

Vector

Would prefer a voting regime for code changes.

Q10: Do you agree with our top-down analysis?**First Gas**

Broadly agrees with the top-down assessment, except for the points noted above.

Greymouth

Disagrees with the top-down assessment, for the reasons noted above.

Vector

Agrees with the top-down assessment, but notes concern about pricing winners and losers.

Q11: Do you agree with our overall assessment?**First Gas**

Yes.

Greymouth

Disagrees with the overall analysis, for the reasons noted above, and because of inconsistencies with the analysis:

1. Average horizontal and vertical assessments both seem to be a modest improvement, which could not be interpreted as "significant"
2. The analysis obfuscates "significant" and "substantial", terms that mean the same.
3. Some FAP1 issues have improved, removing red arrows, but there is no real improvement to the green arrows.
4. Adding the issues noted in response to previous questions, it is clear that GTAC is not materially better.

Methanex

Assessing the GTAC against a notional combined VTC/MPOC regime is unfair on Methanex who only uses the Maui pipeline and would experience the detriments of a change rather than the claimed benefits.

Vector

Generally agrees with the overall assessment.

Q12: Do you support the GTAC?**emsTradepoint**

Has a positive view of the New Code but considers it would be further enhanced by a clear statement on confidentiality from First Gas.

First Gas

Yes.

Genesis

Yes.

Greymouth

No.

Methanex

No

MGUG

Yes

Nova

Yes, but shares OMV's concern re the non-RPO deeming provision.

OMV

Does not answer directly. Accepts that the code may be workable but remains concerned at the non-RPO deeming in GTAC Sch 5 s6.17.

Vector

Yes.

Q13: Do you agree with our analysis of the code design?**First Gas**

Yes.

Greymouth

Yes, except wash-up arrangements are not unique to the GTAC. The MBB D+1 Pilot Agreement contains the current wash-up arrangements and is part of the VTC.

Vector

Yes.

Q14: Do you agree with our analysis of non-standard contracts?**First Gas**

The PAP misses two significant benefits. The GTAC:

- would open the opportunity for SAs on the Maui pipeline, potentially increasing usage; and
- has more detailed criteria for the assessment of SAs, improving transparency and fairness.

Greymouth

The PAP misses an important point – the GTAC s7.4 allows First Gas to choose between DNC or some other type of capacity and rank it above or below DNC. Together with the legacy VTC SAs this would create two non-standard capacity products, which is neither efficient or fair.

Vector

Yes, existing SAs must be honoured just as legacy arrangements were honoured when the MPOC was introduced.

Q15: Do you agree with our analysis of ICAs?**First Gas**

Yes, The GTAC meshing approach is superior to the MPOC (where ICA terms are too constrained) and the VTC (where ICA terms risk becoming incompatible with transport arrangements).

In PAP table 30, in relation to Injection/Delivery of Gas, GIC comments that, regarding excessive flows, the differences between Sch5 s3.3(a) and Sch6 s3.5(a) is not easy to understand. The difference in wording simply reflects the different equipment that First Gas normally owns at RPs and DPs, and the difference in risk that excessive flow can present to that equipment. At RPs, there is generally little or no First Gas equipment that can be damaged by high flow, but could over-pressure the First Gas pipeline. At DPs, First Gas equipment such as meters could be damaged whereas the upstream pipeline is unlikely to be affected.

Greymouth

1. Given the scope for bespoke terms outside the GTAC, independent oversight should be required for ICAs to ensure fairness and consistency. Of particular concern is the ability of First Gas to over-recover the capital costs of interconnection.

-
2. To understand the terms of interconnection the MPOC is an easier read than the GTAC.
 3. First Gas is not required to publish which IPs have elected OBAs. The analysis obfuscates “significant” and “substantial”, terms that mean the same.
 4. From GTAC Sch 5 s1.3 and GTAC Sch 6 s1.3, the ICA could become mis-aligned with the GTAC if a party does not request a restated ICA.

Nova

While a producer should be liable for losses resulting from any non-specification gas it injects, it should not automatically be deemed a non-RPO.

OMV

While a party injecting non-specification gas should be liable whether it is an RPO or not, deeming it a non-RPO is un-necessary and have consequences beyond the GTAC.

Vector

Yes.

Q16: Do you agree with our analysis of daily OR and UR charges?

First Gas

The OR/UR analysis does not seem to recognise the potential for Shippers to mass-market end users to reduce their exposure to OR/UR fees by opting for the auto-nomination service.

Greymouth

Yes, but GTAC nominations are linked to incentive charges, and this is not the case with the VTC.

Vector

1. Ability of parties to accurately nominate is unknown, so outcomes are uncertain. GTAC charging would likely need to be changed during the first year of operation.
2. It is difficult to compare VTC and GTAC.

Q17: Do you agree with our description of the peaking arrangements?

First Gas

Yes.

Greymouth

Concerned that GIC has identified a gaming opportunity but has not factored it into the arrow analysis.

Vector

Yes.

Q18: Do you agree with our analysis of balancing tolerances?

First Gas

There will be differing impacts on different classes of user, but VTC Shippers will have greater transparency on their tolerances.

Greymouth

No:

1. Current aggregate tolerance is 51TJ, not 25.5TJ.
2. GTAC tolerances would be less predictable than hard-coded MPOC tolerances.
3. GTAC tolerances can be changed without going through change process (unlike MPOC tolerances).
4. Tolerance is significantly different if Mokau is running, but no information is available on intention to run Mokau.
5. Tolerances will be changed by wash-up process.
6. Parties will want to calculate tolerances daily, not just periodically review them as GIC suggests.
7. GTAC tolerances prefer large parties (MPOC give all parties a +/- 1.5TJ tolerance).

Vector

Yes.

Q19: Do you agree with our analysis of liabilities? In particular, do you have any particular comments on our assessment of the removal of the Incentives Pool and Balancing and Peaking Pool?

First Gas

Mostly agrees with PAP B.7. Considers the Incentives Pool:

1. functionality is unused because it is impractical to link an event causing incentive pool credits with actual loss; and
2. only affects how incentive money is distributed, and does not strengthen the incentives.

Greymouth

Yes, except:

1. It is not relevant that the Incentives Pool mechanism has not been used. Many contract provisions are largely unused.
2. Absent the BPPs, First Gas will be unable to issue regional curtailments.

Methanex

Regarding the Incentives Pool:

1. Absent the Incentives Pool, a party has no remedy if they are curtailed due to another party's actions.
2. Ending the Incentives Pool because of non-use is analogous to ending an insurance policy because no claims have been made.
3. It is inconsistent for GTAC to retain the back-to-back indemnity for losses caused by the delivery of non-specification gas but to abandon the Incentives Pool.
4. The risk of forced curtailment is higher under the GTAC so the need for a liquidated damages regime is greater.

Nova

The absence of the Incentives Pool and BPPs will have no significant detrimental impact on Shippers or consumers. The GTAC incentives remain strong under GTAC, and given the lack of precedent, seeking compensation for loss from First Gas under GTAC may be no more difficult than accessing compensation for loss under the existing codes.

Vector

Yes. Absent the Incentives Pool, First Gas has sufficient tools to incentivise prudent and efficient use of the pipeline.

Q20: Do you agree with our analysis of the TTP arrangements?

First Gas

Does not consider there is any difference in the construction of the TTP between the MPOC and GTAC, or any relaxation of operating standards. The GTAC allows more scope to manage TTP (trading balancing gas etc), but the obligation to maintain the pipeline pressure remains the same. The TTP also has an express obligation (not in the MPOC) to bring TTP back within range.

Greymouth

Yes, but notes some inconsistencies in the PAP analysis and believes balancing overall would get worse.

Nova

Notes the complexity of the issue and the current failure to meet MPOC TTP objectives. The Receipt Zone pressure is a function of overall management of the system. This should improve under GTAC.

Q21: Do you agree with our analysis of the curtailment arrangements?

First Gas

See Q6 response.

Greymouth

1. The "moderate" Curtailment efficiency assessment is out of proportion to the modest improvement.
2. First Gas will curtail on the basis of concepts in the GTAC Curtailments & Operational Flow Orders SOP, not the GTAC. This is unfair, inefficient, and likely to lead to disputes particularly if flat load shippers are curtailed based on the DP profile.
3. Absent the BPPs, First Gas will no longer be able to issue region-specific curtailments. Curtailments will be less well targeted than under the MPOC or VTC.

Vector

Yes.

Q22: Do you agree with our analysis of Ahuroa underground gas storage? In particular do you agree with our assessment of the scope for First Gas's ownership of Ahuroa UGS to influence its operation of the transmission system under the GTAC? If not, why not?

First Gas

Affiliation with Ahuroa will not influence the operation of the transmission system because:

- GSNZ takes inject/withdraw instructions from Shippers;
- GSNZ terms of interconnection cannot materially differ from other IPs;
- First Gas has RPO obligations to provide reliable service and not allow any user to put others at risk;
- The GTAC IT system will provide greater visibility of Stratford 3 nominations;
- Commerce Commission rules require related party transactions to be on a market, arms-length basis, including disclosure of any service GSNZ provides to First Gas; and
- The ERM charges are significantly lower than the expected storage fees.

Greymouth

No. Ahuroa warrants a substantial red arrow because:

1. It is not true that First Gas will not take title to gas at Ahuroa. First Gas has already obtained temporary access to Ahuroa and is party to a Gas Transfer and Allocation Agreement at Stratford 3.
2. The same person has a similar commercial role at First Gas and GSNZ, so confidentiality is in doubt.
3. It is wrong to assume that temporary storage will not be offered, two parties have already been offered temporary storage.
4. There is scope for First Gas to generate profits in GSNZ's business because
 - (a) First Gas can reduce tolerances without consultation (GTAC does not require all line pack flexibility to be made available;
 - (b) First Gas could use Ahuroa for short term storage, possibly to support its Park and Loan service;
 - (c) ERM can be increased to encourage use of Ahuroa; and
 - (d) First Gas does not need a TSA to access Ahuroa (and it should).

Nova

There are sufficient safeguards in the GTAC to protect users from strategic operation of the transmission system to maximise non-regulated revenues at Ahuroa.

Vector

Yes. First Gas is not a producer, wholesaler, or retailer if it does not own gas going in or out of Ahuroa, and the GTAC RPO obligations make it unlikely that First Gas could operation the transmission system to generate extra income at Ahuroa.

Appendix C Supporting analysis

This Appendix provides more detailed analysis of some issues that have proved contentious during the GTAC development process.

C.1 Code design

Architecture of MPOC, VTC and GTAC

Some stakeholders regret that the GTAC has evolved into a relatively bulky document where:

- The body of the GTAC contains the common terms of gas transport applicable to Shippers;
- GTAC Sch 5 contains the common terms of gas injection applicable to RP IPs; and
- GTAC Sch 6 contains the common terms of gas delivery applicable to DP IPs.

They believe this hybrid architecture leads to a high degree of repetition without the compact Shipper/IP integration of the MPOC or the Shipper-only focus of the VTC.

We explain here why the situation is more nuanced.

First, each code is designed for a different access regime. The MPOC access regime is based on the core concept of universal OBAs. This allows for the simplifying construct of deemed-flow-on-nominations for Shippers, leading to a code with relatively more emphasis on the rights and obligations of IPs (so-called “Welded Parties” in the MPOC).

In contrast, the VTC access regime is based on the core concept of annual capacity reservations. This leads to a Shipper focused code, without the deemed-flow-on-nominations construct of the MPOC, and consequently with more attention to how Shipper receipts and deliveries are determined and balanced. Also, although the VTC requires that associated contracts like Gas Supply Agreements and ICAs contain a few critical linking provisions (such as the requirement that all gas received and delivered meets the gas specification), the IPs are only bound to those associated contracts and need not have any special knowledge of the VTC.

The GTAC access regime is something of a hybrid. It is based on Shippers making daily nominations, but also permits IPs to opt for OBAs if they wish. This allows for more dynamic, flexible arrangements, leading to a code with more provisions relating to each system user (Shippers, RP IPs and DP IPs). However, it has also led to a GTAC with a degree of repetition. While this could be seen as awkward, we think that RP IPs and DP IPs would find it convenient that all the common RP IP terms can be found in Schedule 5, and all the common DP IP terms in Schedule 6.

These differences are illustrated in Figure 5.

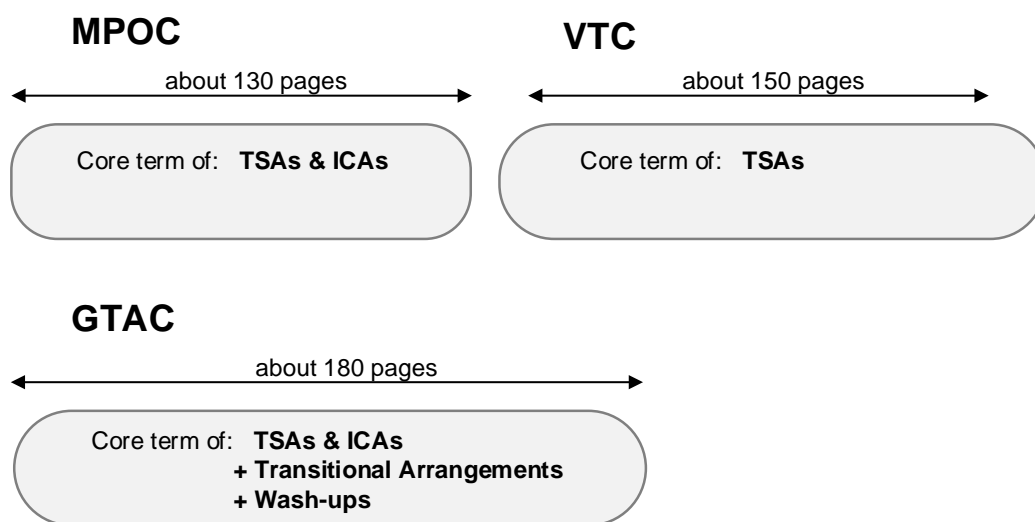


Figure 5 – Code architecture

Regarding the organisation of each code’s provisions – their “architecture” – we understand that existing users are comfortable and familiar with the MPOC and VTC. Although those codes are quite complex and different to each other, existing users understand how they work together. However, codes are not only for the benefit of existing users. New entrants, or outsiders would, we believe, find it challenging to get to grips with the MPOC and VTC and how they fit together.

If we look at the GTAC from the perspective of someone wishing to quickly understand how the regime works, we find its architecture quite efficient. RP IPs or DP IPs can easily find the provisions that apply to them, and outsiders would also find the layout quite convenient.

Although we accept that the GTAC could be packaged into a more compact form, doing so would not necessarily improve readability. While the GTAC is longer than either the VTC or the MPOC, it is much shorter than the VTC and MPOC taken together. We think that the GTAC not only provides for the operation of a single access regime, but it does so in a way that “meshes” the interests of Shippers, RP IPs and DP IPs, and is coherent and easily understood.

We do not think that the code structure would materially increase the risk of misalignment over time. Any change to a term in the MPOC, VTC or the GTAC may potentially have consequences for other rights and obligations in those documents or associated arrangements. We don’t consider that the inclusion of the common and essential terms of interconnection as schedules to the GTAC (as opposed to inclusion in the main body of the document) creates any additional administrative burden when making changes to the GTAC.

Footprint of MPOC, VTC and GTAC

We first considered code coverage in our SCOP1 paper. There we compared the coverage of the MPOC and VTC and identified which matters were common and unique to each code. In Table 30 we develop that analysis to cover the GTAC. The objective is not to compare the detail of each code but their broad coverage in order to highlight the main differences. So, for example, while the detail of the dispute resolution processes is different between the codes, all of the codes address dispute resolution so their coverage is considered “substantially similar” in that regard.

Table 30 - MPOC/VTC/GTAC footprint comparison

MPOC	VTC	GTAC
Boilerplate sections		
1. DEFINITIONS AND INTERPRETATION	1. DEFINITIONS AND CONSTRUCTION	1. DEFINITIONS AND CONSTRUCTION
20. PRUDENTIAL REQUIREMENTS	14. PRUDENTIAL REQUIREMENTS	14. PRUDENTIAL REQUIREMENTS
21. INVOICING AND PAYMENT	16. INVOICING AND PAYMENT	
22. TERMINATION	20. TERMINATION OR SUSPENSION	19. TERM AND TERMINATION
27. FORCE MAJEURE	22. FORCE MAJEURE	15. FORCE MAJEURE
28. LIABILITIES AND INDEMNITIES	23. LIABILITIES	16. LIABILITIES
32. ENTIRE AGREEMENT	28. ENTIRE AGREEMENT	20. GENERAL AND LEGAL
33. SEVERABILITY	31. SEVERABILITY AND SURVIVAL	
37. SURVIVAL OF PROVISIONS		
34. GOVERNING LAW	33. GOVERNING LAW	
35. EXCLUSION OF IMPLIED TERMS	29. EXCLUSION OF IMPLIED TERMS	
36. ASSIGNMENT	24. ASSIGNMENT	
38. PRIVITY OF CONTRACT	30. CONTRACT PRIVITY	
39. CONSUMER GUARANTEES ACT EXCLUSION	32. CONSUMER GUARANTEES ACT	
Sections with substantially similar coverage		
2. PIPELINE SERVICES	2. TRANSMISSION SERVICES	2. TRANSMISSION SERVICES 7. ADDITIONAL AGREEMENTS
The above describe services provided and principal rights and obligations of parties.		
4. THE MDL IX. SCHEDULE 5 - THE MDL IX – IT REQUIREMENTS	SCHEDULE THREE: TERMS AND CONDITIONS OF ACCESS TO AND USE OF OATIS SCHEDULE FOUR: INFORMATION ON OATIS SCHEDULE FIVE: INFORMATION TO BE AVAILABLE VIA OATIS	4.14 METERING AND ENERGY QUANTITY REPORTS – OATIS ACCESS SCHEDULE TWO: INFORMATION TO BE PUBLISHED
The above describe information available on OATIS and, for the MPOC and VTC, the conditions of access and use of OATIS.		
6. DELIVERY OF GAS: TITLE AND RISK	7. TITLE AND RISK	2.3 & 2.4 TRANSMISSION SERVICES 6.20 ENERGY ALLOCATIONS

The above cover co-mingling of gas, title, possession, risk and deemed delivery.		
15. INTERRUPTIONS	10. INTERRUPTION OF TRANSMISSION	9. CURTAILMENT
The above cover rights to interrupt, reasons for interruption, and Operational Flow Orders. MPOC also covers provision of contingency Line Pack.		
17. GAS SPECIFICATION	12. GAS SPECIFICATION	12. GAS QUALITY
The above cover responsibility for compliance with gas specification, obligations when non-specification gas is detected and indemnities for non-specification incidents.		
23. DISPUTE RESOLUTION	17. DISPUTE RESOLUTION 18. ARBITRATION SCHEDULE TWO: DISPUTE RESOLUTION PROCEDURE	18. DISPUTE RESOLUTION
The above cover dispute procedures, including where certain disputes are referred to an expert.		
29. MODIFICATIONS TO THIS OPERATING CODE	25. AMENDMENT / NOTIFICATIONS	17. CODE CHANGES
The above cover the procedures for modifying the codes.		
SCHEDULE 2 - SHIPPER AGREEMENT FORM	SCHEDULE ONE: TRANSMISSION SERVICES AGREEMENT	SCHEDULE ONE: TRANSMISSION SERVICES AGREEMENT
The above provide pro-forma contracts that incorporate by reference the terms of the relevant code and deal with matters unique to each Shipper.		
Sections with somewhat similar coverage		
5. TECHNICAL STANDARDS FOR STATIONS AND WELDED POINTS 16. MEASUREMENT AND TESTING SCHEDULE 1 - TECHNICAL REQUIREMENTS FOR WELDED POINTS AND STATIONS	11. TECHNICAL STANDARDS / MEASUREMENT AND TESTING	SCHEDULE FIVE: COMMON RECEIPT POINT INTERCONNECTION AGREEMENT PROVISIONS, ICA SCHEDULE TWO: TECHNICAL REQUIREMENTS SCHEDULE SIX: DELIVERY POINT INTERCONNECTION AGREEMENT PROVISIONS, ICA SCHEDULE TWO: TECHNICAL REQUIREMENTS
The above address the technical standards of metering and other equipment located at interconnection stations.		
7. AUTHORISED QUANTITIES		3. TRANSMISSION PRODUCTS AND ZONES
The above are arrangements for providing firm capacity and, in the case of the MPOC and GTAC providing a priority position in the nominations queue.		
8. NOMINATIONS AND RENOMINATIONS	4. CAPACITY RESERVATION	4. NOMINATIONS

	5. NOMINATED QUANTITIES 9 DISPLACED GAS NOMINATIONS	
The above relates to the nomination of capacity: daily capacity for the MPOC and GTAC, and generally annual capacity for the VTC.		
3. BALANCING ACTIONS 11. SHIPPER MISMATCH 12. OPERATIONAL IMBALANCES	8. BALANCING AND PEAKING	8. BALANCING
The above describe the balancing regimes.		
10. ALLOCATIONS	6. DETERMINATION OF GAS QUANTITIES SCHEDULE SIX: REQUIREMENTS OF GAS TRANSFER AGREEMENTS SCHEDULE SEVEN: FORM OF GAS TRANSFER AGREEMENT	5. ENERGY QUANTITY DETERMINATION 6. ENERGY ALLOCATIONS SCHEDULE THREE: REQUIREMENTS FOR GAS TRANSFER AGREEMENTS SCHEDULE FOUR: REQUIREMENTS FOR ALLOCATION AGREEMENTS
The above relate to how the quantities of gas bought/sold/transported will be determined, including OBA principles, Gas Transfer Agreements, Allocation Agreements and the Downstream Reconciliation Rules.		
19. FEES AND CHARGES	15. FEES AND CHARGES	11. FEES AND CHARGES
The above wet out the various fees and charges, but generally not the actual prices.		
24. CONFIDENTIALITY SCHEDULE 4 – CONFIDENTIALITY PROTOCOLS	19. CONFIDENTIALITY	20 GENERAL AND LEGAL
The above provides for non-discrimination, ring-fences gas trading activity, provides for more extensive ring-fencing if the TSP becomes a gas producer, and allows for an annual review by an external auditor. VTC sets out how confidential information will be protected and how breaches of confidentiality can be claimed and processed.		
Sections common to MPOC and GTAC		
7. AUTHORISED QUANTITIES		3. TRANSMISSION PRODUCTS AND ZONES
The above include arrangements for providing a priority position in the nominations queue.		
SCHEDULE 3 - WELDED PARTY AGREEMENT FORM		SCHEDULE FIVE – COMMON RECEIPT POINT INTERCONNECTION AGREEMENT PROVISIONS SCHEDULE SIX – COMMON RECEIPT POINT

		INTERCONNECTION AGREEMENT PROVISIONS
The above describes the common terms of interconnection, for the MPOC incorporating all the terms of the MPOC and for the GTAC incorporating the Schedule Five or Schedule Six terms.		
SCHEDULE 7 - MINIMUM TOLERANCES		11.5 FEES AND CHARGES
The above describe how peaking tolerances will be determined		
9. SCHEDULED QUANTITIES		4.13 NOMINATIONS
The above sets out how Scheduled Quantities will be determined.		
18. MAINTENANCE OF PIPELINE		9.2 CURTAILMENT
The above describe how pipeline maintenance will be managed to minimise disruption to users.		
	Sections common to VTC and GTAC	
	13 ODORISATION	13 ODORISATION
	Describes how gas is odorised at certain receipt points (gas in the Maui pipelines is not odorised).	
Sections unique to MPOC		
14. INCENTIVES POOL		
Arrangements for funding, claiming and paying liquidated damages.		
26. ACCESS RIGHTS		
Addresses rights of Welded Parties and TSP to access stations, witness meter testing, inspect equipment, isolate gas flow etc.		
SCHEDULE 6 - MAUI PIPELINE PRESSURE LIMITS		
Sets out the maximum operating pressures applicable to different segments of the pipeline.		
SCHEDULE 8 - WELDED POINTS		
Lists details of Welded Points, including identifying the meter owner.		
SCHEDULE 9 - TP WELDED PARTY SHIPPER PRINCIPLES		
The above are principles such as daily balancing and conformity with the Gas Transfer Code, which apply		

to contracts between Shipper and the owners of pipelines interconnected with the Maui pipeline (TP Welded Parties)		
SCHEDULE 10 - TARIFF PRINCIPLES		
The above describes how asset costs will be recovered through Tariff 1 and operating costs through Tariff 2.		
		Sections unique to GTAC
		10. CONGESTION MANAGEMENT
		Sets out how First Gas would predict and manage congestion.
		SCHEDULE SEVEN: TRANSITIONAL ARRANGEMENTS
		Deals with such matters as the cash-out of residual balance positions and the termination of the MBB agreement.
		SCHEDULE EIGHT: WASH-UPS
		Deals with the wash-up of the RM positions and balancing gas purchases and sales of First Gas, Shippers and OBA Parties.

C.2 Non-standard contracts

Non-standard contracts now and under the GTAC

Non-standard arrangements are currently in place for both Maui and non-Maui pipeline users. Here we describe the current situation with non-standard TSAs and ICAs, what may happen to such existing arrangements if the GTAC is introduced, and what the situation would be for future non-standard arrangements.

Current situation

Currently there are around 32 non-standard TSAs, and 24 non-standard ICAs on foot:

- On the Maui pipeline there are no non-standard TSAs, but 8 non-standard ICAs are on foot (see Table 31). All are published in full on OATIS.

- On the non-Maui pipelines there are both non-standard TSAs and ICAs: 24 SAs¹²² and 16 ICAs. These are mostly published in full on OATIS, but a few are confidential.¹²³

Required changes if the GTAC is introduced

If the GTAC is introduced, existing non-standard contracts would be dealt with as follows:

- On the Maui pipeline no legacy arrangements would survive because all contracts referencing the MPOC terminate when the MPOC is terminated. These would need to be replaced by new ICAs.
- On the non-Maui pipelines at least 2, and possibly 8 SAs (6 are confidential) would survive termination of the VTC (see Table 31). First Gas has offered to replace some other SAs and has reported that it expects 23 SAs to be in place at the commencement of the GTAC¹²⁴. At least 15 of the ICAs are expected to be in place at the commencement of the GTAC.

Future non-standard arrangements if the GTAC is introduced

The situation with respect to new non-standard contacts in the future, if the GTAC is introduced, would be that:

- On any pipeline, an SA may be requested, but First Gas will not be obliged to agree to one (GTAC s7.3) and in any case will only do so if the conditions specified in the GTAC for such contracts have been met (GTAC s7.1).
- On all pipelines, new SAs and ICAs will be published in full on OATIS.
- First Gas will maintain a publicly available SA policy document.

Table 31 – Non-standard ICAs on Maui pipeline

Counterparty	Date signed	Nature of non-standard terms
NGC NZ	21 September 2005	<ul style="list-style-type: none"> MPOC s20 Prudentials do not apply. Allows aggregation of imbalance at Pokuru, Pirongia and Rotowaro. Special right to assign.
Energy Infrastructure Limited and Petroleum Infrastructure Limited acting through their agent Shell Exploration NZ Limited	13 June 2006 (and varied on 10 November 2006 and 30 October 2008)	<ul style="list-style-type: none"> Allows Ngatimaru Road Welded Point RP and DP metering to be located at Pohokura Production Station. Allows the RP and DP to operate without being a bi-directional Welded Point under the MPOC. Parent company guarantees acceptable to meet prudentials.

¹²² Supplementary Agreement (SA) is a term used in the GTAC and VTC for an agreement that amends, but does not replace or substitute, a TSA.

¹²³ In its 27 August 2018 Stakeholder Memo, "Block 3 Outputs – 4 Supplementary Agreement Governance", First Gas summarised the key terms and purpose of each SA currently in place, and not confidential. As at the date of the memo, 24 SAs existed. 6 of these SAs were confidential. Of the 19 not confidential, the reasons for the SAs were: to provide more flexibility than annual reserved capacity (6), to avoid take up of alternative fuel (4), to avoid the risk of physical bypass (3), to give First Gas investment certainty (3), to encourage new use of gas (1), to access capacity above firm limit (1), and to provide end-user with capacity assurance (1).

¹²⁴ First Gas GTAC Stakeholder memo of 15 August 2018, titled "Block 3 Support Materials – 3.6 Supplementary Agreements".

Counterparty	Date signed	Nature of non-standard terms
Energy Infrastructure Limited and Petroleum Infrastructure Limited acting through their agent Shell Exploration NZ Limited	22 April 2008 (replacing 13 July 2006 ICA and varied on 30 October 2008) not yet in effect	<ul style="list-style-type: none"> Allows ICA to be triggered when certain conditions are met. Sets out how the 032 pipeline from the Maui pipeline at Ngatimaru Road to the Pohokura Production Station and the Methanex Motunui Methanol Plant (the EPJV Pipeline) is connected to the Maui Pipeline. Defines which meters measure which gas flows, and the netting off of certain Operational Imbalances.
Greymouth Gas New Zealand Limited	28 September 2006	<ul style="list-style-type: none"> Allows Turangi Mixing Station metering to be located at Turangi Production Station. Third party bond acceptable to meet prudentials.
Methanex New Zealand Limited	16 December 2013	<ul style="list-style-type: none"> Agreement to establish the Bertrand Road (Waitara Valley) Welded Point and use the metering at Waitara Valley Number 1 Delivery Point to measure the flows.
Methanex New Zealand Limited	16 December 2013	<ul style="list-style-type: none"> Agreement to establish the Faull Road Welded Point at the Bertrand Road Interconnection.
Transpower New Zealand Limited	10 October 2014	<ul style="list-style-type: none"> Allows for the Tradepoint South Notional Welded Point RP and DP to be created.
Methanex New Zealand Limited	2 February 2016	<ul style="list-style-type: none"> Agreement to amend Waitara Valley ICA dated 11 December 2015 permitting low flow gas at the Waitara Valley Number 1 Delivery Point Station.

Table 32 – SAs on non-Maui pipelines (with expiry date post 1/10/2019)

DP	Expiry date	Nature of non-standard terms
TeRapa Cogeneration Plant	30 September 2023	To avoid physical bypass: <ul style="list-style-type: none"> Tailored MDQ and MHQ entitlements Special price
Supplementary Agreement (CHH Penrose)	30 September 2021	To avoid physical bypass: <ul style="list-style-type: none"> Tailored MDQ and MHQ entitlements Special price
Confidential	Unknown	Unknown
Confidential	Unknown	Unknown
Confidential	Unknown	Unknown
Confidential	Unknown	Unknown
Confidential	Unknown	Unknown
Confidential	Unknown	Unknown

Scope for SAs, at present and under the GTAC

Here we compare the treatment of SAs under the GTAC and VTC (SAs are not a feature of the MPOC).

An SA is an agreement that varies a limited number of the terms of a Shipper's TSA in relation (only) to a specific end-user or site. SAs are specifically provided for in the GTAC and VTC. In contrast, under the MPOC transmission terms and conditions are all standard and no amendments to the standard TSA, incorporating all the terms of the MPOC, are permitted.

Table 33 shows that the extent to which SAs may vary the standard terms of transmission products are wide, and broadly comparable between the GTAC and the VTC.

Table 33 also lists the items that an SA may be conditional on. The only item required by the VTC and not the GTAC is that the SA may be conditional on the availability of land to site a DP. However, it is not necessary to compare these conditional items in detail since the decision as to whether it enters into an SA is entirely at First Gas's discretion.

Table 33 – Comparison of GTAC and VTC arrangements for Supplementary Agreements (SAs)

GTAC s7.4	VTC s2.7
An SA may vary standard transmission products in relation to:	
RP and/or DP (GTAC s7.4(a)(i))	RP and/or DP (VTC s2.7(e)(iii))
End-user (GTAC s7.4(a)(ii))	-
Capacity, including whether it is constant or variable, and determining the priority of Supplementary Capacity over DNC with Priority Rights Term (GTAC s7.4(a)(iii), s7.4(b) and s7.4(g))	Capacity (VTC s2.7(e)(ii) & (ix)), but no capacity trading rights (VTC s2.7(e)(iv))
Fees (GTAC s7.4(a)(iv)), including providing for an early termination fee (GTAC s7.4(d))	Fees (VTC s2.7(e)(v),(vi)&(vii))
Term (GTAC s7.4(a)(v))	Term (VTC s2.7(e)(i))
Termination in the event of FM (GTAC s7.4(c))	-
The Shipper making nominations (GTAC s7.4(f))	-
The end-user being required to have a TOU Meter (GTAC s7.4(h))	-
An SA may be conditional on:	
The IP entering into an ICA (GTAC s7.4(e)(i))	-
The end-user entering into a transmission pricing agreement (GTAC s7.4(e)(ii))	The end-user entering into a transmission pricing agreement (VTC s2.7(e)(xiv))
Statutory or regulatory approvals (GTAC s7.4(e)(iii))	Corporate/statutory approvals (VTC s2.7(e)(xv))
The Shipper complying with its obligations under the DRR, Allocation Agreement or OBA (GTAC s7.4(e)(iv))	-

The Allocation Agent providing First Gas with Daily Delivery Quantities and the Shipper agreeing First Gas can use them (GTAC s7.4(e)(v))	-
-	Availability of land to site DP (VTC s2.7I(xiii))

Proposed evaluation of requests for SAs under the GTAC

The GTAC lists a number of criteria which the Shipper applying for an SA must satisfy, and against which First Gas will evaluate such a request. The criteria (GTAC s7.1) are:

1. the amount of capacity requested, and whether providing it would affect Available Operational Capacity to the extent of impeding or forestalling opportunities more beneficial to First Gas and other users of the Transmission System;
2. whether the Shipper (or End-user) can demonstrate that it has a practical opportunity to bypass the Transmission System or use an alternative fuel that is cheaper than Gas;
3. whether the Shipper (or End-user) can demonstrate that paying First Gas's standard transmission fees would be uneconomic; and
4. whether the Shipper (or End-user) is the sole user of the relevant Delivery Point or other transmission assets and those assets would cease to be useful were the End-user to cease using Gas.
5. First Gas will maintain a publicly available SA policy document. Where First Gas agrees to a Shipper's request for an SA, it will publish a summary of its analysis on OATIS (GTAC s7.2).

C.3 Interconnection Agreements (ICAs)

Background

Sections 6.2 and D.1 of FAP1 explained why we considered that the GTAC1 interconnection arrangements raised efficiency and fairness concerns relative to the status-quo. In essence, in comparison to the MPOC where the common and essential terms of interconnection are prescribed, the GTAC1 arrangements were uncertain, with many aspects of interconnection left open to bi-lateral negotiation. We listed a number of examples to show why more prescription of these terms was warranted.

FAP1 concluded that the core terms of the ICAs need to mesh with those contained in the GTAC and other ICAs, and the terms cannot become misaligned over time. Also, Shippers have interests in the terms of ICAs beyond those that were prescribed in GTAC1 s7.13 and s12.2.

Following industry discussion, First Gas decided to address these concerns by identifying the common and essential terms that should be standard for all RP IPs or DP IPs. These are now set out in two new GTAC appendices: Appendix 5: Common Receipt Point Interconnection Agreement Provisions, and Appendix 6: Common Delivery Point Interconnection Agreement Provisions.

The key features of the "meshing" and "alignment" of transport and interconnection terms are that:

1. The common and essential provisions applying to Shippers, RP IPs and DP IPs are now all prescribed in the GTAC;
2. Where a GTAC provision is incorporated into an ICA, that provision would be automatically amended in the ICA if it is changed in the GTAC by means of the code change process (GTAC s7.14(a)); and

3. IPs, as well as Shippers, can propose changes to the GTAC (GTAC s17.1).

This would ensure that GTAC provisions applying to Shippers work, and continue to work over time, coherently with those applying to IPs. This is especially important, and catered for, in relation to definitions, the TTP, gas quality arrangements, OBAs, OFOs and curtailment.

Aside from the common terms of interconnection, a number of other matters would be left to individual negotiation. For example the contract term, renewal rights, and interconnection fees. This allows for a degree of tailoring where appropriate.

GTAC, MPOC and VTC ICA arrangements

The GTAC ICA arrangements are principally set out in GTAC s7 Additional Agreements, GTAC Sch 5 Common Receipt Point Interconnection Agreement Provisions, and GTAC Sch 6 Delivery Point Interconnection Agreement Provisions.

In essence:

1. Each new interconnection must have an ICA, and First Gas will treat every party seeking to be an IP on an arms' length basis (GTAC s7.12).
2. RP ICAs must contain the GTAC Sch 5 terms, and DP ICAs must contain the GTAC Sch 6 terms. ICAs may contain other terms that are not inconsistent. Where there is existing metering at the interconnections point, transitional metering arrangements would apply (GTAC s7.13).
3. ICA terms incorporated from the GTAC will update automatically if updated in the GTAC and would survive for the term of an ICA if the GTAC expires (GTAC s7.14).
4. Such new ICAs will be published in full on OATIS (GTAC s7.15).

In contrast, the MPOC provides that ICAs will be in the form of MPOC Sch 3 Welded Party Agreement Form and incorporate all the terms of the MPOC as well as information specific to the Welded Point (station details, metering owner etc.) or Welded Party (prudential requirements and contact details).

The VTC does not address the rights and obligations between First Gas and IPs or Shippers and IPs. However, it does contain some matters that would influence the bi-lateral contracts between those parties. In particular:

1. First Gas will deal with all IPs on an arms' length basis (VTC s2.7(b));
2. First Gas may curtail flow, without liability to a Shipper, where an IP ceases to have a valid ICA (VTC s10.1(d));
3. Where First Gas is the metering owner, it will ensure that the metering at a Welded Point complies with MPOC s16, or otherwise complies with the Metering Requirements (VTC s11.2(a));
4. Where First Gas is not the metering owner, it will ensure that all ICAs it enters into give it substantially the same rights as those contemplated by sections 11.2(b), 11.4 and 11.5, i.e. enabling First Gas to require the relevant metering owner to install, operate and maintain Metering to the relevant standard, carry out special testing of Metering, service, repair, recalibrate or replace Metering as may be required to make such metering Accurate and to make corrections for Inaccurate Metering (VTC s11.6);
5. First Gas will ensure that any RP ICA requires the counterparty to inject only gas that meets the specification and gives First Gas the right to make the counterparty demonstrate that it has adequate facilities, systems and procedures in place to ensure that it is able to comply with its obligation to inject only specification gas (VTC s12.2);

6. Where First Gas incurs liability due the operation of (one or more) ICAs, its liability to all Shippers is limited to the amount it can recover under all those ICAs (VTC s23.4I and s23.5); and
7. First Gas won't agree to MPOC changes that affect IPs, unless those IPs agree (VTC s25.17(a)).

A closer look at GTAC Sch 5 and Sch 6

To aid our analysis of the GTAC, in Table 34 we compare the RP ICA terms with the DP ICA terms, as set out in GTAC Sch 5 and GTAC Sch 6 respectively and classify them as:

- A:** provisions that only appear in Sch5 (RP ICA essential terms)
- B:** provisions that only appear in Sch6 (DP ICA essential terms)
- C:** provisions that are essentially the same in both Sch5 and Sch6 except that "RP" and "DP" are specified as appropriate
- D:** provisions that are significantly different in Sch 5 and Sch 6

And in the greyed sections of the table we comment on some of the differences (where the reason for that difference may not be obvious).

Table 34 – Comparison of RP ICA (GTAC Sch 5) terms and DP ICA terms (GTAC Sch 6)

Provisions	Differences key: A: provisions that only appear in Sch5 (RP ICA essential terms) B: provisions that only appear in Sch6 (DP ICA essential terms) C: provisions that are essentially the same in both Sch5 and Sch6 except that "RP" and "DP" are specified as appropriate D: provisions that are significantly different in Sch 5 and Sch 6
Defined Terms (Sch5 s1.1 and 1.2 and Sch6 s1.1 and 1.2)	A (only in Sch 5, relating to RPs): Definitions of: <ul style="list-style-type: none"> Receipt Point First Gas Equipment
	B (only in Sch 6, relating to DPs): Definitions of: <ul style="list-style-type: none"> Delivery Point Delivery Pressure IP Equipment Maximum Delivery Pressure Nominal Delivery Pressure OBA Charges Pressure Control Settings
	First Gas Equipment is only defined in Sch 5, where the station owner is generally the IP, and IP Equipment is only defined in Sch 6, where the station owner is generally First Gas. Delivery Pressure, Maximum and Nominal Delivery Pressures are only relevant to Sch 6.

	Pressure Control Settings is a term specific to DPs, but Injection pressure is addressed in GTAC Sch 5 s3.1, and Controlled Delivery Pressure is addressed in GTAC Sch 6 s3.1.
	<p>C (essentially the same in Sch 5 and Sch 6):</p> <p>Definition of:</p> <ul style="list-style-type: none"> • Agreement • Capped Amounts (i.e. liability caps) • Charges • Code • Emergency • Hazardous • MAOP • Maximum Design Flow Rate • Metering • Metering Owner • Minimum Design Flow Rate • OBA Charges • Operational Flow Order (OFO) • Party • Physical MHQ • Reasonable and Prudent Operator (RPO) • Remote Monitoring Equipment • Target Taranaki Pressure
	Appropriate.
	<p>D (significantly different in Sch 5 and Sch 6):</p> <p>Definition of:</p> <ul style="list-style-type: none"> • Odourisation Facilities • Pipeline <p>Odourisation Facilities in Sch5 means "equipment and facilities complying with section 7 and ICA Schedule One" whereas in Sch6 the term means "all equipment and facilities used to odourise Gas taken at a DP in accordance with section 7.1". The differences are appropriate, as discussed below in relation to Odourisation.</p> <p>Pipeline in Sch5 includes the "high pressure pipeline that conveys Gas to a RP" whereas in Sch6 it includes the pipeline that "conveys Gas at that DP to an End-user; or is a Distribution Network (or part thereof)". These are appropriate distinctions.</p>
<p>Code Amendments and Precedence (Sch5 s1.3 and Sch6 s1.3)</p>	<p>A (only in Sch 5, relating to RPs): n/a</p> <p>B (only in Sch 6, relating to DPs): n/a</p> <p>C (essentially the same in Sch5 and Sch 6): All match</p> <p>D (significantly different in Sch 5 and Sch 6): n/a</p>
<p>Parties' Rights and Obligations</p>	<p>A (only in Sch 5, relating to RPs): n/a</p> <p>B (only in Sch 6, relating to DPs): n/a</p> <p>C (essentially the same in Sch5 and Sch 6): All match</p>

(Sch5 s2.1-2.3 and Sch6 s2.1-2.3)	D (significantly different in Sch 5 and Sch 6): n/a
Technical Compliance (Sch5 s2.4 and Sch6 s2.4)	A (only in Sch 5, relating to RPs): n/a B (only in Sch 6, relating to DPs): n/a C (essentially the same in Sch5 and Sch 6): n/a D (significantly different in Sch 5 and Sch 6): n/a <ul style="list-style-type: none"> IP is responsible for technical compliance in RP First Gas or IP (whoever is the DP owner) is responsible for technical compliance at a DP
	The difference seems appropriate since RPs are generally owned by the IP whereas DPs are generally owned by First Gas.
Injection/ Delivery of Gas (Sch5 s 3.1-3.5 and Sch6 s 3.1-3.7)	A (only in Sch 5, relating to RPs): <ul style="list-style-type: none"> Injection Pressure (GTAC Sch 5 s3.1) B (only in Sch 6, relating to DPs): <ul style="list-style-type: none"> Controlled Delivery Pressure (GTAC Sch 6 s3.1) Change in Controlled Delivery Pressure (GTAC Sch 6 s3.2), and Uncontrolled Delivery Pressure (GTAC Sch 6 s3.3) C (essentially the same in Sch5 and Sch 6): <ul style="list-style-type: none"> Target Taranaki Pressure (GTAC Sch 5 s3.2 and GTAC Sch 6 s3.4) Outage Notification (GTAC Sch 5 s3.5 and GTAC Sch 6 s3.7) D (significantly different in Sch 5 and Sch 6): <ul style="list-style-type: none"> Excessive Flow (GTAC Sch 5 s3.3 and GTAC Sch 6 s3.5). At each RP the IP would be liable for the cost of any damage to First Gas Equipment or pipeline. At each DP the IP would be liable for the cost of repairs to, or replacement of, any First Gas pipeline or equipment damaged. Low Flow (GTAC Sch 5 s3.4 and GTAC Sch 6 s3.6). Low flows will cause meters to be inaccurate. At RPs it is the responsibility of the RP IP to fix this. At DPs it is the responsibility of the DP IP or First Gas (whoever owns the metering).
	Regarding excessive flows, the differences between Sch5 s3.3(a) and Sch6 s3.5(a) is not easy to understand. At a RP First Gas would likely only own an isolation valve and the downstream pipeline. At a DP First Gas would probably own most of the station including pressure regulation, metering and filtering equipment, but the IP would own whatever plant or equipment was downstream. It is not clear why the RP IP is liable for "the cost of any damage to First Gas Equipment or First Gas's Pipeline" whereas the DP IP is responsible for "the cost of repairs to, or replacement of, any of First Gas's pipeline or equipment damaged by that excessive flow...". However, we consider either of these circumstances to be extremely rare, so the difference is unlikely to be significant to our analysis. Regarding low flows, the difference seems appropriate – the owner of the metering equipment should be responsible for fixing any problem.
Metering and Energy Quantity Reports (Sch 5 s4.1-4.14)	A (only in Sch 5, relating to RPs): n/a B (only in Sch 6, relating to DPs): n/a C (essentially the same in Sch5 and Sch 6): <ul style="list-style-type: none"> Metering Required. (GTAC Sch 5 s4.1 and GTAC Sch 6 s4.1). Direct Gas Measurement Only (GTAC Sch 5 s4.2 and GTAC Sch 6 s4.2)

and Sch 6 s4.1-4.14)	<ul style="list-style-type: none"> • Testing of Metering and Provision of Information (GTAC Sch 5 ss4.3-4.4 and GTAC Sch 6 ss4.3-4.4). • Unscheduled Testing of Metering (GTAC Sch 5 s4.5 and GTAC Sch 6 s4.5). • Corrections for Inaccurate Metering. (GTAC Sch 5 s4.6 and GTAC Sch 6 s4.6). • Amendment of Metering Requirements (GTAC Sch 5 s4.7 and GTAC Sch 6 s4.7). • Access to Data (GTAC Sch 5 ss4.8-4.12 and GTAC Sch 6 ss4.8-4.12) • Energy Quantity Reports (GTAC Sch 5 s4.13 and GTAC Sch 6 s4.13). • OATIS Access (GTAC Sch 5 s4.14 and GTAC Sch 6 s4.14). <p>In relation to Metering Required, the Metering Owner is responsible for compliance with the Metering Requirements, and at DPs First Gas can elect not to be the meter owner. This is in line with current practice.</p> <p>D (significantly different in Sch 5 and Sch 6): n/a</p>
Energy Allocation at a RPs and DPs (Sch 5 s5.1-5.4 and Sch 6 s5.1-5.4)	<p>A (only in Sch 5, relating to RPs):</p> <ul style="list-style-type: none"> • Gas Transfer Agreement (GTAC Sch 5 s5.1) <p>Gas Transfer Agreements generally only apply at RPs.</p> <p>B (only in Sch 6, relating to DPs):</p> <ul style="list-style-type: none"> • Downstream Reconciliation Rules (GTAC Sch 6 s 5.1) • Allocation Agreement (GTAC Sch 6 s5.2-5.4) <p>The DRRs and Allocation Agreements only apply at DPs</p> <p>C (essentially the same in Sch5 and Sch 6): n/a</p> <p>D (significantly different in Sch 5 and Sch 6):</p> <ul style="list-style-type: none"> • Operational Balancing Agreement. (GTAC Sch 5 ss5.2-5.3 and GTAC Sch 6 ss5.5-5.6) <p>The differences in relation to OBAs arise because, where an OBA applies at a DPs, the DP will become an Individual DP (GTAC Sch 6 s5.5(b)). Also, any Allocation Agreement at the DP must comply with the OBA principles (GTAC Sch 6 s5.6).</p>
NQ Approval (Sch 5 s5.4 and Sch 6 s5.7)	<p>A (only in Sch 5, relating to RPs): n/a</p> <p>B (only in Sch 6, relating to DPs): n/a</p> <p>C (essentially the same in Sch5 and Sch 6):</p> <ul style="list-style-type: none"> • IP to approve, curtail or reject NQs in accordance with the Code (Sch 5 s5.4 and Sch 6 s5.7) <p>D (significantly different in Sch 5 and Sch 6): n/a</p>
Gas Quality (Sch 5 s6 and Sch 6 s6)	<p>A (only in Sch 5, relating to RPs):</p> <ul style="list-style-type: none"> • RP IP to monitor gas at its own cost, only inject specification gas, and indemnify First Gas for any loss resulting from non-specification gas (GTAC Sch 5 s6.1) • RP IP not to knowingly inject non-specification gas (GTAC Sch 5 s6.2) • First Gas to notify RP IP if it detects or suspects non-specification gas has been injected (GTAC Sch 5 s6.3) • RP IP to halt injections when it knows they are non-specification (GTAC Sch 5 s6.4)

	<ul style="list-style-type: none"> • If non-specification gas is injected, RP IP to notify First Gas of reason, duration and extent, mitigate the effects and remedy the cause before injecting more gas (GTAC Sch 5 s6.5) • RP IP to maintain equipment etc to ensure gas specification and demonstrate this on First Gas request (GTAC Sch 5 s6.6). In RP IP doesn't do so, First Gas may require IP to cease injections and/or enter RP to inspect, test etc. (GTAC Sch 5 s6.7) at RP IPs cost (GTAC Sch 5 s6.8). • First Gas has no liability to RP IP for exercising its Sch 5 s6 rights (GTAC Sch 5 s6.9). • Gas quality monitoring requirements are specified, including how RP IP may request exceptions (GTAC Sch 5 s6.10), and that First Gas may publish such exceptions (GTAC Sch 5 s6.11). • RP IP to pay for tests when there is a change of composition (GTAC Sch 5 s6.13). • RP IP may determine hydrocarbon dewpoint by calculation with First Gas approval (GTAC Sch 5 s6.14). • RP IP to ensure no contaminants (GTAC Sch 5 s6.15). • RP IP to provide First Gas with copied of test results etc (GTAC Sch 5 s6.16). • RP IP is not an ROP if it injects non-specification gas (GTAC Sch 5 s6.17). <p>B (only in Sch 6, relating to DPs):</p> <p>If IP is an end-user, its supply contract must require specification gas (GTAC Sch 6 s6.1).</p> <ul style="list-style-type: none"> • First Gas to ensure RP ICAs provide that only specification gas can be injected and that RP IP indemnifies First Gas for any non-specification gas injected. Also notes First Gas is not required to monitor gas quality (GTAC Sch 6 s6.2) • Notes First Gas is unlikely to prevent non-specification gas from being delivered (GTAC Sch 6 s6.3). • First Gas to notify Shippers and IPs if it becomes aware of non-specification gas (GTAC Sch 6 s6.4). • DP IP to notify First Gas if it becomes aware of non-specification gas (GTAC Sch 6 s6.5). • On reasonable request of RP IP, First Gas will seek evidence that RP IP has adequate equipment etc to ensure only specification gas is injected (GTAC Sch 6 s6.6 and s6.7). • Where First Gas owns the DP it will have equipment to ensure gas meets the specification in regard to dust and compressor oil (GTAC Sch 6 s6.8). <p>C (essentially the same in Sch5 and Sch 6): n/a</p> <p>D (significantly different in Sch 5 and Sch 6): n/a</p> <p>Since the RP IP has control of gas quality while the DP IP does not, we would expect the provisions to be quite different, as they are. The different provisions seem appropriate.</p>
<p>Odourisation (Sch5 ss7.1-7.11 and Sch6 ss7.1-7.5)</p>	<p>A (only in Sch 5, relating to RPs):</p> <ul style="list-style-type: none"> • Where a RP ICA stipulates the RP as "odorised", the RP must have odourisation facilities whose owner is responsible for odourising the gas. First Gas may elect to own the odourisation facilities (GTAC Sch 5 s7.1 and s7.2).

	<ul style="list-style-type: none"> • Where First Gas elects to own the odourisation facilities, it may require the RP IP to provide it with a site and access (GTAC Sch 5 s7.3 and s7.4). • Elements of odourisation facilities specified (GTAC Sch 5 s7.5). • Where First Gas elects to own the odourisation facilities, RP IP will provide services to the site (GTAC Sch 5 s7.6). • RP IP will enable First Gas to monitor odourisation facility (GTAC Sch 5 s7.7). • Parties to advise if they become aware that odourisation has failed and RP IP will cease flowing gas injection. First Gas may cease odourising on 18 months' notice (GTAC Sch 5 ss7.8-7.11). <p>B (only in Sch 6, relating to DPs):</p> <ul style="list-style-type: none"> • Where a First Gas pipeline to a DP is stipulated as "odourised", gas in the pipeline must be odourised (GTAC Sch 6 s7.1). • IP to approve, curtail or reject NQs in accordance with the Code (GTAC Sch 5 s5.4 and GTAC Sch 6 s5.7). • If First Gas or the DP IP becomes aware of insufficient odourisation, it will notify the other party and First Gas will investigate, restore and notify (GTAC Sch 6 s7.2) • First Gas has no liability for loss of odourisation (GTAC Sch 6 s7.3). • The owner is responsible for the design, construction, operation and maintenance of the odourisation facility (GTAC Sch 6 s7.4). • First Gas may cease odourising on 18 months' notice (GTAC Sch 6 s7.5). <p>C (essentially the same in Sch5 and Sch 6): n/a</p> <p>D (significantly different in Sch 5 and Sch 6): n/a</p> <p>The provisions seem appropriate.</p>
<p>Curtailment (Sch5 ss9.1-9.11 and Sch6 ss9.1-9.11)</p>	<p>A (only in Sch 5, relating to RPs): n/a</p> <p>B (only in Sch 6, relating to DPs): n/a</p> <p>C (essentially the same in Sch5 and Sch 6):</p> <ul style="list-style-type: none"> • First Gas to use reasonable endeavours to avoid curtailing unless necessary to respond to the adverse events listed (GTAC Sch 5 s9.1 and GTAC Sch 6 s9.1). The provisions are the same except for differences in items (c) and (d). At DPs additional Adverse Events are provided for: a breach of any Security Standard Criteria and expiry, termination/non-execution of a SA, GTA or Allocation Agreement. • Curtailment for First Gas scheduled maintenance (GTAC Sch 5 s9.2 and GTAC Sch 6 s9.2). First Gas to give IP at least 20 Business Days' notice, advise on impact, consult to minimise impact, and promptly notify any delay. • Curtailment for First Gas unscheduled maintenance (GTAC Sch 5 s9.3 and GTAC Sch 6 s9.3). Covers Emergency, FM and Critical Contingency and, in the case of DPs, a breach of any Security Standard Criteria. Notice to be published on OATIS. • IP to reasonably facilitate First Gas's maintenance (GTAC Sch 5 s9.4 and GTAC Sch 6 s9.4). • Curtailment for IP maintenance that will significantly affect gas flow (GTAC Sch 5 s9.5 and GTAC Sch 6 s9.5). IP to give First Gas at least 20 Business Days' notice, advise on impact, provide shut-down and start-up profiles, and of any material changes.

	<ul style="list-style-type: none"> First Gas may issue OFO to IP, minimising the period of curtailment stipulated, and IP will use best endeavours to comply (GTAC Sch 5 s9.6 and GTAC Sch 6 s9.6). IP to notify First Gas of gas requirements to minimise risk of plant damage and First Gas will allow if practical (GTAC Sch 5 s9.7 and GTAC Sch 6 s9.7). First Gas may curtail Shipper nominations at IP (GTAC Sch 5 s9.8 and GTAC Sch 6 s9.8). If IP fails to comply with an OFO it will not have been a RPO and will indemnify First Gas for any loss, and First Gas may curtail the flow of gas (GTAC Sch 5 s9.10 and GTAC Sch 6 s9.10). Interconnection Fee and Odourisation Fee may not be payable (GTAC Sch 5 s9.11 and GTAC Sch 6 s9.11). <p>D (significantly different in Sch 5 and Sch 6):</p> <ul style="list-style-type: none"> First Gas may instruct IPs to comply with instructions of CCO and, in the case of a DP IP, curtail its take of gas (GTAC Sch 5 s9.9 and GTAC Sch 6 s9.9).
	The provisions seem appropriate.
Fees and Charges (Sch 5 ss11.10-11.13 and Sch 6 ss11.10-11.13)	<p>A (only in Sch 5, relating to RPs): n/a</p> <p>B (only in Sch 6, relating to DPs): n/a</p> <p>C (essentially the same in Sch5 and Sch 6):</p> <ul style="list-style-type: none"> IP to approve, curtail or reject NQs in accordance with the Code (Sch 5 s 5.4 and Sch 6 s5.7). IP to indemnify First Gas for loss arising from Over-Flow or Excess Peaking (Sch 5 s5.12 and Sch 6 s5.12). First Gas to credit IP any Balancing Gas Credits due to it (Sch 5 s 5.13 and Sch 6 s5.13). <p>D (significantly different in Sch 5 and Sch 6):</p> <ul style="list-style-type: none"> If OBA applies at RP, RP IP will pay First Gas Balancing Gas Charges, ERM Charges and Peaking Charges (Sch 5 s 11.10). If OBA applies at DP, DP IP will pay First Gas Daily OR/UR Charges, Hourly OR Charges, Peaking Charges, Balancing Gas Charges and ERM Charges (Sch 6 s11.10). RP IP to pay Over-Flow Charges with Fee being DNC fee (Sch 5 s11.11). DP IP to pay Over-Flow Charges with Fee being the higher of DNC fee or Supplementary Capacity fee (Sch 6 s11.11).
	The provisions seem appropriate.
Term and Termination (Sch 5 ss14.4, 14.6 & 14.11 and Sch 6 ss14.4, 14.6 & 14.11)	<p>A (only in Sch 5, relating to RPs): n/a</p> <p>B (only in Sch 6, relating to DPs): n/a</p> <p>C (essentially the same in Sch5 and Sch 6):</p> <ul style="list-style-type: none"> Either party may terminate if a material breach is not remedied within 20 Business Days (Sch 5 s14.4 and Sch 6 s14.4). First Gas may suspend service if IP is in breach of a material term (Sch 5 s14.6 and Sch 6 s14.6). Termination is without prejudice to amounts outstanding (Sch 5 s14.11 and Sch 6 s14.11). <p>D (significantly different in Sch 5 and Sch 6): n/a</p>
	The provisions seem appropriate.

<p>Force Majeure (Sch 5 ss15.1-15.6 and Sch 6 ss15.1-15.6)</p>	<p>A (only in Sch 5, relating to RPs): n/a B (only in Sch 6, relating to DPs): n/a C (essentially the same in Sch5 and Sch 6):</p> <ul style="list-style-type: none"> Relief from liability for duration of FM Event (Sch 5 s15.1 and Sch 6 s15.1). No relief from liability to pay money due or give notices under the code (Sch 5 s15.2 and Sch 6 s15.2). Requirement to give notice of FM Event, provide particulars, help the other party investigate, take reasonable steps to mitigate, and notify termination of the FM event (Sch 5 s15.3 and Sch 6 s15.3). A party cannot claim if the FM is due to act or omission of any agent or contractor of that party (Sch 5 s15.4 and Sch 6 s15.4). IP can't claim relief from liability solely because of a Shipper not performing its obligations (Sch 5 s15.5 and Sch 6 s15.5). <p>D (significantly different in Sch 5 and Sch 6): n/a</p> <p>The provisions seem appropriate.</p>
<p>Liabilities (Sch 5 ss16.1-16.15 and Sch 6 ss16.1-16.15)</p>	<p>A (only in Sch 5, relating to RPs): n/a B (only in Sch 6, relating to DPs): n/a C (essentially the same in Sch5 and Sch 6):</p> <ul style="list-style-type: none"> Parties only liable when they fail to act as RPO (Sch 5 s16.1 and Sch 6 s16.1). Liability limited to direct loss (Sch 5 ss16.2-16.3 and Sch 6 ss16.2-16.3). Liability capped (Sch 5 ss16.4-16.5 and Sch 6 ss16.4-16.5). First Gas liability capped at amount received from liable third parties (Sch 5 ss16.6-16.7 and Sch 6 ss16.6-16.7). Maximum liability of liable Party to First Gas not to exceed Capped Amount (Sch 5 s16.8 and Sch 6 s16.8). Each liability limitation or exclusion is separate (Sch 5 s16.9 and Sch 6 s16.9). No limit to Parties can seek relief via injunction, specific performance etc. (Sch 5 s16.10 and Sch 6 s16.10). If a Shipper claim arises from an IP breach, IP will be notified, First Gas will not make any payment without IPs consent, and IP may defend the claim in the name of First Gas (Sch 5 s16.11 and Sch 6 s16.11). IP can't claim against a Shipper or another IP for breach of a TSA, ICA or the code (Sch 5 s16.12 and Sch 6 s16.12). When First Gas pursues a third party claim it will give IP an opportunity to include any applicable loss (Sch 5 s16.13 and Sch 6 s16.13). On request either Party will give another evidence of comprehensive liability insurance cover (Sch 5 s16.14 and Sch 6 s16.14). Definition of TSA and ICA for the purpose of s16 (Sch 5 s16.15 and Sch 6 s16.15). <p>D (significantly different in Sch 5 and Sch 6): n/a</p> <p>The provisions seem appropriate and appear to be consistent with the liability provisions in the body of the code.</p>
	<p>A (only in Sch 5, relating to RPs): n/a</p>

Dispute Resolution (Sch 5 ss18.1-18.4 and Sch 6 ss18.1-18.4)	<p>B (only in Sch 6, relating to DPs): n/a</p> <p>C (essentially the same in Sch5 and Sch 6):</p> <ul style="list-style-type: none"> Parties to notify disputes in writing (Sch 5 s18.1 and Sch 6 s18.1). If not resolved by negotiation, Parties will submit to resolution by independent expert or arbitration (Sch 5 s18.2-18.3 and Sch 6 s18.2-18.3). Party may seek interlocutory relief (Sch 5 s18.4 and Sch 6 s18.4). <p>D (significantly different in Sch 5 and Sch 6): n/a</p> <p>The provisions seem appropriate and appear to be consistent with the dispute provisions in the body of the code.</p>
General and Legal (Sch 5 ss19.3-19.11 and Sch 6 ss19.3-19.11)	<p>A (only in Sch 5, relating to RPs): n/a</p> <p>B (only in Sch 6, relating to DPs): n/a</p> <p>C (essentially the same in Sch5 and Sch 6):</p> <ul style="list-style-type: none"> Each Party to keep confidential information confidential (Sch 5 s19.3 and Sch 6 s19.3). Party may disclose confidential information where it is already in the public domain etc. (Sch 5 s19.4 and Sch 6 s19.4). First Gas to have suitable procedures, protocols and systems to secure confidential information (Sch 5 s19.5 and Sch 6 s19.5). Confidential information disclosed to third party needs to be kept secure (Sch 5 s19.6 and Sch 6 s19.6). IP may obtain independent audit of First Gas's operating procedures if it believes confidential information has been disclosed. The results to be released to both simultaneously. First Gas to consider implementing recommendations. (Sch 5 ss19.7-19.9 and Sch 6 ss19.7-19.9). The existence of the ICA is not confidential (Sch 5 s19.10 and Sch 6 s19.10). Parties will maintain proper records (Sch 5 s19.11 and Sch 6 s19.11). <p>D (significantly different in Sch 5 and Sch 6): n/a</p>
	<p>The provisions seem appropriate and appear to be consistent with the general and legal provisions in the body of the code.</p>

GIC comment on the scope of the common and essential terms under the GTAC

The principle that underpinned First Gas's identification of terms for inclusion in GTAC Sch 5 and GTAC Sch 6 was the potential for the matter to affect other users of the transmission system. We think that approach is reasonable for the following reasons:

1. It provides flexibility for First Gas and IPs to negotiate individual terms in relation to matters that do not impact other system users. From our attendance at workshops, we observed a number of instances where IPs would wish to negotiate aspects of the template ICAs to reflect an IP's particular circumstances.
2. Schedules 5 and 6 of the GTAC can be amended to include additional common and essential terms if Shippers or other IPs consider that other matters may have an impact on other system users. ICAs will be amended accordingly (RP ICA and DP ICA s 1.3).
3. The common and essential terms require that the terms of ICAs are published on OATIS (GTAC Sch 5 s19.10 and GTAC Sch 6 s19.10) to enable third parties to review the terms.

Following discussion with stakeholders, First Gas has proposed the common and essential terms referred to in Table 34. The terms are aligned with the equivalent terms of the GTAC, but with the necessary modifications to reflect the different circumstances of IPs.

As noted in section C.1 of Appendix C (Code Design), the design of the GTAC is different to the MPOC, so the common and essential terms of interconnection are, and are reasonably expected to be, different to the MPOC (the non-Maui ICAs are individually negotiated and confidential, so we cannot comment on the terms of those agreements). Having reviewed GTAC Sch 5 and GTAC Sch 6, we conclude that:

1. the core terms of interconnection would be standard across all IPs and that this would be verifiable from publication of the full ICAs; and
2. the common and essential terms of interconnection cover the matters that we would expect to be common and essential terms of RP ICAs and DP ICAs.

GIC comment on appropriateness of differences between common and essential terms of RP ICAs and DP ICAs

Generally we consider the differences identified in Table 34 to be appropriate. In particular, we note that:

The provisions are different where different functions of RPs and DPs are relevant. Here we would expect many provisions to fall into categories A, B and D. This is what we found, particularly in respect of:

1. Gas quality, where it is the RP IP who controls the gas quality.
2. Odourisation, where odourant is added at RPs but not at DPs.
3. Injection and Delivery of Gas, where the RP IP controls the injection pressure at RPs, but First Gas controls the delivery pressure at DPs.
4. Energy Allocation, where the DRRs and Allocation Agreements only apply at DPs.

In areas where the differences between the RPs and DPs are not so stark, we would expect to find similar provisions applying; i.e., many provisions falling into category C. This is what we found in respect of:

1. Code Amendments;
2. Parties' Rights and Obligations;
3. Term and Termination;
4. Liabilities;
5. Dispute Resolution; and
6. General and Legal.

In areas where there are a few significant differences between RPs and DPs we would expect a few provisions to be different, i.e. a few provisions falling into category D.

1. Technical Compliance, where the RP IP generally owns RP equipment and is responsible for its technical compliance, but at DPs it is First Gas who generally owns the metering facilities.
2. Curtailment, where it is only the DP IP who would be instructed to curtail gas flow in a critical contingency.
3. Fees and Charges, where the IP will face certain charges where OBAs are in place.

In summary, we have found nothing unexpected in the common and essential terms of ICAs set out in GTAC Sch 5 and Sch 6.

C.4 Daily overrun (OR) and underrun (UR) charges

The GTAC includes daily incentive charges to encourage Shippers to provide accurate nominations (and to operate in accordance with their approved DNC quantities). However, in situations where capacity is not expected to be scarce, such charges could encourage:

1. Shippers to expend undue effort on forecasting usage, even though the more accurate nomination information may not bring any significant system-wide benefit; and/or
2. Shippers to alter gas usage to conform to their previous nomination/reservation, even though a deviation causes little or no cost from a system perspective.¹²⁵

While these inefficiencies are a potential concern, the same broad issue arises with the charging structure in the VTC, because it also financially discourages ORs and URs where no capacity scarcity is expected.

Metric to compare the codes

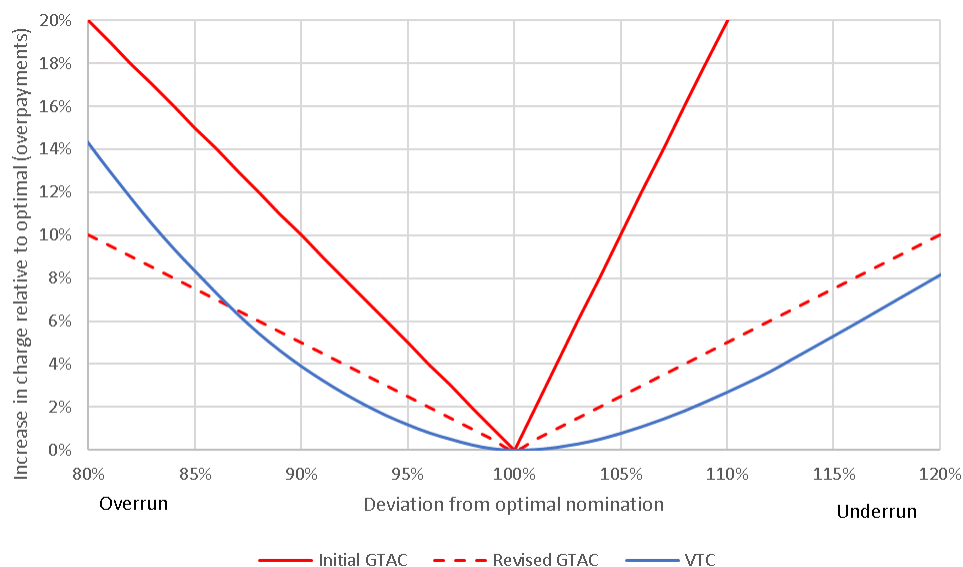
In this section we assess the scope for inefficiencies under the GTAC and the VTC. We cannot simply compare incentive charges at their face value because that would be misleading. Under the GTAC, when a Shipper nominates optimally (i.e. total charges are minimised) their incentive charges will be zero. Under the VTC, when a Shipper nominates optimally to minimise its overall charge, it will generally incur a positive level of incentive charge.

To account for this difference, we focus on the scope for “overpayments” as the key metric to compare the codes. “Overpayments” are the amounts a Shipper will pay (i.e. the combination of normal charges and incentive charges) in excess of the lowest possible total cost if they nominated optimally.

Figure 7 summarises the results of the assessment using this metric.

¹²⁵ Unless stated otherwise, the remaining discussion in this section is focused on incentives charges when congestion does not apply.

Figure 6 – Comparison of incentive charge strength – VTC and GTAC



The horizontal axis shows deviations between a Shipper’s capacity “nomination” and its actual gas flow, expressed in percentage terms.¹²⁶ The left-hand portion of the axis (<100%) indicates that a capacity nomination is less than the flow, and vice versa.

Comparing initial GTAC (i.e., GTAC1) and revised GTACs

The vertical axis shows the size of the financial incentive associated with differing deviations. The chart shows the incentive to minimise deviations was appreciably stronger under GTAC1 than the VTC and was also non-symmetrical.¹²⁷ The revised GTAC produces incentives that are symmetrical and similar in strength to the VTC. Relative to GTAC1, the revised GTAC therefore significantly reduces the likelihood of inefficient effort being applied to nominations.

Comparing VTC and revised GTAC

The comparison between the VTC and the revised GTAC is slightly more complex. The incentive charges for differing levels of forecast deviation are similar under the two codes. All other factors being equal, this suggests the likelihood of inefficient outcomes should be similar under the two codes.

However, the likelihood of inefficient behaviour also depends on the scope users have to minimise their deviations.

The scope to minimise deviations under the GTAC and the VTC is different because:

1. The VTC requires Shippers to forecast their maximum daily demand each year by DP. These forecasts need to be made on a year-ahead basis, although Shippers can adjust their forecasts nearer the time by purchasing additional capacity (for the full annual capacity reservation fee) or transferring capacity between points; and
2. The GTAC requires Shippers to forecast their demand for the current day, and Shippers can adjust these forecasts during the course of the day to reflect new information if they wish. Forecasts must be made for each Delivery Zone and each Individual DP.

¹²⁶ Noting that it is a daily nomination for GTAC when no congestion applies, and a yearly “nomination” (capacity booking) for VTC.

¹²⁷ The shape of VTC curve is affected by the profile of a user’s daily gas flows over a year, and data for a mass-market gate has been used for the analysis.

We know Shippers currently apply effort under the VTC to minimise their total charges. They forecast future needs as part of the annual capacity booking process. They also fine-tune their bookings through the year – as evidenced by First Gas receiving over 1,200 requests for capacity transfers each year.¹²⁸

A key question is how would outcomes change under GTAC? To shed light on this question, we considered the impact on overpayments if users continue to apply existing forecasting processes – i.e., do not apply additional incremental resources to minimise deviations. If overpayments increased markedly, that would presumably prompt increased (and likely inefficient) new actions to minimise deviations. Conversely, if overpayments don't change appreciably, there is lower likelihood of new inefficient behaviour.

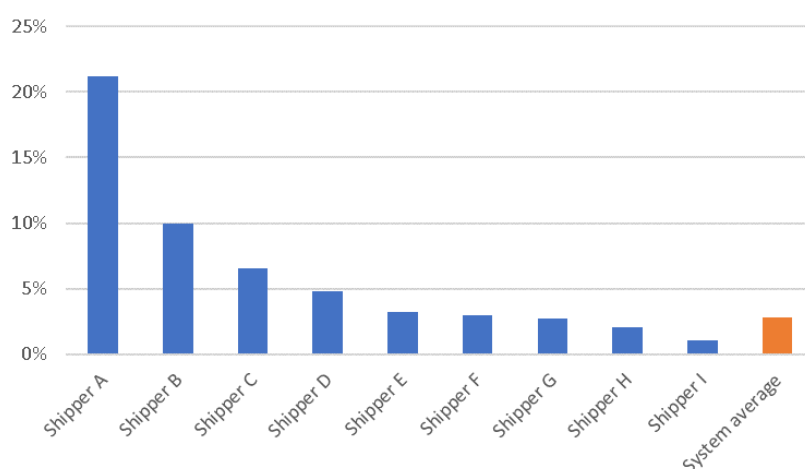
We therefore estimated the level of overpayments that would apply under the GTAC if users simply adopted their D+1 allocations as their nominations. Although strictly speaking D+1 allocations look back in time, they are still a "forecast" because data from most meters is not available. In this respect, the D+1 allocations are similar to Shipper demand forecasts that inform their nominations. D+1 allocations are also at the DP level, and are specific to each Shipper, which means they can be easily converted to zonal nominations.

We also have access to one Shipper's daily pool forecasts on a confidential basis. This allowed us to compare the relative accuracy of that Shipper's genuine forecasts with its "D+1 forecasts". The two data series resulted in very similar overpayments, suggesting that D+1 forecasts are a reasonable proxy – at least for this Shipper.

For completeness, we note there is variability among Shippers regarding the accuracy of their D+1 allocations. Shippers mainly serving mass-market demand will not have access to significant volumes of telemetry data. Other Shippers serving larger customers may have access to telemetry data on the morning after real-time which means that their D+1 data is more accurate, and less of a genuine forecast. For these Shippers, using D+1 as a proxy may understate the actual errors that would arise with real-time nominations.

Figure 7 shows the modelled overpayments as a percentage of each Shipper's total transmission charges under GTAC, based on D+1 data for the period August 2015 to July 2016. Note that the chart shows results for flows on the non-Maui system that are subject to D+1 allocations – i.e. it does not include flows to Dedicated DPs.

Figure 7 – Modelled GTAC overpayments using D+1 allocations as nominations¹²⁹



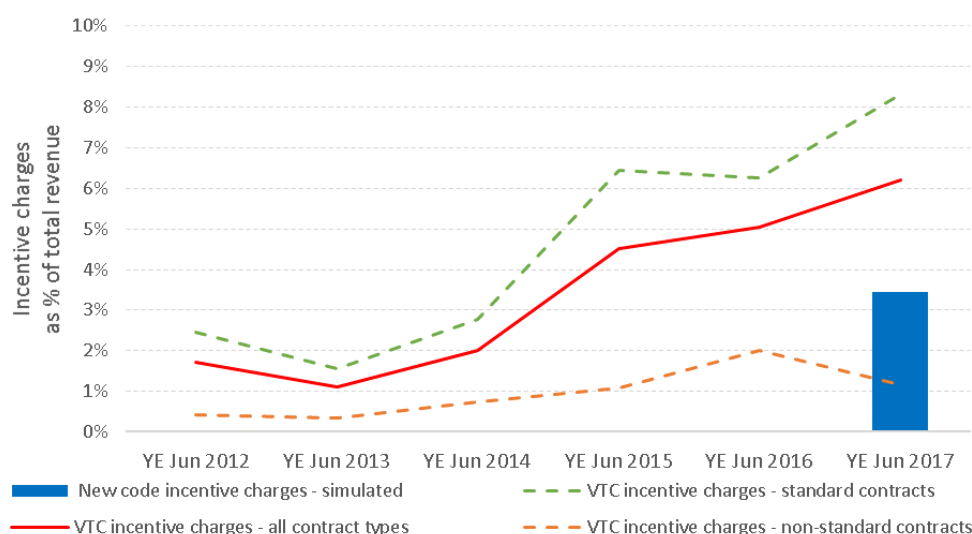
¹²⁸ Sapere Research Group, Costs and benefits of adopting the Gas Transmission Access Code, December 2017, p.14.

¹²⁹ Some shippers rely on a third party to handle their nomination and shipping requirements. We have shown these shippers separately, as this is a good indication of the price they would face in a competitive market.

The system average is about 3%, but there is significant variation between Shippers. The main reason for this is the size of different Shippers. D+1 generally performs worse for smaller Shippers, because their customer base changes more quickly in relative terms, and because they have lower diversity benefits and relatively less telemetry data. It is likely that smaller Shippers would be able to predict their demand better than the D+1 model does by modelling their changing customer base in more detail. This would require additional effort, but we expect that Shippers already produce their own demand forecasts. However, as noted above, the errors for the other Shippers may be larger because telemetry data available on the morning after real-time will not assist their nomination accuracy.

We also compared the modelled outcome under the GTAC with the existing position under the VTC. The results in incentive charge terms¹³⁰ are shown in Figure 8.

Figure 8 – Overrun charges as share of total revenue



The modelled GTAC ratio represents a decrease in incentive charges compared to “all” and “standard contract” historic VTC data. Arguably, the historic data for VTC standard contracts is the most appropriate comparator because the modelled GTAC charges only apply for allocated gates, at which standard terms are more likely to apply. For this subset there is a sizeable decrease in expected charges.

As noted earlier, under the VTC, the best strategy for most Shippers is to book less than their peak capacity and pay some OR charges. As a result, the optimal level of OR charge is around 5% of total charges – implying Shippers on standard contracts under the VTC incurred over-payments of around 3% of total charges in the year to June 2017.¹³¹ That is comparable with the level of over-payment expected under the GTAC, assuming D+1 allocations provide a reasonable estimate for daily nominations. Taken together, these factors suggest the efficiency effects under the GTAC and VTC would be of similar scale.

Comparing MPOC and revised GTAC

The MPOC does not include OR and UR charges as such. However, the MPOC’s flow-on-nominations structure means that deviations between a user’s forecast and actual pipeline usage

¹³⁰ Incentive charges rather than ‘overpayments’ are shown here to allow direct comparison with historical VTC data

¹³¹ This is based on the observed overrun charge ratio of approximately 8% for YE June 2017, less the estimated optimal level of 5%. We note there is some estimation uncertainty for the 5% figure, and hence the 3% is also subject to some uncertainty.

will trigger cash-outs via the balancing provisions. These include a component called the 'cash-out transmission price', which reflects the normal transmission charge applicable between the Welded Point where an imbalance occurs, and the payback point.

As a result, users who fail to uplift gas at a delivery point would pay around twice the normal transmission charge for cashed-out quantities, all other things being equal.¹³² Conversely, users who over-lift relative to their approved nomination would pay the normal transmission charge with no additional penalty for such quantities.

In scale terms, the under-lifting penalty in the MPOC is higher than in the GTAC (around ~200% of normal charge for unused but approved capacity versus 50%) which by itself could suggest greater scope for inefficient behaviour. However, because the MPOC provisions are part of the balancing arrangements and subject to tolerances, users have more ability to correct their positions without incurring penalties. While it is not possible to assess the magnitude of the two effects, it seems unlikely that tolerances would completely negate the adverse incentives associated with the under-lift penalties.

Conclusion on daily overrun (OR) and underrun (UR) charges

In summary, the OR and UR charges in the GTAC appear unlikely to appreciably alter the scale or likelihood of inefficient outcomes as compared to the present position. This is based on:

1. The GTAC, the VTC and the MPOC all create some incentives for parties to minimise deviations against their transmission nominations, even though such actions may be inefficient at times (i.e. not be justified by system-wide benefits);
2. The incentive charges that apply to deviations are similar in scale for the GTAC and the VTC; and
3. The incentive charges that apply to deviations under the GTAC and MPOC differ in scale and structure – but both have scope for adverse outcomes.

C.5 Arrangements for Peaking Parties

The GTAC provides peaking arrangements as follows:

1. Peaking incentives (GTAC s11.5 and 11.6) only apply to Peaking Parties.
2. A Peaking Party is a Shipper who uses, or an OBA Party who controls, an RP or DP where peaking could materially impact the availability or use of the transmission system by other users. First Gas would determine this with regard to the criteria set out in GTAC s3.28 (essentially an ability for flows to peak in an amount and at a rate that could have adverse results).
3. At least once a year, First Gas will identify Peaking Parties and publish a list of them on OATIS (GTAC s3.29).
4. A Shipper who is a Peaking Party, or who receives/delivers gas via an OBA Party who is a Peaking Party, must provide hourly quantities for each hour of a day, at each nomination cycle¹³³ (GTAC s3.30).
5. The sum of a Shipper's approved hourly amounts will be that Shipper's DNC at the relevant DP (GTAC s3.30).

¹³² The user would pay once for the approved nomination to ship gas to the welded point, and once again in the cash-out transmission price to notionally transport gas back to the payback point in Taranaki. This assumes the welded point owner passes balancing charges to the user, and the user takes no other steps to correct its position.

¹³³ Hourly nominations are known as Agreed Hourly Profile (AHP), even prior to approval.

6. First Gas will approve an AHP unless it:
- (a) Adversely impacts other users;
 - (b) Requires it to curtail any Supplementary Capacity or previously approved DNC;
 - (c) Exceeds the physical MHQ at the point; or
 - (d) Unduly increases the risk of breaching an Acceptable Line Pack Limit;

(GTAC s3.31).

In its 21 August 2018 Memo "Block 2 Outputs – 7 Peaking", First Gas gave its preliminary view of which RPs and DPs might be included in the Peaking regime. However, in the GTAC documents submitted for our assessment, it updates that view to clarify that the Peaking Parties would be the Shippers or OBA Parties associated with:

- Huntly Power Station DP;
- TCC DP;
- Stratford DP2 (Stratford peakers);
- Stratford DP3 (delivery of gas to storage);
- Stratford DP3 (receipt of gas from storage);
- Mangorei DP (Nova's new peaker yet to be built);
- Te Rapa DP (Co-gen); and
- Any future peaker power station loads.

(GTAC Assessment documents, Attachment A p3)

As part of the GTAC Workshop Block 2 Output material, First Gas released a workbook entitled "Block 2 Outputs – 7 Peaking – Charging Example". We reproduce the example contained in that workbook as Figure 9, but updated for the changes made in the final GTAC (i.e. with the threshold for peaking charges changed to reference either the three-hourly average or the nomination in that hour, the hour before and the hour after, and a minimum of 1TJ).¹³⁴ We use that example to explain how the Peaking Charges would work.

In the example the Shipper's approved nominations are provided in the "Aprvd Nom" column, totalling 42TJ for the day. The adjacent column headed "Hourly Quantity" lists the actual deliveries recorded each hour, totalling 49TJ for the day.

GTAC Peaking Parties are subject to Hourly OR and Hourly UR Charges to incentivise accurate hourly nominations, just as daily OR and UR charges incentivise accurate DNC nominations. Also, like daily incentive charges, the hourly incentive charges are balanced, so there is no benefit in estimating high or low. However, unlike the daily incentives, Hourly OR and Hourly UR Charges only apply outside a tolerance threshold. These tolerance thresholds are determined with reference to a three-hour moving average of approved hourly nominations, with a minimum threshold of 1TJ and the Hourly Quantity.

Some sample calculations are provided below to illustrate the charging mechanism:

¹³⁴ This was changed from earlier GTAC versions because the previous formula could in some circumstances result in Shippers being charged for flowing to their hourly nomination. By treating zero or very small nominations as if they were 1TJ, peaking charges are only levied where flows could have material system impacts.

At time 4, i.e. 0400 hours

The approved nomination was 0 TJ but the Hourly Quantity was 2 TJ, so there was an Hourly OR of 2 TJ. To determine if an OR Charge will apply, we must find out if the Hourly Quantity exceeds both:

- 1.25 times the approved nomination in that hour; and
- 1.25 times the Hourly Limit, where the Hourly Limit is average of approved nominations from the hour before, the hour in question, and the hour after, with a minimum value of 1.

From the example, the first item is $1.25 \times 0 \text{ TJ} = 0 \text{ TJ}$, and the second item is the greater of $1.25 \times \text{the maximum of } ((0+0+3)/3) = 1 \text{ TJ}$, and 1 TJ, which is 1.25 TJ.

Since the Hourly Quantity of 2 TJ exceeds both the amount of the first item, 0 TJ, and the second item, 1.25 TJ, an Hourly OR Charge will apply.

The Hourly OR Charge is the DNC Fee \times the Hourly OR Quantity $\times 1.5 = \$1/\text{GJ} \times 2 \text{ TJ} \times 1.5 = \$3,000$ debit (a charge).

At time 11, i.e. 1100 hours

The approved nomination was 2 TJ but the Hourly Quantity was 1 TJ, so there was an Hourly UR of 1 TJ. To determine if a UR Charge will apply, we must find out if the Hourly Quantity is less than both:

- 0.75 times the approved nomination in that hour; and
- 0.75 times the average of approved nominations from the hour before, the hour in question, and the hour after.

From the example, the first item is $0.75 \times 2 \text{ TJ} = 1.5 \text{ TJ}$, and the second item is $0.75 \times (3+2+0)/3 = 1.25 \text{ TJ}$.

Since the Hourly Quantity of 1 TJ is less than both the amount of the first item, 1.5 TJ, and the second item, 1.25 TJ, an Hourly UR Charge will apply.

The Hourly UR Charge is the DNC Fee \times the Hourly UR Quantity $\times (1.5 - 2) = \$1/\text{GJ} \times 1 \text{ TJ} \times (1.5 - 2) = \500 credit.

In total for the day, the Peaking Party will be billed \$42,000 on its approved hourly nominations, \$10,500 in Hourly OR Charges, and a credit of \$1,000 on its Hourly URs. In total, a charge for the day of \$51,500.

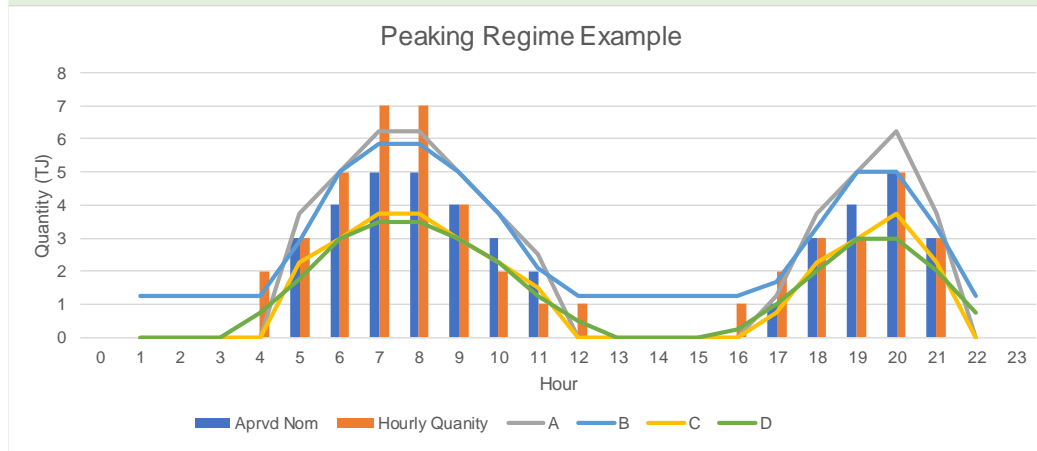
(We note that if the Shipper had been subject to daily rather than hourly OR/URs, it would have overrun by $49 \text{ TJ} - 42 \text{ TJ} = 7 \text{ TJ}$. The overrun fee would have been $1.5 \times \$1/\text{GJ} \times 7 \text{ TJ} = \$10,500$. In total the charge for the day would have been \$52,500, i.e., in this example, quite similar.)

DNC Fee: 1 \$/GJ

TJ	
NQ	42
Flow	49

(hours)	
Hours Overrun	4
Hours Underrun	2

	\$
DNC Charge	\$42,000.00
Overrun Charge	\$10,500.00
Underrun Charge	-\$1,000.00



Time	Aprvd Nom	Hourly Quantity	Overruns				Underruns			
			A 1.25 *	B 1.25 *	Thresholds MAX(av. of 3 day noms, 1)	Overrun Charge	C 0.75 *	D 0.75 * av. of 3 day noms	Thresholds Breached?	Overrun Charge
0	0	0								
1	0	0	0.00	1.25	No	\$0	0.00	0.00	No	\$0
2	0	0	0.00	1.25	No	\$0	0.00	0.00	No	\$0
3	0	0	0.00	1.25	No	\$0	0.00	0.00	No	\$0
4	0	2	0.00	1.25	Yes	\$3,000	0.00	0.75	No	\$0
5	3	3	3.75	2.92	No	\$0	2.25	1.75	No	\$0
6	4	5	5.00	5.00	No	\$0	3.00	3.00	No	\$0
7	5	7	6.25	5.83	Yes	\$3,000	3.75	3.50	No	\$0
8	5	7	6.25	5.83	Yes	\$3,000	3.75	3.50	No	\$0
9	4	4	5.00	5.00	No	\$0	3.00	3.00	No	\$0
10	3	2	3.75	3.75	No	\$0	2.25	2.25	Yes	-\$500
11	2	1	2.50	2.08	No	\$0	1.50	1.25	Yes	-\$500
12	0	1	0.00	1.25	No	\$0	0.00	0.50	No	\$0
13	0	0	0.00	1.25	No	\$0	0.00	0.00	No	\$0
14	0	0	0.00	1.25	No	\$0	0.00	0.00	No	\$0
15	0	0	0.00	1.25	No	\$0	0.00	0.00	No	\$0
16	0	1	0.00	1.25	No	\$0	0.00	0.25	No	\$0
17	1	2	1.25	1.67	Yes	\$1,500	0.75	1.00	No	\$0
18	3	3	3.75	3.33	No	\$0	2.25	2.00	No	\$0
19	4	3	5.00	5.00	No	\$0	3.00	3.00	No	\$0
20	5	5	6.25	5.00	No	\$0	3.75	3.00	No	\$0
21	3	3	3.75	3.33	No	\$0	2.25	2.00	No	\$0
22	0	0	0.00	1.25	No	\$0	0.00	0.75	No	\$0
23	0	0								
Totals	42	49				\$10,500				-\$1,000

Figure 9 – Peaking Regime Charging Example

C.6 Balancing tolerances

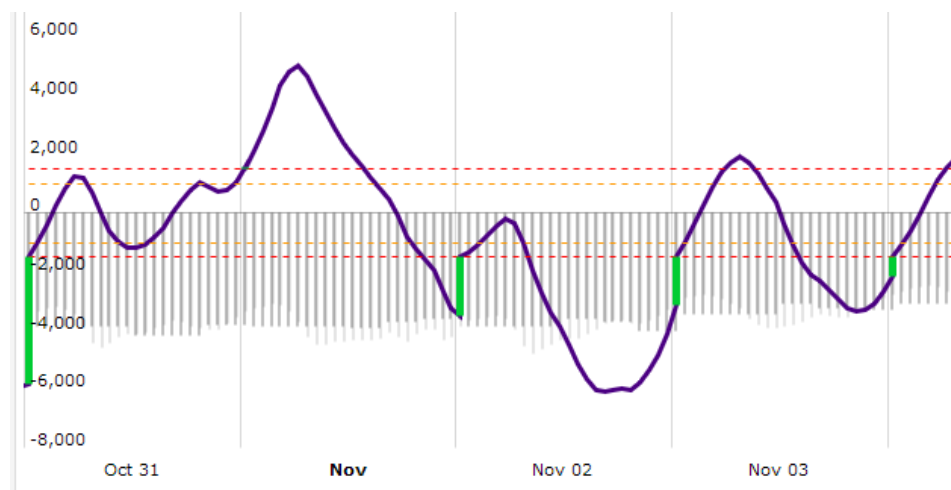
Operation of balancing (ROI) tolerances under the current codes

The MPOC provides for tolerances at RPs and DPs, outside of which parties are subject to automatic end-of-day cash-out (as illustrated in the Table 35 ROI plot, where the tolerance is shown as a dashed red line and the cash-out quantities are shown in green). The tolerance is m

× ROIL, where m is a multiplier and ROIL is the Running Operational Imbalance Limit (ROIL) set out in MPOC Sch 7.

The default value of m is 1 but in the case of events such as contingency and maintenance, First Gas may increase it temporarily (MPOC s12.18).¹³⁵

Table 35 - Example of MPOC automatic end-of-day cash-out of Excess Daily Imbalance at a Maui pipeline Welded Point



ROIL values are expressed as a % of SQ and by GJ value for each Welded Point. At present each Welded Point has a tolerance of 1% of SQ or 1,000GJ, whichever is more. These are listed in Table 36 below.

Current ROIL values are given in the MPOC (MPOC Sch 7) and total 17 TJ. But, because of the 1.5 ROIL multiplier, the aggregate tolerances in effect today are 25.5 TJ.

Table 36 - Current MPOC Imbalance tolerances

Welded Point (Large Stations only)	ROIL (% of SQ)	ROIL (GJ)
Oaonui Meter Station	1%	1,000
Frankley Road	1%	1,000
Bertrand Road (Waitara Valley)	1%	1,000
Faull Road	1%	1,000
Tikorangi Mixing Station	1%	1,000
Tikorangi #2	1%	1,000
Kowhai Mixing Station	1%	1,000
Ngatimaru Road (Receipt)	1%	1,000
Ngatimaru Road (Delivery)	1%	1,000
Tikorangi #3 (Receipt)	1%	1,000

¹³⁵ Although the default value is 1, on 29 September 2016 First Gas notified Shippers and Welded Parties that "...from 01 October 2016 the ROIL Multiplier at all Physical Welded Points will be reduced from 2 to 1.5" and it has remained at that level.

Welded Point (Large Stations only)	ROIL (% of SQ)	ROIL (GJ)
Tikorangi #3 (Delivery)	1%	1,000
Turangi Mixing Station	1%	1,000
Mokau Compressor Station	1%	1,000
Pokuru	1%	1,000
Pirongia	1%	1,000
Rotowaro	1%	1,000
Huntly Power Station	1%	1,000
Totals		17,000

The VTC does not provide any additional balancing tolerances. Rather, Shippers receive an allocation of whatever cash-outs apply at the interconnection between the Maui and non-Maui pipelines. So they get the benefit of the MPOC tolerances.

Operation of balancing (RM) tolerances under the GTAC

The GTAC would allocate a proportion of Line Pack to provide for RM tolerances (GTAC s8.5(b)), as periodically published on OATIS (GTAC Sch 2).

The 3 September 2018 Balancing SoP explains how Line Pack would be allocated to its various uses, including providing for RM Tolerances. First Gas has determined a Base Tolerance of 30 TJ would be available at all times, and an Additional Tolerance of 20TJ would be available when the Mokau Compressor Station is running. The Overall Tolerance available for allocation to Shippers and OBA Parties is therefore either 30TJ or, when Mokau is running, 50TJ (Balancing SoP s3.1.3).

The RM Tolerance definition (GTAC s1.1) provides formulas for how the Overall Tolerance will be allocated. (And each Shipper and OBA Party would receive a minimum allocation of 400GJ.)

The tolerance allocation method would operate as follows:

The Overall Tolerance (assume 30TJ on this particular day) is allocated equally between Receipts and Deliveries.

1. The allocation of receipt tolerance (15TJ) is shared among Shippers and OBA parties in proportion to their share of non-OBA receipts plus the metered quantities at OBA receipt points (i.e. total receipts).
2. The allocation of delivery tolerance (15TJ) is shared among Shippers and OBA parties in proportion to their share of non-OBA deliveries plus metered quantities at OBA delivery points (i.e. total deliveries).
3. Individual Shippers and OBA Parties are then allocated a pro-rata share of their respective pools.

This example is extrapolated in Figure 10 and Figure 11 down to the level of individual Shippers and OBA Parties. It shows how the Overall Tolerance of 30TJ is allocated on a particular day using a simple model with two Shippers (Shippers A and B) and four OBA Parties (Receipt OBA Parties W and X and Delivery OBA Parties Y and Z).

Inputs						
Overall tolerance	30 TJ					
Receipt tolerances (LPT(RECEIPTS))	15 TJ					
Delivery tolerances (LPT(DELIVERIES))	15 TJ					
Fee for Negative ERM	0.50 \$/GJ					
Fee for Positive ERM	0.50 \$/GJ					
Receipts			Deliveries			
		Allocation of				Allocation of
	Receipts (TJ)	Tolerance (TJ)		Deliveries (TJ)		Tolerance (TJ)
Shipper A Receipts	60	3.000	Shipper A Deliveries	150	7.166	
Shipper B Receipts	40	2.000	Shipper B deliveries	39	1.863	
Total Shipper Receipts	100	5.000	Total Shipper Deliveries	189	9.029	
OBA Party W Receipts	150	7.500	OBA Party Y Deliveries	120	5.732	
OBA Party X Receipts	50	2.500	OBA Party Z Deliveries	5	0.239	
Total OBA Party Receipts	200	10.000	Total OBA Party Deliveries	125	5.971	
Total Receipts	300	15.000	Total Deliveries	314	15.000	

Figure 10 – RM tolerance example

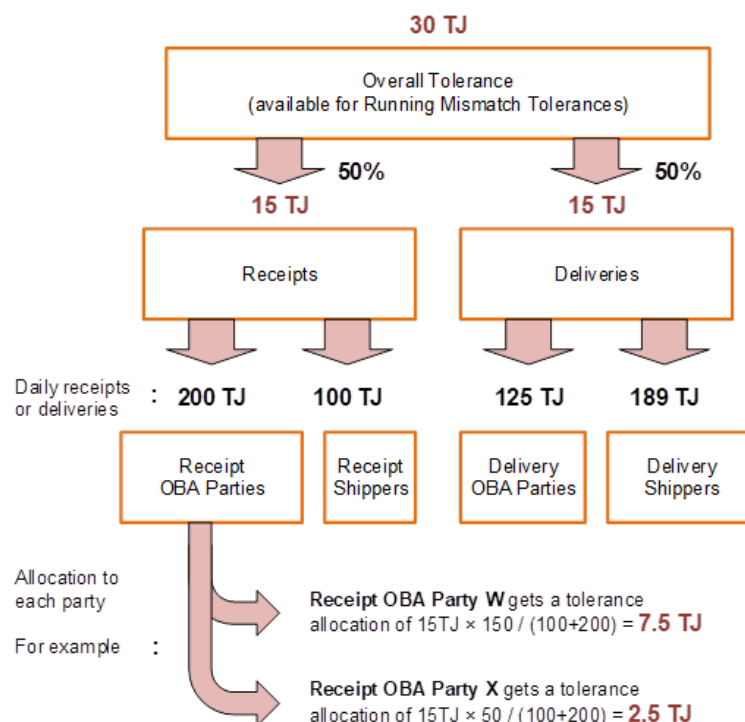


Figure 11 – RM tolerance allocation illustration

Comparing the GTAC approach to the MPOC/VTC approach

Under current MPOC/VTC arrangements, OBAs are obligatory at all RPs and DPs under the MPOC, so a Maui pipeline Shipper would generally have no mismatch, and balancing tolerance is not relevant.¹³⁶ For a Maui pipeline Welded Party, once it knows its SQ, it also knows its balancing tolerance (i.e. above which ROI becomes Excess Daily Imbalance and subject to automatic cash-out).

¹³⁶ There can be situations, for example in an emergency, where a Shipper's receipts or deliveries are curtailed, and Shipper mismatch could then arise. However, such situations are so rare that we can ignore them in our analysis.

However, for a Shipper on a non-Maui pipeline (a VTC Shipper) the consequences of the Maui-pipeline tolerances on their allocation of cash-outs (i.e. the BPP allocation of the relevant Maui Welded Point cash-out) would be difficult for it to assess. For example, a Shipper on the pipeline north of Rotowaro could easily assess what the balancing tolerance at the Rotowaro Welded Point was, but to know what its share of the cash-out at that point was going to be, it would need to estimate what deliveries at Rotowaro would be, the mismatches of other Shippers on the North Pipeline and its own mismatch position.

Under the GTAC, a GTAC Shipper or OBA Party could assess the tolerance on its RM by assessing three factors: whether Mokau is likely to be running or not, what the aggregate system receipts or deliveries are, and what its own receipts or deliveries are. For example, in our previous example, OBA Party W might estimate the total system receipts on the day as, say, 250TJ, estimate its own OBA receipts as 120TJ, and assume that Mokau would be off. In that case it would estimate its receipt tolerance allowance to be $15 \times (120/250) = 7.2$ TJ, compared to the 7.5TJ it was subsequently allocated in the example.

Summing up, some parties will find it easier to estimate their balancing tolerances under the GTAC, and some will find it easier. In particular, existing Maui pipeline users would find it more difficult while existing non-Maui pipeline users would find it easier.

How relevant is this likely to be in practice? We suspect that parties currently, and under the proposed arrangements, would be unlikely to monitor their overall imbalance positions in the way we have described. They would more likely adopt a pragmatic approach of only assessing how their balancing charges are trending at intervals (probably when they receive their monthly transmission services invoice). On the basis of that information they could then decide whether to give more attention to the accuracy of their balance position in future.

However, not all stakeholders agree that this is how it would operate in practice. Greymouth²⁶ believes that each party would try to assess their tolerance daily.

C.7 Liabilities

The following table provides our comments on the liability framework in the GTAC. The liability provisions are largely the same as the current MPOC and VTC in a number of respects, but there are some differences. We assess the importance of these differences in the table below.

Difference	Comment
Under the MPOC and the VTC, the definition of a "Reasonable and Prudent Operator" refers to performance equal to or better than good practice as determined by reference to proper and prudent international practice. The GTAC definition refers to: "the application by the relevant party of that degree of diligence, prudence and foresight reasonably and ordinarily exercised by experienced operators engaged in the same line of business under the same or similar circumstances and conditions having due regard to the Interconnected Parties and Shippers who also use the Transmission System to inject, convey or receive Gas and to First Gas"	Although the GTAC modifies the RPO definition in the MPOC and the VTC, it still retains an objective standard for all parties having regard to the type of industry participant (i.e. IP, Shipper, transmission system owner) and the relevant context. We have previously expressed concern that the reference to "having due regard to the IPs and Shippers who also use the Transmission System to inject, convey or receive Gas and to First Gas" may increase disputes due to the vagueness of that concept. ¹³⁷ We still hold that view, but have noted that that the Electricity Industry

¹³⁷ FAP1, p 182.

Difference	Comment
	<p>Participation Code 2010 has adopted a similar approach of stating what the RPO standard must take into account.¹³⁸ Apart from the reference to having due regard to other system users, we consider that the GTAC has adopted a conventional definition of an RPO.</p>
<p>There is no equivalent to the liquidated damages mechanism in MPOC s14 and s12.4 “Incentives Pool” and VTC s8 “Balancing and Peaking Pool”.</p>	<p>The stated purpose of the Incentives Pool is to “provide a system of liquidated damages” for Welded Parties who are unable to take the full quantity of gas agreed between the Welded Party and First Gas due to another party exceeding a Peaking Limit or as a result of an Operational Imbalance (MPOC s 14.1). The VTC also provides that the BPP is a liquidated damages regime for Shippers (VTC 8.31).</p> <p>First Gas does not propose an Incentives Pool or a BPP Pool on the basis that these pools are not used in practice and there are other provisions and tools available that allow First Gas to manage system balancing.¹³⁹</p> <p>Under the GTAC, parties who exceed Hourly Limits and Shippers who overrun incur incentive charges. While the various incentive charges under the GTAC may incentivise behaviour, those charges are not made available to parties affected by the relevant behaviour to recover loss (the amount of incentive charges that First Gas receives under the GTAC are factored into First Gas’s transmission revenue). Given that one of the purposes of the Incentives Pool and the Balancing and Peaking Pool is to compensate affected parties for loss (as well as incentivising prudent behaviour), we have considered the extent to which parties are able to claim loss under the GTAC in relation to the matters that are currently covered by the Incentives Pool and the Balancing and Peaking Pool (i.e. loss arising from excess peaking and Operational Imbalance).</p> <p>GTAC s 11.10 suggests that First Gas may waive an affected Shipper’s interconnection fees or transmission charges (and the Shipper who incurs the incentive charges will indemnify First Gas for that loss), but there is no certainty that First Gas will do so. It’s unclear what other claim affected</p>

¹³⁸ The definition of a “reasonable and prudent system operator” in the Electricity Industry Participation Code was amended in 2016 to include a requirement that “the fact that real-time co-ordination of the power system involves complex judgements and inter-related events” is taken into account.

¹³⁹ First Gas Memorandum 15 August 2018 “Gas Quality and Liabilities”.

Difference	Comment
	<p>parties may have under the GTAC in relation to loss caused by parties who exceed an Hourly Limit or overrun.¹⁴⁰</p> <p>Parties who suffer loss as a result of the behaviour of other parties are losing an opportunity to claim a remedy (whether a claim is made is up to the party who suffers loss). However, the GTAC provides incentives for Shippers to manage a balanced position (overrun/underrun charges, primary balancing obligations, ERM charges). The existence of those incentives and the lack of use of the Incentives Pool means that the absence of an equivalent mechanism in the GTAC does not result in any real detriment. There is also no evidence that the Incentives Pool, if used, would have been effective to compensate the aggrieved party</p>
<p>The requirement that injecting parties inject gas that complies with the Gas Specification only applies to a "new ICA" (GTAC s 12.2).</p> <p>Under the MPOC, each Direct Injecting Party (a producer on the Maui pipeline) is required to ensure that all gas that it injects into the Maui pipeline complies with the Gas Specification and monitor compliance (MPOC s 17.2). An Injecting Welded Party (a pipeline that flows gas into the Maui pipeline) is required to ensure that gas that Indirect Injecting Parties inject to that Injecting Welded Party's pipeline complies with the Gas Specification.</p> <p>The VTC requires any contract entered into after 30 November 2005 to include a requirement that gas that a counterparty injects complies with the gas specification and gives First Gas the right to require the counterparty to demonstrate adequate procedures.</p>	<p>We understand that First Gas's decision to limit GTAC s 12.2 to a "New ICA" is due to the continuation of some existing, confidential non-Maui ICAs under the GTAC.</p> <p>We have considered whether the revised drafting under the GTAC creates a material issue that does not exist under the current codes.</p> <p>The existing codes and the GTAC provide that First Gas indemnifies Shippers (although the indemnity is to Welded Parties under the MPOC) in relation to loss arising from the injection of gas that does not comply with the Gas Specification.¹⁴¹</p> <p>The above indemnity in the existing codes and the GTAC is subject to specific limits and exclusions of liability. In the case of non-specification gas injected by IPs, if First Gas can establish a breach of an ICA by an IP, First Gas's liability will be reduced to the amount recovered from that IP (MPOC 28.6, VTC 23.4(e) and GTAC 16.6). If First Gas cannot establish a breach of an ICA by an IP, under the current codes, and the GTAC, the indemnity that First Gas provides to Shippers (or Welded Parties under the MPOC) will apply up to the liability caps in MPOC 28.4, VTC 23.4 and GTAC s 16.4.</p> <p>Our interpretation of the GTAC is that, under GTAC 12.10, First Gas bears the risk in relation to</p>

¹⁴⁰ Note that like the MPOC and the VTC, GTAC s 16.12 and the equivalent provisions of the RP ICA and DP ICA provides that shippers and IPs shall not make claims against one another except in accordance with the GTAC. That effectively means that shippers and IPs will need to establish a claim against First Gas under the GTAC.

¹⁴¹ s 17.22, VTC s 12.7 and GTAC s 12.10.

Difference	Comment
	<p>liability caused by IPs who inject gas under existing ICAs up to the liability caps in GTAC s 16.4. GTAC s 16.6 will not apply to liability caused by IPs who inject gas under existing ICAs (as that provision only applies to liability arising under new ICAs).</p> <p>While we do not know if liability is limited under an existing ICA (because those agreements have not been disclosed), a Shipper who suffers loss due to the injection of non-specification gas by an IP under an existing ICA can recover that loss from First Gas up to the liability caps in s 16.4.</p> <p>In summary, uncertainty regarding the terms of interconnection in relation to non-specification gas does not increase the risk for parties under the GTAC.</p>
<p>The GTAC provides that First Gas indemnifies Shippers for loss arising from the injection of non-specification gas rather than IPs.</p> <p>The MPOC provides that First Gas indemnifies IPs.</p>	<p>Regulation 41(4) of the Gas (Safety and Measurement) Regulations 2010 provides that "Every gas retailer and every gas wholesaler must ensure that the gas that it supplies at a consumer's point of supply complies with this regulation." The Regulations reference the gas specification.</p> <p>Section 7A of the Consumer Guarantees Act provides a guarantee that gas supplied by a retailer to domestic consumers is of acceptable quality.</p> <p>The legislative requirement is for a party selling gas to be responsible for the specification of the product that it sells. However, if that party is not in direct control of the gas specification, it should not have ultimate liability. For that reason, the GTAC provides for Shippers to have an indemnity from First Gas with a back to back indemnity from upstream IPs.</p>
<p>The GTAC provides that a liable party shall not be liable to the extent that a party has not mitigated its loss "to the fullest extent reasonably practicable". The GTAC approach is consistent with VTC s 23.1 but is different to MPOC 28.1 ("to the standard of a Reasonable and Prudent Operator").</p>	<p>We do not consider this change to materially alter the balance of risk and note that the provision applies to both First Gas and its counterparties.</p>
<p>The exclusion of liability for third party losses in GTAC s16.2 does not include liability for excess peaking and overrun/underrun in relation to which Shippers are required to indemnify First Gas under s 11.10 of the GTAC. The GTAC</p>	<p>We think that the difference between the approach taken by the MPOC and VTC/GTAC reflects the different charging structure of the codes.</p>

Difference	Comment
<p>approach is consistent with VTC s 23.2 but is a change relative to MPOC s 28.2.</p>	
<p>GTAC s 16.6 provides that, if First Gas is liable and its liability is caused or contributed to by a third party, then First Gas's liability is limited to the aggregate amount received in payment by that third party to First Gas in respect of that party's breach. Further, any reasonable costs or expenses that First Gas incurs in connection with pursuing a liable third party will be deducted from its liability to Shippers or IPs. This approach was not reflected in the MPOC or the VTC.</p>	<p>We note Genesis's comment that:</p> <p>"The injured party should not be required to bear the costs of FG in this scenario, given that it is the party least able to manage or control this risk. The Liable Third Party should be required to separately pay those cost to FG, and those costs should be excluded from the liability cap, such that the injured party be made whole for the full quantum of its Loss."¹⁴²</p> <p>There is an obvious tension here in terms of who bears the cost of recovery. Although it is not the position under the current codes, we agree with First Gas's view that it should not be exposed to unrecoverable costs when pursuing a third party to recover a Shipper's or IP's loss.</p>
<p>GTAC s 16.6 limits First Gas's liability to the amount recovered from any "Liable Third Party".¹⁴³ First Gas is required to use "reasonable endeavours to pursue and seek recovery" from the Liable Third Party. Equivalent drafting is included in MPOC 28.6 and VTC (s 23.4(e)), but the MPOC drafting includes "as soon as reasonably practicable"</p>	<p>We do not consider the difference between the GTAC/VTC drafting and the MPOC drafting to be material. We would expect that the obligation to use "reasonable endeavours to pursue and seek recovery" includes an element of timeliness.</p>
<p>GTAC s 16.7 provides that, if First Gas's liability exceeds the capped amounts in GTAC s 16.4, First Gas's liability to the claimants shall be apportioned so that First Gas's total aggregate liability does not exceed the capped amounts in GTAC s 16.4. Unlike MPOC s 28.5 (the MPOC equivalent to GTAC s 16.7), GTAC s 16.7 does not carve out First Gas's liability caused by a breach of a TSA or ICA by a third party from GTAC s 16.7. Although framed slightly differently, we think that the MPOC approach is effectively the same as the VTC (having regard to the effect of s 23.4(e) and 23.5 of that code).</p>	<p>We would agree with the principle established by the MPOC that liability that First Gas can recover from third parties should be carved out from GTAC s 16.7. We think our view is also consistent with other provisions in the GTAC. GTAC s 16.6 provides a separate liability framework for First Gas's liability caused by a breach of a TSA or an ICA by a third party. In that case, liability is limited to the aggregate amount that First Gas receives (using reasonable endeavours to pursue). GTAC s 16.6 also provides that any First Gas caused liability is limited to the capped amount.</p> <p>We think GTAC s 16.7 should only apply to First Gas caused liability. We believe that the approach in the current codes is better than the GTAC and it would have been preferable if GTAC s 16.7 had excluded liabilities that First Gas can recover from a third party.</p>
<p>GTAC s 16.11(c) provides that First Gas shall not be required to assist the Defending Party where First Gas has "reasonable grounds to refuse such assistance". The equivalent exclusions in the MPOC and the VTC refer to "reasonably</p>	<p>Although GTAC 16.11(c) provides First Gas with slightly broader discretion than the existing wording in the MPOC and the VTC, it does not materially increase First Gas's discretion over the current codes.</p>

¹⁴² Genesis Submission: GTAC Consultation Version, 3 October 2018, p 13.

¹⁴³ This provision applies where First Gas's liability to a shipper or IP is caused by a third party's breach of a TSA or ICA.

Difference	Comment
believes that its reputation could be damaged or impaired by such assistance”.	
MPOC s 28.13(e) refers to the TSP not taking “active steps which would or could directly and inevitably result in the occurrence of an indemnifiable event”. The equivalent provision in the VTC and the GTAC refers to the Defending Party’s indemnity.	We believe that the drafting in the GTAC and the VTC better reflects the intention.

C.8 Target Taranaki Pressure (TTP)

Why TTP, the TTP range, and the actual pipeline pressures matter

The exit pressure from a producer’s plant must exceed the pressure in the transmission system for gas to flow. If the pipeline pressure rises to a level above that which the injecting party is able to achieve then that producer will be “shut-in”, i.e. unable to inject its gas into the pipeline to meet its commercial obligations. The TTP range is therefore set so that:

- the lower limit is sufficient to allow First Gas to maintain sufficient Line Pack in the system to meet its delivery obligations and to provide a cushion against contingencies; and
- the upper limit is below the pressure that would shut-in producers.

The latter point is important because a producer that is shut-in is likely to experience a shutdown of its production facilities that may take significant time to restart. Depending on the size of such a producer, the transmission system could potentially trip into a critical contingency situation. This highlights the importance of targeting pipeline pressure within the TTP range and managing the actual pressure accordingly.

Also, the lower the actual pipeline pressure is within the TTP range, the lower will be the producer’s compression cost to inject its gas (and the higher will be First Gas’s compression cost to transport that gas).

During consultation on the GTAC1, a producer provided Gas Industry Co with some information concerning the interplay between the economics of production and the pressure against which the producer is required to inject. That information was provided in confidence but shows:

- higher back-pressures increase production costs and reduce flexibility; and
- the ultimate recovery of hydrocarbon resources can be adversely affected by higher backpressures.

The proposed change

TTP definition

Under the MPOC, TTP is defined as:

...the pressure calculated by TSP at or near the Bertrand Road Welded Point to be sufficient to:

- a) deliver Shippers’ Approved Nominations; and
- b) provide, using reasonable endeavours, a reasonable quantity of Gas for use in a Contingency Event; and

- c) provide, using reasonable endeavours, a reasonable quantity of Gas to allow for delivery within the relevant Peaking Limit and Daily Operational Imbalance Limit.

The GTAC defines TTP as:

... the pressure determined by First Gas at or near the Bertrand Road Offtake to be sufficient to:

- a) deliver Shippers' approved Nominated Quantities;
- b) provide, using reasonable endeavours, a reasonable quantity of Gas for use in connection with an event or circumstance that First Gas believes, acting as a Reasonable and Prudent Operator, has or may detrimentally affect the transmission of Gas through the Transmission System or has or may deplete Line Pack to an unacceptable level, and includes an Emergency and a Critical Contingency; and/or
- c) provide, using reasonable endeavours, a reasonable quantity of Gas to allow for delivery having regard to relevant Agreed Hourly Profiles and/or relevant RM Tolerances;

One clear difference between these definitions is the more expansive set of matters the GTAC requires First Gas to consider when setting the target. Not only does item (b) of the definition include the use of gas in a critical contingency, but also includes any other event or circumstance with the potential to affect the transmission of gas. We think this more comprehensive list better describes what needs to be accounted for when determining the TTP. The MPOC captures these matters in MPOC s2.19 (by stating that the TTP range will not apply in relation to a Contingency Event, Force Majeure or Maintenance), but we think they are better dealt with in the definition. In other respects the definitions look comparable.

We note that in strict terms, the TTP is not an actual pressure, rather its a "target" pressure necessary to meet the criteria in the relevant code. This is clear in the MPOC where it is defined as a "calculated" pressure, and in the GTAC where it is defined as a "determined" pressure.

The TTP range and First Gas's obligation to maintain the TTP as low as practicable

MPOC s2.19 requires that:

The Target Taranaki Pressure shall be between 42 and 48 bar gauge, except as may be required as a result of a Contingency Event, Force Majeure Event or Maintenance. TSP shall give each Shipper and Welded Party not less than 12 months notice if it proposes to change the Target Taranaki Pressure below 42 bar gauge or above 48 bar gauge and any such change may only be implemented through a Change Request determined in accordance with section 29.

MPOC s2.5(c) requires that:

TSP shall, acting as a Reasonable and Prudent Operator:

- c) subject to complying with section 2.19, use reasonable endeavours to manage the Target Taranaki Pressure to be as low as practicable while maintaining sufficient Line Pack to meet its obligations under this Operating Code;

MPOC s2.20 requires that:

If necessary to keep the expected Maui Pipeline pressure under the maximum Target Taranaki Pressure limit, TSP will adjust Shippers' Nominated Quantities and Approved Nominations in accordance with section 8.

In similar vein, GTAC s3.33 provides that:

Subject to or except as may be required as a result of a Critical Contingency, Force Majeure Event, Emergency or any Maintenance, First Gas will use its reasonable endeavours to:

- a) maintain the Target Taranaki Pressure in the 400 line between Oaonui and the Turangi Mixing Station at or near the Bertrand Road Offtake between a lower limit of 42 bar gauge and an upper limit of 48 bar gauge (including, if the Target Taranaki Pressure is outside these limits, to bring the Target Taranaki Pressure back within those limits); and
- b) manage the Target Taranaki Pressure to be as low as practicable within the specified range while maintaining sufficient Line Pack to meet its obligations under this Code and interconnection agreements.

If necessary in order for First Gas to comply with its obligations under this *section 3.33* in relation to maintaining the Target Taranaki Pressure under the upper limit of the Target Taranaki Pressure, First Gas may take gas balancing action or exercise any rights to adjust or curtail any gas flow and/or relevant nominations (including pursuant to *section 9*). Any proposed change to the specified limits of the Target Taranaki Pressure shall be subject to a Change Request made in accordance with the Code (any such change to the specified pressure limits not to be effective earlier than 12 Months following its approval).

Several differences are of note. First, MPOC s2.19 states that TTP shall be between 42 and 48 bar gauge except in relation to a Contingency Event, Force Majeure Event or Maintenance. MPOC 2.19 does not place an obligation on First Gas (apart from requiring it to notify proposed changes to the range). MPOC s2.19(c) obliges First Gas to use reasonable endeavours to manage TTP to be as low as practicable (within the range specified by s2.19) while maintaining sufficient Line Pack. We note that:

- The MPOC fixes the range for TTP at 42 to 48 bar gauge. The range is also fixed in GTAC s3.33(a) at 42 to 48 bar gauge.
- Both the MPOC and the GTAC require First Gas to use reasonable endeavours to manage TTP to be as low as practicable within the range (MPOC s2.5(c) and GTAC s3.33(b)). Although, given that TTP is strictly speaking a target (as opposed to an actual pressure) these provisions are open to misinterpretation.

These references to First Gas needing to “manage” TTP beg the question of whether the drafting in both cases is meant to be referring to the actual pressure in the section of the Maui pipeline that the TTP definition references (rather than to TTP itself).

MPOC s2.20 requires First Gas to adjust nominations if necessary to keep the expected Maui Pipeline pressure (as opposed to TTP) under the maximum TTP limit (which we interpret to be 48 bar gauge) and MPOC s8.5 requires the daily calculation of total capacity of the Maui Pipeline to be based on a maximum TTP of 48 bar gauge. MPOC s3.1 provides that First Gas may (but is not required to) undertake balancing actions to maintain pressure within operating limits. In contrast, GTAC s3.33 requires First Gas to use reasonable endeavours to maintain the TTP between the upper and lower limits, via balancing actions, or by exercising rights to adjust gas flow or nominations.

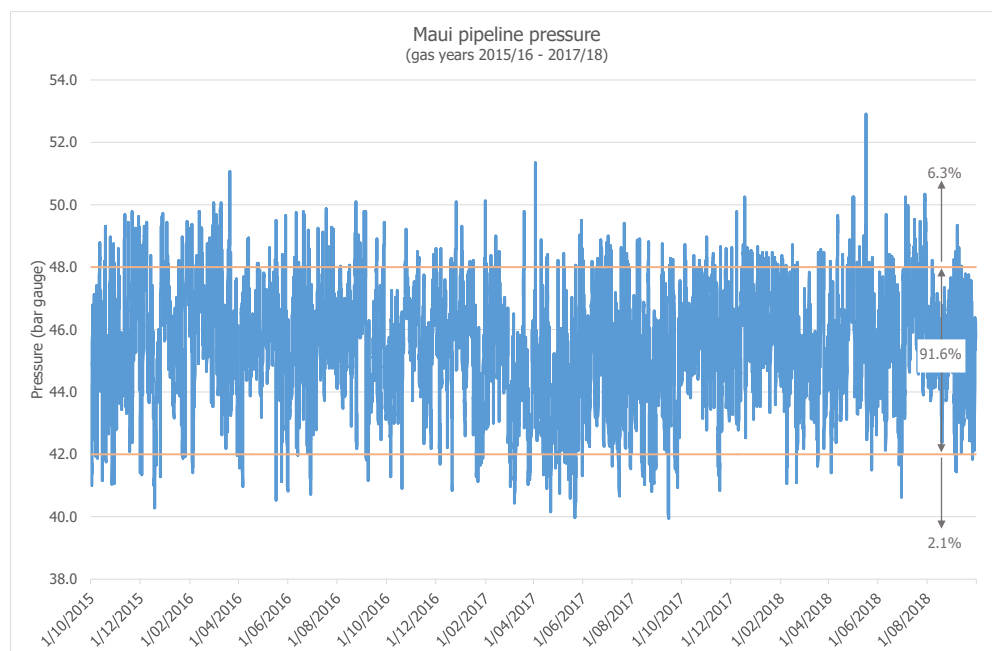
Overall, the key difference between the relevant code provisions is that the MPOC refers to management of pressure in some clauses and management of TTP elsewhere, whereas the GTAC refers to the management of TTP.

Operating practice

Figure 12 shows the variation in Maui pipeline pressures in the Taranaki region since October 2015 (the period since the introduction of MBB). As can be seen from the chart there are numerous excursions both above and below the TTP range. Over that three-year period the pressure was within the target range of 42-48 bar 91.6% of the time. Additionally, the shape of

the chart does not suggest that there is any consistent bias towards the lower end of the range as might be expected from the wording in the MPOC.

Figure 12- Maui pipeline pressures since introduction of MBB



Conclusion on TTP

The key difference between the codes is that First Gas's obligations in the MPOC are sometimes expressed in relation to management of actual pressure (e.g. s2.5(c)) and sometimes to target pressure (e.g. s2.20). By contrast, the GTAC refers only to management of target pressure. As noted in the PAP, it was unclear whether these differences were intended to have any operational significance.

In its submission on the PAP, First Gas advised that there is no "difference in construction of TTP between the MPOC and GTAC. In both cases it is the pressure to which the system is managed".¹⁴⁴ This clarification is highly relevant because actual outcomes will be heavily influenced by how the transmission system operator interprets the relevant provisions. Importantly, it considers the provisions in relation to the TTP to be equivalent in the two codes.

Accordingly, we assess the GTAC's TTP provisions as being neutral for reliability.

C.9 Reasons for curtailment

Table 37, provides a listing of the reasons for curtailment in the GTAC and MPOC. Note that because of the different code designs it is not always possible to make a direct one-to-one comparison.

From the comparison in the table, we note that:

- A number of matters are singled out as a reason for physical curtailment in the MPOC but not the GTAC. However, we expect that any of these could be classified as a GTAC Emergency (GTAC s1.1), and therefore be covered, or are covered by the definition of "Congestion". These matters are:

¹⁴⁴ First Gas PAP submission, 18 January, Q20

- Non-specification gas (MPOC s15.1(b)(i));
- a Welded Party flowing gas beyond a Peaking Limit (MPOC s15.1(b)(v)); and
- Shortage of pipeline capacity (MPOC s8.24(a) & s8.28(a)).¹⁴⁵
- A number of matters are singled out as a reason for physical curtailment in the GTAC but not the MPOC. However, we expect that any of these could be classified as a MPOC Emergency (MPOC s1.1), and therefore be covered. These matters are:
 - Breach of any Security Standard Criteria (GTAC s9.1(c));
 - A Critical Contingency would otherwise occur (GTAC Sch 5 s9.1(c)); and
 - One of various contracts (TSAs, ICAs, GTAs etc) having expired, terminated, or not been executed (GTAC s9.1(d) etc).
- A number of matters are singled out as a reason for curtailing a Shipper approved nominations in the MPOC but not the GTAC. However, we expect that any of these could be classified as a GTAC Emergency (GTAC s1.1), and therefore be covered, or they would be covered under the definition of "Congestion" or GTAC s9.1¹⁴⁶. These matters are:
 - Shortage of pipeline capacity (MPOC s8.24(a) & s8.28(a));
 - Shortage of Welded Point capacity (MPOC s8.24(b) & s8.28(c)); and
 - Shortage of Welded Point capacity due to Welded Party curtailing the Scheduled Quantity pursuant to MPOC s15.2 for non-specification gas, unscheduled maintenance, an FM event or a Contingency Event (including an Emergency), or a circumstance in the IPs production facility or pipeline MPOC s8.28(b) (MPOC s8.28(b)).

Key observations:

- First Gas has wide entitlements to physically curtail under both the MPOC and GTAC.
- Although different reasons for physical curtailment are signalled out under each code, it seems like the reasons specifically identified by one code would be covered by a general provision of the other. In practice, therefore, we don't think there is a material difference to the matters that can give rise to physical curtailment.
- The same reasoning applies to curtailment of nominations (except in relation to MPOC s15.2). So we do not think there is a material difference to the matters that can give rise to the curtailment of Shipper nominations.
- There is no GTAC analogue to MPOC s15.2. It permits a Welded Party to immediately notify First Gas that the Scheduled Quantity at a Welded Point is reduced to prevent the flow of non-specification gas, to enable unscheduled maintenance, in response to an FM event, or where a contingency occurs on the Welded Party's pipeline. Approved Nominations are curtailed accordingly.

¹⁴⁵ Or "shortage of pipeline capacity" under the MPOC may be covered by the definition of "Congestion" rather than an "Emergency" in the GTAC. In either case, it is covered. We note that the actual obligation on First Gas is in MPOC s8.20 to s8.22 which deals with the allocation of capacity in each nominations cycle and refers to the priority described in MPOC s8.24 to s8.28. The equivalent provisions in the GTAC are GTAC s4.14/4.15, which require the priority in GTAC s10.3 to be applied if there is "Congestion" or a GTAC s 9.1 event occurs.

¹⁴⁶ GTAC s9.8 links back to the circumstances in GTAC s9.1 by referring to "pursuant to s 9.5" and GTAC s9.5 refer to s 9.1(a) to (g).

Table 37 - Reasons for curtailment

GTAC Reason	reference	MPOC Reason	Reference
Curtailment of physical flow by First Gas			
Emergency	GTAC s9.1(a) GTAC Sch 5 s9.1(a) GTAC Sch 6 s9.1(a)	A Contingency Event (including an Emergency)	MPOC s15.1(b)(iv)
		Non-specification gas	MPOC s15.1(b)(i)
FM	GTAC s9.1(b) GTAC Sch 5 s9.1(b) GTAC Sch 6 s9.1(b)	An FM Event	MPOC s15.1(b)(iii)
		Welded Party Excess Daily Imbalance or exceeding Peaking Limit	MPOC s15.1(b)(v)
		Potential Operational Imbalance at Notional Welded Points	MPOC s15.1(b)(vi)
Breach of any Security Standard Criteria ¹⁴⁷	GTAC s9.1(c) GTAC Sch 6 s9.1(c)		
A Critical Contingency would otherwise occur	GTAC Sch 5 s9.1(c)		
An ICA has expired, terminated, or not been executed	GTAC s9.1(d)		
A Shipper's GTA has expired, terminated, or not been executed (and is not replaced by an OBA), or is otherwise not entitled to receive gas	GTAC Sch 5 s9.1(d)		
A Shipper's TSA, SA, GTA or Allocation Agreement has expired, terminated, or not been executed	GTAC Sch 6 s9.1(d)		
A TSA, SA, GTA or allocation agreement	GTAC Sch 6 s9.1(d)		

¹⁴⁷ The GTAC defines Security Standard Criteria as a physical parameters set out its Security Standard (as published on OATIS) to indicate that Operational Capacity may be about to be, or has been, exceeded, including minimum permissible pressures at various points on the Transmission System and the projected minimum time to reach any such a pressure.

GTAC Reason	reference	MPOC Reason	Reference
Curtailment of physical flow by First Gas			
has expired, terminated, or not been executed			
RP ICA expires or is terminated	GTAC Sch 5 s9.1(e)		
DP ICA expires or is terminated	GTAC Sch 6 s9.1(e)		
Scheduled and Unscheduled maintenance	GTAC s9.1(f) GTAC Sch 5 s9.1(f) GTAC Sch 6 s9.1(f)	Unscheduled maintenance	MPOC s15.1(b)(ii)
To maintain TTP	GTAC s9.1(g) GTAC Sch 5 s9.1(g) GTAC Sch 6 s9.1(g)		

Curtailment of Shipper approved nominations by First Gas

Any of the GTAC s9.1 circumstances	GTAC s9.8 GTAC Sch 5 s9.8 GTAC Sch 6 s9.8		
		Shortage of pipeline capacity	MPOC s8.24(a) & s8.28(a)
		Shortage of Welded Point capacity	MPOC s8.24(b) & s8.28(c)
		Shortage of Welded Point capacity due to Welded Party curtailing the Scheduled Quantity pursuant to MPOC s15.2 for non-specification gas, unscheduled maintenance, an FM event or a Contingency Event (including an Emergency), or a circumstance in the IPs production facility or pipeline	MPOC s8.28(b)

C.10 Ahuroa underground gas storage (Ahuroa UGS)

Gas Services New Zealand Limited (GSNZ) has purchased the Ahuroa UGS facility. GSNZ and First Gas have a common ultimate owner.

Does the First Gas affiliation with the Ahuroa UGS make it a gas producer, wholesaler, Shipper or retailer?

Where the owner of a gas pipeline with monopoly characteristics competes with its customers in upstream or downstream markets there is potential for economic harm. Such situations can be

addressed by structural separation or ringfencing of the monopoly business. However, this does not appear to be an issue in the First Gas situation.

Gas Industry Co received a letter from First Gas on 8 March 2018 explaining that the Ahuroa UGS had been acquired by GSNZ, a related entity of First Gas. The letter then outlined GSNZ's intended use of the Ahuroa UGS and how the interests of gas transmission users would be safeguarded.¹⁴⁸ That letter makes it clear that GSNZ will not take title to gas stored on behalf of its customers and therefore will not be a producer, wholesaler, Shipper or retailer of gas. Transactions into and out of the Ahuroa UGS reservoir will be made by industry participants, not GSNZ. The letter went on to note the operational separation between GSNZ and First Gas, meaning that First Gas would not be a gas producer, wholesaler, Shipper or retailer.

We have also considered the scope for First Gas to disclose commercially sensitive information about pipeline users to GSNZ. GTAC s20.4 places an obligation on First Gas to implement suitable policies, procedures and systems to ensure confidential information is not disclosed. GTAC s20.6 allows pipelines users to appoint a third party to audit compliance with this provision. Accordingly, First Gas is prohibited from disclosing confidential information, and there is a mechanism to ensure compliance with this obligation.

In relation to the comparative assessment in this FAP, our conclusion is that the absence of detailed ring-fencing provisions in the GTAC is not a concern in the context of First Gas's affiliation to the Ahuroa UGS business.

Is there scope for First Gas to manage its regulated transmission business to generate profits in its affiliated unregulated storage business?

Although First Gas may not compete with its customers in upstream and downstream gas markets or misuse commercially sensitive information, we must also consider whether, relative to the status quo, there is scope for First Gas to use its transmission business to stimulate the demand for flexibility services from its affiliated Ahuroa UGS business. We note that revenue from Ahuroa UGS services falls outside the Part 4 revenue cap, and any non-neutral behaviour by First Gas could be prejudicial to gas pipeline users.

In broad terms, to stimulate additional demand for UGS services, it would be necessary either to restrict the supply of Line Pack flexibility to pipeline users or to increase the cost of accessing that flexibility.

In relation to restricting supply, our view is that GTAC s8.5 requires First Gas to act reasonably in making all of the pipeline's Line Pack flexibility available to meet its obligations under the GTAC. We also note that First Gas is required to act in a neutral fashion under GTAC s2.6 to disclose the information in GTAC Sch 2. We would expect users will be able to scrutinise and challenge any actions that appear unreasonable.

In relation to increasing the cost of accessing pipeline Line Pack flexibility, a possible avenue would be to raise balancing charges. As we discuss in section 3.5, as the GTAC is presently drafted, pipeline users in aggregate appear likely to see reduced balancing costs because of the introduction of the ERM mechanism.

We acknowledge this effect may be partially negated if First Gas increases the ERM charges, using the discretion in GTAC s8.14. However, such charges are capped at \$1/GJ, and even at this level we would still expect some benefits relative to the MPOC. The GTAC does not provide any discretion to increase ERM Charges beyond \$1/GJ without using the GTAC change process, which should provide an adequate safeguard for users.

¹⁴⁸ <https://www.gasindustry.co.nz/dmsdocument/5920>

In addition, if pipeline users wished to utilise the Ahuroa UGS to avoid ERM charges, such short-term usage would crowd-out use of the facility for inter-seasonal storage. We think it unlikely that First Gas would find that to be commercially acceptable.

Appendix D Key GTAC documents and workshops

As a reference for stakeholders, the dates of each key GTAC development document and workshop are listed below.

Key:

- ★ Stakeholder workshop
- Stakeholder submission
- First Gas document
- GIC document

Key communication	Author	Date
● <i>Memorandum on Single Code Development Process</i>	FG	12 August 2016
★ Stakeholder workshop		24 August 2016
● <i>Single Code Options Paper (SCOP1)</i>	GIC	13 September 2016
★ Stakeholder workshop		20 September 2016
● <i>Stakeholder Submissions on SCOP1</i>		7 October 2016
★ Stakeholder workshop		9 November 2016
● <i>SCOP1 Analysis of Submissions</i>	GIC	23 November 2016
● <i>Single Code Options Paper (SCOP2)</i>	FG	28 November 2016
★ Stakeholder workshop		5 December 2016
● <i>Stakeholder Submissions on SCOP2</i>		23 December 2016
● <i>SCOP2 Analysis of Submissions</i>	GIC	27 January 2017
● <i>GTAC Development: Proposed Decisions and Next Steps</i>	FG	17 February 2017
★ Stakeholder workshop		28 February 2017
<i>GTAC Governance Options</i>	Concept	20 April 2017
● <i>Emerging Views on Detailed Design (EV Paper)</i>	FG	12 May 2017
★ Stakeholder workshop		17 May 2017
● <i>Initial Summary of GTAC IT Risks</i>	FG	7 June 2017
● <i>Preliminary Draft Code Changes (Transition Paper)</i>	FG	12 June 2017
<i>GTAC Governance Options Final Advice to GIC</i>	Concept	12 June 2017
★ Stakeholder workshop		22 June 2017

Key communication	Author	Date
● <i>Stakeholder Submissions on EV Paper</i>		23 June 2017
● <i>EV Paper Analysis of Submissions</i>	GIC	13 July 2017
● <i>MPOC Transition Change Request (TCR)</i>	FG	14 July 2017
★ Stakeholder workshop		19 July 2017
● <i>GIC proposed approach to GTAC assessment (Assessment Note)</i>	GIC	4 August 2017
● <i>Complete Draft GTAC</i> released for negotiation	FG	11 August 2017
● <i>Stakeholder Submissions on Assessment Note</i>		16 August 2017
★ Stakeholder workshop		17 August 2017
★ Stakeholder workshop		24 August 2017
★ Stakeholder workshop		25 August 2017
● <i>GTAC: Acquisition of Transaction Management Software</i>	FG	29 August 2017
● <i>Proposed alteration to MPOC TCR</i>	FG	30 August 2017
★ Stakeholder workshop (teleconference)		31 August 2017
● <i>Stakeholder Submissions on MPOC TCR</i>		7 September 2017
● <i>Report on how GIC would perform GTAC Change Request Role</i>	GIC	8 September 2017
● <i>Revised Draft GTAC</i> released for mark-ups	FG	11 September 2017
★ Stakeholder workshop		15 September 2017
★ Stakeholder workshop		21 September 2017
● <i>Draft Recommendation on MPOC TCR</i>	GIC	22 September 2017
● <i>Stakeholder Submissions on GTAC Change Request Role</i>		22 September 2017
★ Stakeholder workshop		28 September 2017
● <i>Stakeholder mark-ups & submissions on 11 September GTAC</i>		9 October 2017
● <i>Stakeholder Submissions on MPOC TCR Draft Recommendation</i>		16 October 2017
● <i>Final Recommendation on MPOC TCR</i>	GIC	31 October 2017
● <i>Second Revised Draft GTAC</i>	FG	3 November 2017
● Presentation of <i>Second Revised Draft GTAC</i>	FG	9 November 2017
★ Stakeholder workshop		10 November 2017
★ Stakeholder workshop		17 November 2017
● <i>Memo on proposed amendments to Liability provisions</i>	FG	30 November 2017
● <i>Memo on proposed amendments to Hourly Profiles provisions</i>	FG	1 December 2017

Key communication	Author	Date
• <i>Memo on proposed amendments to ERM and Overrun/Underrun Charges</i>	FG	1 December 2017
• <i>Memo on proposed amendments to ICA/GTAC interactions</i>	FG	4 December 2017
• <i>Memo on proposed amendments to Allocations re D+1</i>	FG	4 December 2017
• <i>GTAC1 released to Gas Industry Co for assessment</i>	FG	8 December 2017
• <i>Presentation of GTAC1</i>	FG	12 December 2017
• <i>Presentation on GTAC Assessment Process</i>	GIC	
• <i>Stakeholder Submissions on GTAC1</i>		22 January 2018
• <i>Presentation on GTAC Transaction Management System</i>	FG	12 February 2018
• <i>GTAC1 Preliminary Assessment Paper (PAP1)</i>	GIC	13 February 2018
• <i>Presentation of PAP1</i>	GIC	1 March 2018
• <i>Open letter re Ahuroa</i>	FG	8 March 2018
• <i>Stakeholder Submissions on PAP1</i>		19 March 2018
★ <i>Submissions workshop on GTAC1 – Preliminary Assessment Paper</i>		27 March 2018
• <i>Memo on drafting comments raised in submissions on GTAC1</i>	GIC	28 March 2018
• <i>Stakeholder PAP1 cross-submissions</i>		16 April 2018
• <i>Memo on GTAC next steps</i>	FG	19 April 2018
• <i>Stakeholder Submissions on FG next steps memo</i>		30 April 2018
• <i>Stakeholder Submissions on Draft TOR for Independent Facilitator</i>		30 April 2018
• <i>GTAC Final Assessment Paper (FAP1)</i>	GIC	25 May 2018
• <i>Draft Terms of Reference (TOR) for Independent Facilitator</i>	GIC	25 May 2018
• <i>GTAC Workplan 2018</i>	FG	12 June 2018
• <i>Final TOR for Independent Facilitator</i>	GIC	13 June 2018
★ <i>Stakeholder workshop</i>		21 June 2018
• <i>Memo on GTAC workplan</i>	FG	21 June 2018
• <i>Memo on Workstream 1 – 1.2 ICA Summary</i>	FG	3 July 2018
• <i>Memo on Workstream 1 – 1.2 ICA Common and Essential Terms</i>	FG	3 July 2018
• <i>Memo on Workstream 2 – 2.2 Balancing Tolerances</i>	FG	3 July 2018
• <i>Memo on Workstream 2 – 2.3 Peaking Regime</i>	FG	3 July 2018
• <i>Memo on Workstream 3 – 3.1 Mass Market Nomination Scheme</i>	FG	3 July 2018

Key communication	Author	Date
• <i>Memo on Workstream 3 – 3.3 Wash-up Summary</i>	FG	3 July 2018
★ Stakeholder workshop (Block 1)		10 July 2018
★ Stakeholder workshop (Block 1)		11 July 2018
★ Stakeholder workshop (Block 1)		12 July 2018
• Open letter to Shippers, <i>Mitigating GTAC Commerce Act risk</i>	Trustpower	18 July 2018
• <i>Memo on Block 1 Outputs – 1 GTAC ICAs</i>	FG	24 July 2018
• <i>Memo on Block 1 Outputs – 2 AEMO Guidelines for Gas Quality Excursions</i>	FG	24 July 2018
• <i>Memo on Block 1 Outputs – 3 Metering Test Results</i>	FG	24 July 2018
• <i>Memo on Block 1 Outputs – 4 Allocation Methods</i>	FG	24 July 2018
• <i>Memo on Block 1 Outputs – 5 Target Taranaki Pressure</i>	FG	24 July 2018
• <i>Memo on Block 1 Outputs – 6 Balancing Tolerances</i>	FG	24 July 2018
• <i>Memo on Block 1 Outputs – 7 Peaking Tolerances</i>	FG	24 July 2018
• <i>Memo on Block 1 Outputs – 8 Nominations</i>	FG	24 July 2018
• <i>Memo on Block 1 Outputs – 9 Priority Rights</i>	FG	24 July 2018
• <i>Memo on Block 1 Outputs – 10 Supplementary Agreement Scope</i>	FG	24 July 2018
• <i>Memo on Block 1 Outputs – 11 Transition Arrangements</i>	FG	24 July 2018
• Open Letter re 10-12 GTAC Minutes	Greymouth	24 July 2018
• Letter re 10-12 July workshops	Methanex	24 July 2018
• <i>Interconnection – Common and Essential Terms</i>	Methanex	24 July 2018
• <i>Metering Requirements - Preliminary Technical Session</i>	FG	25 July 2018
• <i>Preliminary Technical Metering Meeting Notes</i>	FG	25 July 2018
• <i>GTAC Drafting Comments</i>	Greymouth	27 July 2018
• <i>Gas Metering systems</i>	FG	30 July 2018
• <i>Wash-up Discussion Paper</i>	FG	31 July 2018
• <i>Memo – Block 2 Support Materials – 1 Existing Terms of Interconnection</i>	FG	31 July 2018
• <i>Interconnection Policy</i>	FG	31 July 2018
• <i>Proposal for shippers to collectively seek advice on Commerce Act risk associated with new GTAC</i>	Greymouth	31 July 2018
★ Stakeholder workshop (Block 2)		7 August 2018

Key communication	Author	Date
★ Stakeholder workshop (Block 2)		8 August 2018
★ Stakeholder workshop (Block 2)		9 August 2018
● <i>Block 3 Support Materials – 4 Change Request Veto</i>	FG	15 August 2018
● <i>Block 3 Support Materials – 4 Change Request Timings</i>	FG	15 August 2018
● <i>Block 3 Support Materials – 3.6 Supplementary Agreements</i>	FG	15 August 2018
● <i>Gas Quality and Liabilities</i>	FG	15 August 2018
● <i>GTAC Interim Version</i>	FG	21 August 2018
● <i>GTAC Drafting Comments – As Implemented in GTAC Interim Version 21 August</i>	FG	21 August 2018
● <i>Block 2 Outputs Materials Summary</i>	FG	21 August 2018
● <i>Block 2 Outputs – 1 D+1 Provisional Data</i>	FG	21 August 2018
● <i>Block 2 Outputs – 2 ICA Common and Essential Terms</i>	FG	21 August 2018
● <i>Block 2 Outputs – 3 Curtailments and OFOs</i>	FG	21 August 2018
● <i>Block 2 Outputs – 4 Rebates</i>	FG	21 August 2018
● <i>Block 2 Outputs – 5 Transmission Incentive Fees</i>	FG	21 August 2018
● <i>Block 2 Outputs – 6 ERM Charges</i>	FG	21 August 2018
● <i>Block 2 Outputs – 7 Peaking</i>	FG	21 August 2018
★ Stakeholder workshop (Block 3)		22 August 2018
★ Stakeholder workshop (Block 3)		23 August 2018
● <i>Letter re Rebates</i>	Methanex	24 August 2018
● <i>GTAC Second Interim Version</i>	FG	27 August 2018
● <i>ICA for Receipt Points</i>	FG	27 August 2018
● <i>ICA for Delivery Points</i>	FG	27 August 2018
● <i>Block 3 Outputs Materials Summary</i>	FG	27 August 2018
● <i>Block 3 Outputs – 1 Liabilities</i>	FG	27 August 2018
● <i>Block 3 Outputs – 2 Termination</i>	FG	27 August 2018
● <i>Block 3 Outputs – 3 Confidentiality</i>	FG	27 August 2018
● <i>Block 3 Outputs – 4 Supplementary Agreement Governance</i>	FG	27 August 2018
● <i>Block 3 Outputs – 5 Change Requests</i>	FG	27 August 2018
● <i>Draft Balancing Standard Operating Procedure (SOP)</i>	FG	3 September 2018
● <i>Draft Metering Requirements</i>	FG	3 September 2018
● <i>Letter re GTAC Workshop Minutes 7-9 August 2018</i>	MGUG	3 September 2018
★ Stakeholder workshop (Block 4)		4 September 2018













Key communication	Author	Date
★ Stakeholder workshop (Block 4)		5 September 2018
★ Stakeholder workshop (Block 4)		6 September 2018
● <i>GTAC Consultation Version</i>	FG	11 September 2018
● <i>GTAC RP ICA</i>	FG	11 September 2018
● <i>GTAC DP ICA</i>	FG	11 September 2018
● <i>Guide to 2018 Charges</i>	FG	11 September 2018
● <i>Block 5 Support Material – 5 PR Auction Terms and Conditions Scoping</i>	FG	11 September 2018
● <i>Response to GTAC Workshop 3 (22-23 August 2018) Materials</i>	Methanex	12 September 2018
● <i>GIC News Bulletin</i> seeking feedback on what elements of the proposed arrangements require GIC's particular attention and how GIC could improve its approach to the New Code assessment	GIC	13 September 2018
● <i>Curtailments and Operational Flow Orders Standard Operating Procedure (SOP)</i>	FG	14 September 2018
★ Stakeholder workshop (Block 5)		18 September 2018
★ Stakeholder workshop (Block 5)		19 September 2018
● <i>Revised Curtailments and Operational Flow Orders Standard Operating Procedure (SOP)</i>	FG	24 September 2018
● <i>Revised Pipeline Balancing and Line Pack Management Standard Operating Procedure (SOP)</i>	FG	24 September 2018
● <i>Stakeholder Submissions to First Gas on Draft GTAC</i>		3 October 2018
★ Submissions workshop on Draft GTAC		16 October 2018
● <i>Stakeholder Submissions to Gas Industry Co on Draft GTAC</i>		23 October 2018
● <i>GTAC released to Gas Industry Co for assessment</i>	FG	31 October 2018
● <i>GTAC Preliminary Assessment Paper (PAP)</i>	GIC	5 December 2018
● <i>Presentation of PAP</i>	GIC	10 December 2018
● <i>Stakeholder Submissions on PAP</i>		18 January 2019
● <i>GTAC Final Assessment Paper (FAP)</i>	GIC	27 February 2019

Appendix E Comparison of FAP and FAP1 assessments of the GTAC

Table 38 provides a comparison of the assessments made in this FAP with those from FAP1. The comments in the grey rows briefly note the reasons why our assessments have changed.

We present this information for the interest of readers who are curious about how our final assessment of the proposed GTAC (dated 31 October 2018) differs from our earlier assessment of GTAC1 (dated 8 December 2017). The information is not relevant to our analysis.

Table 38 – Comparison of FAP and FAP1 assessments of the GTAC

























	Efficiency	Reliability	Safety	Environment	Fairness	All criteria
Gas transmission products (a component more significant to the overall assessment)						
FAP						
FAP1						
					Green increased: • Recognition that creating a single receipt zone would be more fair to producers and Shippers	

	Efficiency	Reliability	Safety	Environment	Fairness	All criteria
Pricing (a component more significant to the overall assessment)						
FAP			-			
FAP1			-			
	Red reduced: <ul style="list-style-type: none"> • OR/UR charges reduced, made symetric and rebate scheme abandoned • ERM Charges made symetric 				Red reduced: <ul style="list-style-type: none"> • OR/UR charges reduced, made symetric and rebate scheme abandoned • Hourly OR/UR Charges only to apply to Peaking Parties 	
Energy quantity determination						
FAP			-	-		
FAP1			-	-		
		Red reduced: <ul style="list-style-type: none"> • GTAC allows only 2 further years grandfathering of legacy metering arrangments • the 9 month interval before special tests reduced to 3 months, as in the VTC 			Green increased: <ul style="list-style-type: none"> • Certainty around bringing legacy metering arrangements to an end is more fair on other system users 	







	Efficiency	Reliability	Safety	Environment	Fairness	All criteria
Energy allocation						
FAP			-	-		
FAP1			-	-		
	Red reduced: <ul style="list-style-type: none"> • OBA Parties are now entitled to AHP • IPs may now select the energy allocation method Green reduced: <ul style="list-style-type: none"> • Re-assessment of value • OBA optionality would bring 	Red reduced: <ul style="list-style-type: none"> • Wash-up arrangements have been incorporated into GTAC 				
Balancing (a component more significant to the overall assessment)						
FAP			-			
FAP1			-			

	Efficiency	Reliability	Safety	Environment	Fairness	All criteria
	Red reduced: <ul style="list-style-type: none"> Balancing tolerance methodology now determined 			Green reduced: <ul style="list-style-type: none"> the future use of the compressors is too uncertain to confidently predict an improvement 	Red reduced: <ul style="list-style-type: none"> Balancing tolerance methodology no longer unknown Green reduced: <ul style="list-style-type: none"> Recognition that Shippers are rarely cashed-out for more than their RM 	
Curtailment						
FAP						
FAP1						
		Red reduced: <ul style="list-style-type: none"> OFOs can now be directed at the party best able to respond 				
Congestion management						
FAP						
FAP1						

	Efficiency	Reliability	Safety	Environment	Fairness	All criteria
Gas quality and odourisation (a component more significant to the overall assessment)						
FAP						
FAP1						
	Green increased: <ul style="list-style-type: none"> • IP obligations now captured in common and essential terms of GTAC Sch 5 and 6 • New obligations of First Gas to publish summary information on RP IP compliance 	Red reduced: <ul style="list-style-type: none"> • Shippers now have stronger rights to request confirmation of compliance • IP obligations now captured in common and essential terms of GTAC Sch 5 and 6 	Green increased: <ul style="list-style-type: none"> • added focus on safety introduced by GTAC s 13.5, requiring First Gas to publish odourisation spot checks results and an annual summary report on the facilities, systems, procedures and monitoring odorant levels 		Green increased: <ul style="list-style-type: none"> • OR/UR charges reduced, made symmetric and rebate scheme abandoned • Hourly OR/UR Charges only to apply to Peaking Parties 	
Prudential requirements						
FAP						
FAP1						
Force majeure						
FAP						
FAP1						

	Efficiency	Reliability	Safety	Environment	Fairness	All criteria
Liabilities (a component more significant to the overall assessment)						
FAP						
FAP1						
	Red removed: <ul style="list-style-type: none"> Uncertainty that pipeline users are unable to recover certain types of loss addressed. 	Red removed: <ul style="list-style-type: none"> Liability arrangements in relation to non-specification gas incidents do not raise reliability concerns. 			Red removed: <ul style="list-style-type: none"> Liability arrangements are not imbalanced. 	
Code changes						
FAP						
FAP1						
					Red removed: <ul style="list-style-type: none"> Minor timing issues regarding the code change process addressed 	

	Efficiency	Reliability	Safety	Environment	Fairness	All criteria
Dispute resolution						
FAP						
FAP1						
Term and termination						
FAP		-	-	-		
FAP1						
	Red removed: • Term of GTAC does not raise efficiency concerns.				Red removed: • Term of GTAC does not raise fairness concerns.	
Confidentiality						
FAP		-	-	-		
FAP1	-	-	-	-		
	Absence of detailed ring-fencing provisions does not raise a material concern.				Red removed: • Minor issues (e.g. requirement for a confidentiality undertaking, audit) addressed.	

	Efficiency	Reliability	Safety	Environment	Fairness	All criteria
Assignment						
FAP	-	-	-	-		
FAP1	-	-	-	-		
Overall						
FAP						
FAP1						

Glossary

Term	Description
GTAC1	The 8 December 2017 version of the Gas Transmission Access Code.
PAP1	The 13 February 2018 Preliminary Assessment Paper.
FAP1	The 25 May 2018 Final Assessment Paper.
AHP	Agreed Hourly Profile. A GTAC term for a schedule of a Shipper's hourly amounts of transmission capacity (at DPs) or scheduled quantities (at RPs) approved by First Gas.
Allocation Agreement	For receipt and/or DPs where gas quantities must be allocated between parties (other than in accordance with the Downstream Reconciliation Rules), an agreement between those parties and an Allocation Agent about how those quantities will be calculated and notified.
Auto-Nomination Charge	A charge payable by a Specified Shipper where First Gas makes an automated nomination on its behalf under GTAC s4.8-4.10.
Available Operation Capacity	A term used in the GTAC to mean the amount of capacity that First Gas determines it can make available as DNC at a DP without exceeding the capacity of that DP or any Security Standard Criteria.
Beneficiary DP	A term used in the GTAC to mean a DP where First Gas has entered into an IA for the purposes of Congestion Management. The other users of the DP are the beneficiaries since they benefit from the capacity freed up when such an IA is interrupted.
BPP	The Balancing and Peaking Pool, a mechanism in the VTC to ring-fence MPOC balancing and peaking related costs and credits and to allocate them among VTC Shippers via a trust account.
Cash-out	A forced sale or purchase of gas by First Gas to offset an outstanding mismatch/imbalance position.
Congestion Management	A term used in the GTAC to mean the measures First Gas may take to alleviate congestion. These may include (to the extent necessary) curtailing requests for interruptible, supplementary capacity, NQ not covered by PRs and, as a final resort, NQ covered by PRs.
D+1	D+1 commonly refers to a system for allocating quantities of gas at a shared point among the parties flowing gas through that point, on the day after gas flow.

Term	Description
D+1 data agreement	Agreement dated 14 December 2015 between Gas Industry Co and [First Gas] under which Gas Industry Co provides D+1 allocations to First Gas for it to perform BPP calculations in accordance with the D+1 pilot agreement.
D+1 pilot agreement	<p>Agreement between [First Gas] and its Shippers dated 1 December 2015 under which First Gas:</p> <ul style="list-style-type: none"> calculates Shipper's daily RM on a day in arrears basis, using information provided both by the GIC and First Gas's own systems; allocates the Cash-out portion of any BPP charges or credits to Shippers and First Gas; calculates and applies monthly adjustments ("wash-ups") of residual imbalances and BPP charges or credits following the Interim, Final and any Special Allocations; and notifies each Shipper of the above results. <p>Available from the "VTC Information Exchange" at www.oatis.co.nz</p>
DDR	Daily Delivery Report.
DNC	Daily Nominated Capacity, the core product offered under the GTAC.
DP	Delivery Point.
Dedicated DP	A GTAC term for a DP that supplies gas to a single end-user.
DRRs	Gas (Downstream Reconciliation) Rules 2008.
ERM	Excess Running Mismatch. A GTAC term meaning a party's RM in excess of its tolerance.
Excess Peaking	A GTAC term meaning the amount by which an Hourly Delivery Quantity exceeds the Hourly limit by more than 25%.
GPS	Government Policy Statement on Gas Governance, April 2008.
GTA	A Gas Transfer Agreement is an agreement specifying how the quantities of gas transferred between parties at a point will be calculated. The agreement is between those parties and a Gas Transfer Agent, who is responsible for doing the calculations and notifying the results.
GTAC	Gas Transmission Access Code submitted to Gas Industry Co for assessment on 31 October 2018.
GTAC1	The Gas Transmission Access Code submitted to Gas Industry Co for assessment on 8 December 2017.
GTPM	Gas Transmission Pricing Methodology.
Hourly Quantity	A GTAC term for the quantity taken by a Peaking Party in an hour at:

Term	Description
	<ul style="list-style-type: none"> • A Dedicated Delivery Point (being the metered quantity where there is only one Shipper, or the amount determined by the Allocation Agent where there is more than one Shipper), or • A Receipt Point (being the metered quantity for an OBA Party, or the amount determined by the Gas Transfer Agent for a Shipper). (GTAC s11.5)
Hourly Limit	<p>A GTAC peaking limit being the average of three hours of:</p> <ul style="list-style-type: none"> • Scheduled Quantities for OBA Parties • Agreed Hourly Profiles for Shippers
HDR	Hourly Delivery Report.
IA	A term used in the GTAC and VTC to refer to agreements that provide for deliveries to be interrupted at First Gas's discretion.
ICA	An Interconnection Agreement is an agreement between First Gas and an IP.
Imbalance	Generally this term is used to mean a situation where flows do not match scheduled quantities or receipts do not match deliveries. More specifically, the difference in scheduled flows and actual flows at an interconnection point is referred to as "operational imbalance" in the MPOC, but it is known as mismatch in the GTAC.
IP	Interconnected Party (IP) is a term used in the VTC and GTAC to mean a party whose assets are directly connected to the transmission system, also known as a Welded Party in the MPOC.
Incentives Pool	Defined by the MPOC as <i>"the pool of money held on trust and administered by the Incentives Pool Trustee, into which all Incentives Pool Debits are to be paid and out of which Incentives Pool Claims are to be paid."</i> The Incentives Pool is essentially a liquidated damages arrangement that permits a Welded Party, who suffers damage as a result of another Welded Party being out of balance, to claim liquidated damages.
Individual DPs	Defined in the GTAC as a Dedicated DP that is not part of a Delivery Zone, including any DP at which an OBA applies or a Congested DP.
Line Pack	The total quantity of Gas in the Maui Pipeline at any time.
MDQ	Maximum Daily Quantity.
MHQ	Maximum Hourly Quantity.
MPOC	Maui Pipeline Operating Code, the current version is dated 8 December 2017, and incorporates the TCR amendments.
Mismatch	In the MPOC and VTC the term refers to the difference between a Shipper's receipts and deliveries. In the GTAC it is also the difference between an OBA Party's scheduled and metered quantities (all adjusted for any traded quantities).
Non-Code Shipper	A VTC term for a Shipper that has and SA or other non-standard gas transmission agreement (but must be subject to substantially the same Balancing and Peaking arrangements).

Term	Description
Objectives and Outcomes	The Gas Act and GPS objectives and outcomes.
OI	Operational Imbalance is an MPOC term meaning the difference between the actual quantity of gas that flowed through a welded point on a day and the scheduled quantity for that day.
OBA	An Operational Balancing Agreement is a way of allocating responsibility for imbalances or mis-matches at specific points between the IP and the Shippers using its interconnection point. In the MPOC, OBA is the only method of allocation and it applies at all RPs and DPs. OBA is not a feature of the VTC. In the GTAC, OBA is an optional method of allocation. The OBA principles are that Shippers are deemed to have received their approved nominations at the point, while the IP is responsible for the difference between the metered quantity and the aggregate of the approved nominations.
OBA Party	A term used in the GTAC to mean an IP at an RP or DP who has agreed to an OBA, and who is responsible for managing RM at that point. (The equivalent of a Welded Party under the MPOC.)
OFO	Operational Flow Order. A term used in the GTAC, MPOC and VTC to mean a notice issued by First Gas instructing a user to reduce or suspend a flow of gas.
Park or Loan service	An option service that First Gas may offer under the GTAC, allowing a Shipper to store gas as pipeline inventory or borrow gas from that inventory. This is not a service that is currently available in the MPOC/VTC access regime.
Peaking Party	A GTAC term for a Shipper who uses, or an OBA Party who controls, a RP or DP with an intra-day profile that First Gas has determined could have the potential to materially impact other users. (GTAC s3.28)
PR	Priority Right is a term used in the GTAC to mean a right giving priority to have its NQ approved ahead of Shippers without a PR. PRs may be used in any nominations cycle.
Published	In this document, we use the term “published” to mean that the relevant information is publicly available for any party to view, at no cost.
RP	Receipt Point
RPO	Reasonable and Prudent Operator is a term, defined somewhat differently in the GTAC, MPOC and VTC, but generally referring to a standard for performance equal to or better than good industry operating practice.
RM	Running Mismatch. In the MPOC and VTC the term refers to the cumulative difference between a Shipper’s receipts and deliveries. In the GTAC the term also the cumulative difference between an OBA Party’s scheduled and metered quantities. All adjusted for any traded quantities.

Term	Description
ROI	Running Operational Imbalance. An MPOC term for the cumulative difference between a welded party's scheduled quantities and its metered quantities (and therefore represents the total gas parked or loaned from the pipeline at that point). In the GTAC world the welded party is known as an OBA Party, and ROI is known as RM.
SA	A Supplementary Agreement (SA) is an agreement that varies some terms of a standard transmission contract. Under the VTC or GTAC an SA is available at First Gas's discretion. An SA amends, but does not replace or substitute, a TSA. The TSA terms it may amend are prescribed in the relevant code. SAs are not available under the MPOC.
Security Standard Criteria	A term used in the GTAC to mean the physical parameters set out in First Gas's Security Standard (as published on OATIS) indicating, for example, that minimum pressures could be breached.
Scheduled Quantity	A term used in the MPOC and the GTAC. In the MPOC it is the quantity First Gas and the Welded Party agree will be received or delivered at a point. In the GTAC, at an RP it is the aggregate nominations approved by the IP, at a DP it is the aggregate nominations approved by First Gas.
Shipper	A party, commonly a gas wholesaler or retailer, who contracts First Gas to transport its gas across the transmission system.
SOP	Standard Operating Procedure. A procedure used internally by First Gas to manage some aspect of its operation such as pipeline balancing.
Specified Customer	A customer or user in allocation group 4 or 6 under the Downstream Reconciliation Rules (GTAC s4.22)
Specified Shipper	A GTAC Shipper who delivers gas to customers or users in allocation groups 4 and 6 under the Downstream Reconciliation Rules (GTAC s4.22)
TCR	The MPOC Transition Change Request proposed by First Gas on 14 July 2017 and supported by Gas Industry Co's Final Recommendation dated 31 October 2017. In essence the TCR enables contracts which incorporate the MPOC to be terminated when certain conditions are met.
TPA	Transmission Pricing Agreement. A GTAC term for an agreement between First Gas and an end-user.
TTP	The Target Taranaki Pressure, a term used in the MPOC and GTAC to refer to the pressure between 42 and 48 bar gauge at or near the Bertrand Road Offtake on the Maui pipeline.
First Gas	The Transmission Service Provider is the party responsible for providing transmission services, now First Gas Limited.
TPWP	Transmission Pipeline Welded Point. An MPOC term for the interconnection point between the Maui pipeline and a non-Maui transmission pipeline.

Term	Description
TSA	A Transmission Service Agreement is a contract between a Shipper and First Gas, incorporating the terms of the relevant code.
VTC	Vector Transmission Code, the current version is dated 1 October 2017.
VRI	Vector Running Imbalance. A VTC term for the running differences between the receipts and deliveries of gas used for operations on the pipeline (including fuel/vented gas, balancing gas and UFG).
WP	Welded Party is defined by the MPOC as ' <i>...the person named as a welded party in a valid and subsisting ICA</i> ' It is equivalent to the "Interconnected Party" term used in the VTC and GTAC.

ABOUT GAS INDUSTRY CO

Gas Industry Co is the gas industry body and co-regulator under the Gas Act. Its role is to:

- develop arrangements, including regulations where appropriate, which improve:
 - the operation of gas markets;
 - access to infrastructure; and
 - consumer outcomes;
- develop these arrangements with the principal objective to ensure that gas is delivered to existing and new customers in a safe, efficient, reliable, fair and environmentally sustainable manner; and
- oversee compliance with and review such arrangements.

Gas Industry Co is required to have regard to the Government's policy objectives for the gas sector, and to report on the achievement of those objectives and on the state of the New Zealand gas industry.