

Gas Transmission Access: Draft GTAC Release

10 August 2017

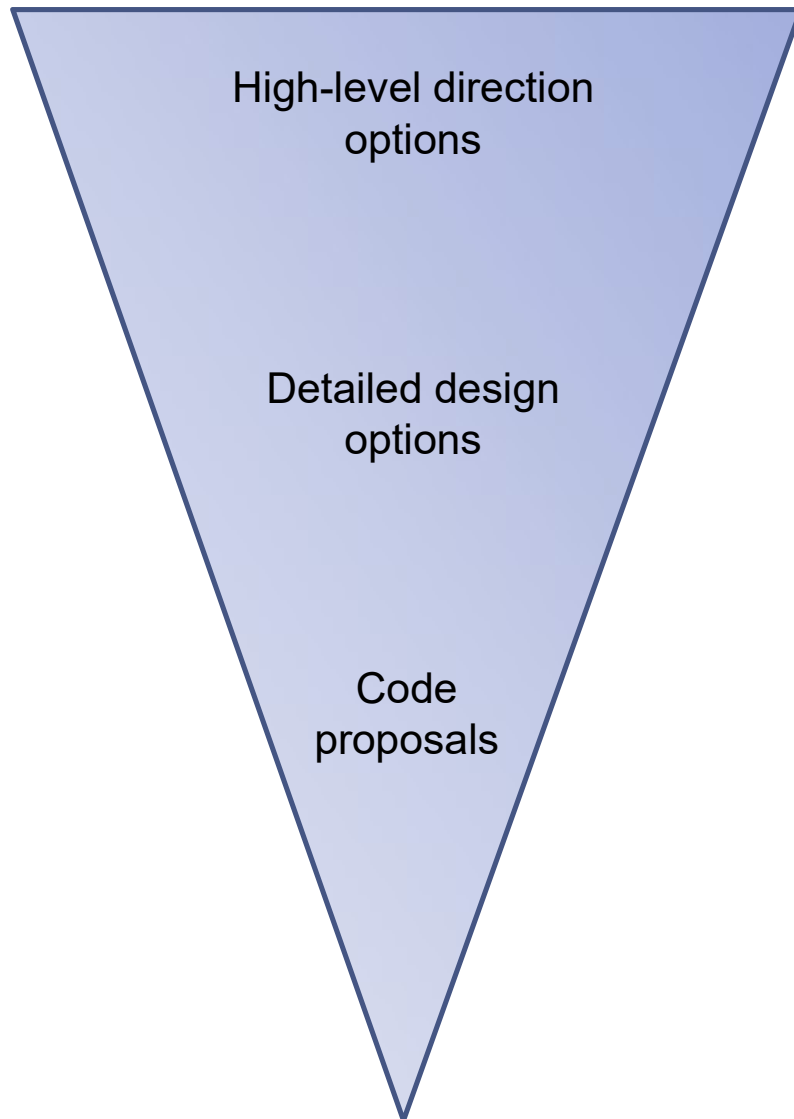
The logo for Firstgas, featuring the word "First" in a bold, sans-serif font, followed by "gas" in a lowercase, stylized font where the 'g' has a flame-like shape integrated into its loop.

- Context for GTAC release
 - Process followed to date
 - Collaboration on draft GTAC
- Overview of GTAC contents and construction
 - Objectives
 - Fit with other documents
 - Structure
 - Discretion and transparency
- Walk through of draft GTAC by section
- Next steps and proposed process

Context for GTAC release

Context for draft GTAC release – Recap of process

- The release of the draft GTAC is an important milestone - another step in the process of ongoing consultation and negotiation on new access code arrangements.
- Elements of process to date (summarised on next slide) include:
 - Started around 12 months ago by agreeing respective roles of GIC and First Gas (SCOP1)
 - Proposed a general framework for developing the code, as well as some philosophies/directions that the new code could adopt (SCOP2), November 2016
 - Announced decisions following that round of engagement to help focus further efforts in the areas where consensus did not already exist and detailed design work was required, February 2017
 - Released emerging views on the detailed design of core code elements, and preliminary drafts of those sections of the code, May 2017
 - Released full draft of code, alongside template interconnection agreements, August 2017
- Process has helped to test and refine concepts, and highlight different perspectives. Has seen considerable evolution of proposals in response to submissions and suggestions on how best to design particular code elements
- Throughout the process, parties have continued to support the view that having a single access code that provides end-to-end transmission service is a good idea. Divergence in views has come on the specific arrangements used to achieve that outcome
- We thank the GIC, shippers, interconnected parties and other stakeholders for the time and effort they have dedicated to the process so far, and their ongoing constructive engagement



SCOP1 (September 2016): Process / roles

SCOP2 (November 2016): Options for high-level direction

SCOP2 Decisions (February 2017):

- Detailed design work needed on access products, nominations processes
- Other areas could move to code drafting (e.g. non-standard agreements, gas quality)

Emerging Views (May 2017):

- Access products
- Balancing and allocation
- Pricing

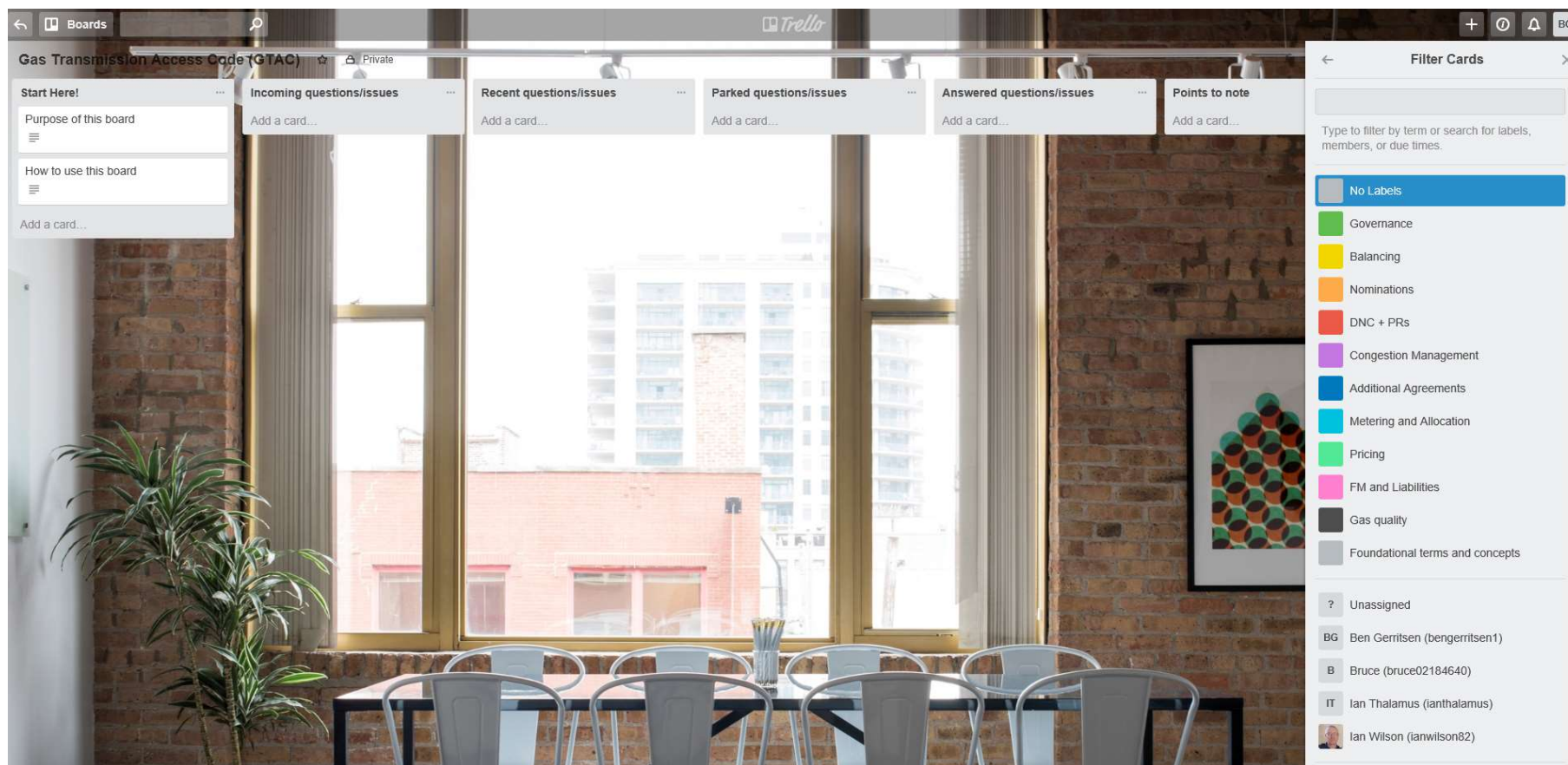
Draft GTAC release (August 2017)

Revised draft GTAC release (September 2017)

GTAC submitted to GIC (October 2017)

Collaboration via Trello

- We are keen to refine and improve the code prior to releasing the GTAC for mark-ups in September
- We have set up a Trello site to receive and respond to questions on the draft GTAC
 - Invitations to join the site will be sent to all parties registered with First Gas / GIC
- Provides a streamlined way of communicating and collaborating on the GTAC over the next few months

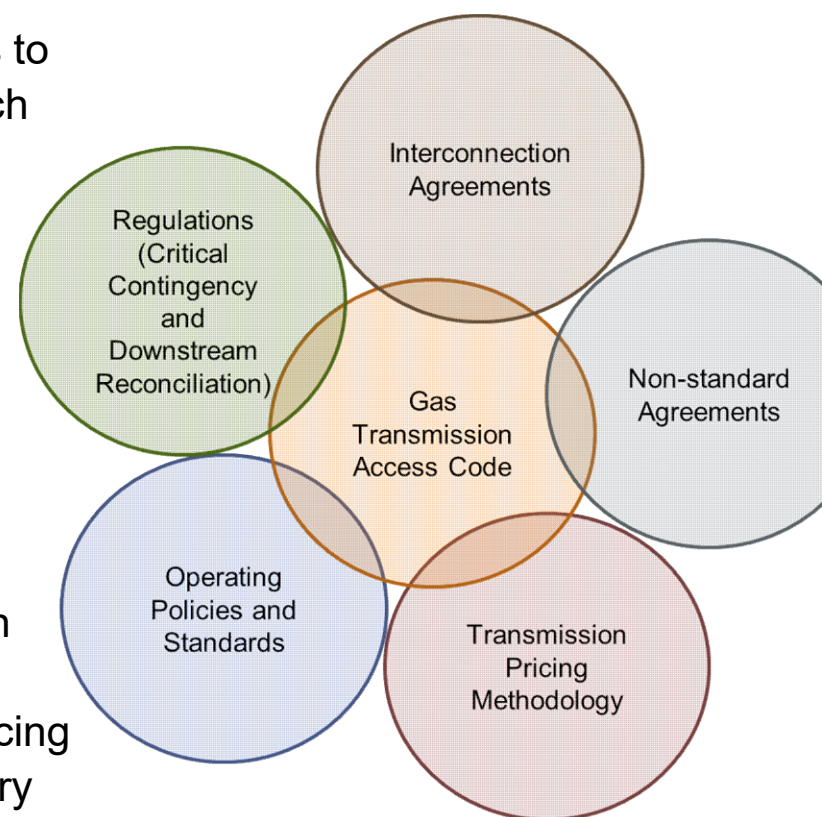


Overview of GTAC contents and construction

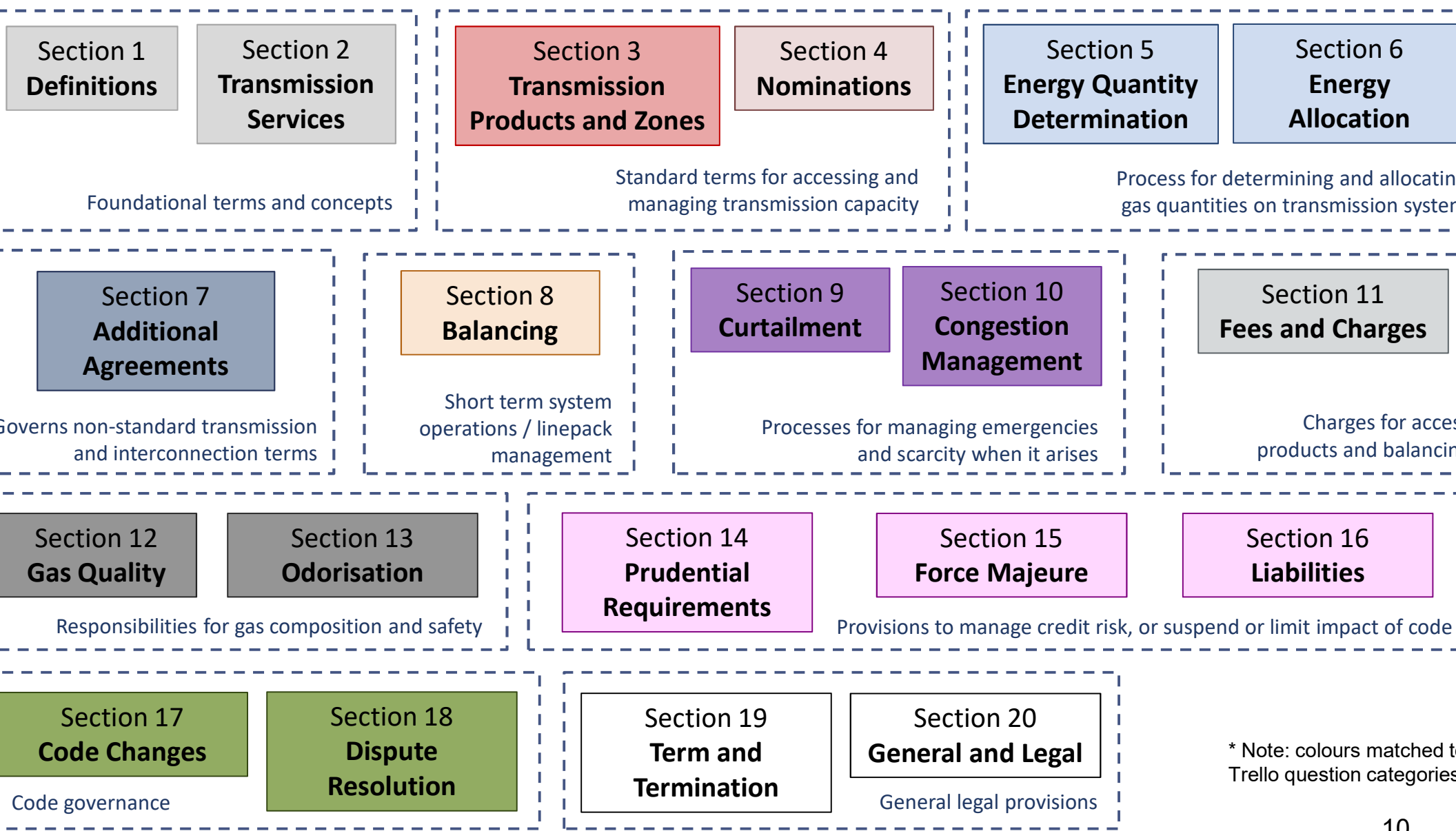
Context for draft GTAC release – Reminder of objectives

- We established and refined 5 objectives for the GTAC as part of SCOP2, which we have applied throughout the process:
 - Enable the use of gas (primary objective)
 - Minimise the cost of transporting gas
 - Keep it simple
 - Promote flexibility
 - Promote transparency
- The overall aim is for the GTAC to take this opportunity to significantly improve on the access arrangements currently provided under the VTC/MPOC – “materially better”

- SCOP2 illustration (right) shows how the code works alongside other documents in defining roles and responsibilities in gas transmission
- We have continued to adopt an approach to the code that seeks to appropriately confine the matters that the code determines, which adds simplicity and flexibility to the code arrangements
- This has resulted in a significantly shorter code
 - VTC is around 150 pages, MPOC is 130 pages (so a total of 230 pages across the existing codes)
 - GTAC is currently less than 90 pages
- It also means a complete understanding of transmission arrangements inevitably requires reference to other documents
- To enable parties to consider how the code works in concert with other documents, we have released template ICAs (receipt and delivery), which incorporate a mechanism for Operational Balancing Agreement (OBAs) as an option for allocating receipt and delivery quantities. This presentation also provides further information on how the proposed pricing methodology and pricing zones for the GTAC will operate (although TPM will not be finalised until 2018)



Overview of GTAC contents and construction



- In seeking to draft a code that is principles-based (rather than determining specific parameters), we have left more areas to the discretion of the Transmission System Operator and created more flexibility for users (certainly when compared to the MPOC)
- We consider that discretion is valuable to ensure that First Gas can respond in the most appropriate ways to operational issues as they arise. No two sets of circumstances are identical, so it is important not to tie the TSO into a strict set of requirements that do not adequately resolve issues in the best interests of our customers and the industry as a whole
- We acknowledge that discretion needs to be used appropriately, and that First Gas should be accountable for the decisions that it makes. Accordingly, we have sought to ensure that:
 - Areas for discretion have clear principles or outcomes that serve to guide TSO decisions, with reasons for decisions being transparent
 - Stakeholders have the ability to seek information on the factors that led to particular decisions being taken, and to have legitimate disputes about the exercise of discretion resolved efficiently
- We have also sought to increase transparency:
 - In how parties intend to use the system (e.g. extending nominations and providing park and loan service) and actually use the system (e.g. publishing contracts and running mismatch positions)
 - The code also provides for information that must be made available by First Gas, which will be summarised in Appendix 2 of the GTAC

Walk through of draft GTAC by section

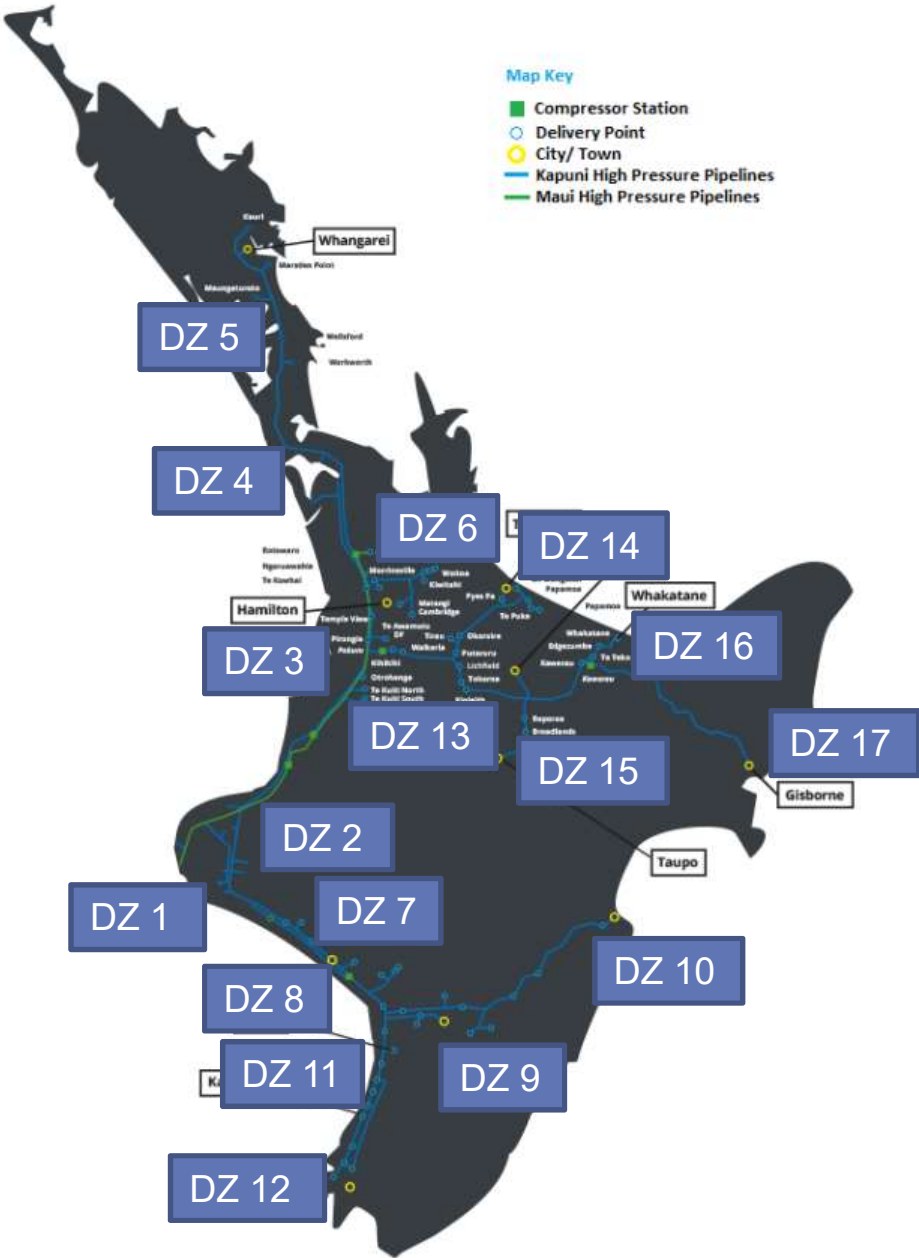
Sections 1 & 2: Foundational Terms and Concepts

- **Purpose:** Define commonly used terms and set out the overarching principles that apply to the provision and use of the gas transmission system
- **Defined terms** (section 1):
 - Tried to ensure most intuitive terms used for various situations arising under the code
- **Foundation concepts** (section 2), include:
 - TSO discretion to reasonably maximise capacity provided (s 2.3)
 - Principle of non-discrimination (s 2.7)
 - Mutual RPO (reasonable and prudent operator) obligations (s 2.13 & 2.14)
- Also deals with Taranaki Target Pressure and uneconomic transmission services

Section 3: Transmission Products and Zones

- **Purpose:** Define the products that shippers can purchase to transport gas (including the geography associated with those products), and how those products can be acquired
- **Daily nominated capacity:**
 - Primary product for accessing transmission capacity
 - Obtainable via nominations
 - Cannot be transferred or traded
 - May be curtailed in the circumstances set out in sections 9 and section 10 (subject to Priority Rights, if any)
 - Cannot be used in conjunction with Supplementary or Interruptible Capacity.
- **Geography for DNC:**
 - Receipt zones: Propose to have a single receipt zone to start, but discretion to add more if required (including for reasons set out in s 3.3(a)-(c))
 - Delivery zones: Propose to have 17 delivery zones, plus nominations to all dedicated delivery points. Ability to change zones, with factors guiding decisions set out in s 3.4(a)-(e). Delivery points with prospect of congestion will be removed from delivery zones (s 3.5 & 3.6), with these decisions notified in advance

Illustration of Zones – North Island Map



List of Possible Zones by Region

Wellington

DZ 12

Otaki
Te Horo
Waikanae 2
Paraparaumu
Pauatahanui 2
Gtr Waitangirua
Belmont
Tawa A
Tawa B (Nova)

Manawatu- Wanganui

DZ 8

Wanganui
Lake Alice
Kakariki
Marton
Flockhouse
DZ 9
Oroua Downs
Longburn
Kairanga
Palmerston North
Feilding
Ashhurst
Mangatainoka
Pahiatua

DZ 11

Foxton
Levin
Kuku

No Zone

Kaitoke
Pahiatua DF

Hawkes Bay

DZ 10

Dannevirke
Takapau
Hastings
Hastings (Nova)

No Zone

Mangaroa

Taranaki

DZ 1

Opunake
Pungarehu 1
Pungarehu 2
Okato
Oakura

DZ 2

Kapuni Lactose
Eltham
Kaponga
Stratford
Inglewood
Waitara
New Plymouth

DZ 7

Matapu
Manaia
Hawera
Hawera (Nova)
Patea
Waverley
Waitotara

No Zone

Kapuni
Kupe
Ballance AUP
Kaimiro
Bertrand Road
Faull Road
Ngatimaru Road
Tikorangi 3
Stratford 2
Stratford 3
TCC
Okaiawa
Mokoia

Waikato

DZ 3

Te Kuiti South
Te Kuiti North
Otorohanga
Ngaruawahia
Pirongia
Huntly Town

DZ 6

Horotiu
Matangi
Cambridge
Kiwitahi 2
Morrinsville
Waitoa

DZ 13

Gtr Kihikihi
Tokoroa
Kinleith
Putaruru
Tirau

Okoroire Springs

No Zone

Te Awamutu DF
Huntly Power Station
Gtr Hamilton
Kiwitahi 1
Morrinsville DF
Tatuanui DF
Te Rapa Cogen
Waikeria
Lichfield DF
Lichfield 2
Kinleith (Pulp & Paper)
Tirau DF

Bay of Plenty

DZ 14

Gtr Tauranga
Gtr Mt Maunganui

Te Puke

DZ 15

Reporoa
Taupo
Rotorua

DZ 16

Kawerau
Te Toko
Edgecumbe
Edgecumbe DF
Whakatane

No Zone

Rangioru
Broadlands
Kawerau (Tissue)
Kawerau (Pulp & Paper)

East Coast

DZ 17

Opotiki
Gisborne

Auckland

DZ 4

Tuakau 2
Harrisville 2
Ramarama
Drury 1
Pukekohe
Kingseat
Gtr Auckland
Hunua
Hunua (Nova)
Flat Bush
Alfriston

No Zone

Glenbrook
Hunua 3

Northland

DZ 5

Waitoki
Warkworth
Wellsford
Whangarei
Marsden 2

No Zone

Maungaturoto DF
Marsden 1
Kauri DF

* Note: individual nominations at delivery points not in a zone, with transmission service to those delivery points separately priced

- **Priority Rights (PRs)**

- Provide ability for parties to “firm up” nominations for DNC in parts of network that face prospect of congestion (as determined by First Gas)
- Tool to signal value of scarce transmission capacity. Interruptible Load provides another tool the in GTAC to achieve this outcome (section 10)
- Will be auctioned off in month prior to PRs taking effect (we are only proposing one auction in the first year of the GTAC)
- Propose to start with a relatively simple design that is extended over time if the product is demanded and proves useful

- **Key design features:**

- 6 month PR term (but scope for more frequent auctions, with shorter term)
- Only shippers can participate in auctions
- PRs can be “tagged” as applying to particular end users (requires IT system functionality)
- Low (non-zero) reserve price
- Price based on marginal clearing bid
- Secondary trading permitted (and facilitated by IT platform)
- “Take or pay” (use it or lose it) design (s 3.18)

- Parties may be concerned about prospect of paying elevated prices (i.e. DNC + PRs) for extended periods of time
- This can be resolved through a decision to invest in expanded capacity to a delivery point or points
- The draft GTAC does not currently provide a direct link between PRs and investment because:
 - First Gas capital expenditure allowances are set by the Commerce Commission as part of price-quality resets (i.e. outside of code processes)
 - A formulaic approach to triggering investment is unlikely to work
- By introducing a tool to value scarce capacity, PRs aim to help to improve understanding of where and when capacity expansion will be valuable:
 - Creates need for TSO to regularly assess capacity v demand, and provides contractual process for communicating when particular locations face the prospect of congestion
 - Enables parties to express the value of transmission capacity on parts of the transmission system that face an identified prospect of congestion

- **Agreed Hourly Profiles**

- DNC comprises a particular relationship between MDQ and MHQ ($1/16^{\text{th}}$ of MDQ)
- This may not suit all users at dedicated delivery points (not an issue for network delivery points)
- Provision for First Gas to agree an alternative “peaky” profile at either injection or delivery points. Have already started exploring this as an alternative to peaking charges under the MPOC. Helps with loads that can experience sudden changes, such as gas-fired peaking power stations

Section 4: Nominations

- **Purpose:** Set out a process for shippers and OBA parties to nominate to inject gas (receipt nominations) and use transmission system capacity (delivery nominations)
- **Key design features:**
 - Nominations required to delivery zones, dedicated delivery points and congested delivery points
 - Will permit week ahead and day ahead nominations, and provide functionality for 4+ ID cycles
 - Open to offering an emergency ID cycle to provide flexibility to respond to changing circumstances (particularly after last ID cycle) – IT system functionality and cost to be explored
 - Note: not compulsory to use all nomination cycles at all locations – shippers and end users will need to work out balance of administrative resource v managing transmission costs
- Proposing to separate receipt and delivery nominations (i.e. no daisy chaining). See worked example on following slides.
 - We have reflected earlier comments on potential for two sets of nominations through balanced overrun/underrun incentives

Example of MPOC Nominations

Shipper has 2 gas suppliers (at Oaonui and Ngatimaru Rd), and serves load at 5 locations (Auckland 30 TJ, Hamilton 10 TJ, Morrinsville 10TJ, Tauranga 30 TJ, and Wellington 20 TJ)

Nominations required under the MPOC

Receipt Point	Delivery Point	Quantity (TJ)
Oaonui	Rotowaro	20
Oaonui	Pirongia	10
Oaonui	Pokuru	10
Oaonui	Frankley Rd	10
Ngatimaru Rd	Rotowaro	20
Ngatimaru Rd	Pokuru	10
Ngatimaru Rd	Frankley Rd	20

Shipper has 2 gas suppliers (at Oaonui and Ngatimaru Rd), and serves load at 5 locations (Auckland 30 TJ, Hamilton 10 TJ, Morrinsville 10 TJ, Tauranga 30 TJ, and Wellington 20 TJ)

Nominations required under the GTAC:

Receipt Point	Quantity (TJ)
Oaonui	50
Ngatimaru Rd	50

Delivery Zone	Quantity (TJ)
Auckland	30
Hamilton	10
Morrinsville	10
Tauranga	30
Wellington	20

Need to ensure balanced incentives on both receipt and delivery nominations for this to be cost-effective (and avoid different nominations). We have introduced symmetrical overrun/underrun provisions to seek to avoid consistently different nominations for receipts and deliveries

- **Purpose:** Provides requirements for metering and a process to allocate gas quantities transported to shippers and OBA parties, and sets up a process to trade quantities of gas within the transmission system

Metering

- Obligation to have metering at all receipt points and delivery points (unless metering is uneconomic) (s 5.1 & 5.2)
- Process for ensuring accurate metering (s 5.3 & 5.4)
- Sets out information to be published by First Gas in the form of Daily Delivery Reports and Hourly Delivery Reports (s 5.5)
- Will be completed by a “metering requirements” document that provides further details

Allocation

- Establishes process for allocating metered quantities of gas to shippers
 - OBAs available (via ICAs) at Receipt or Delivery Points (s 6.1), GTAs at Receipt Points (s 6.2), Allocation Agreements at Delivery Points
 - Where only one shipper uses a point
 - Where more than one shipper uses a point (s 6.15)
- Sets out processes for shippers to trade gas in the transmission system (GTAs and via the Market)
- Carries over current role of DRRs and Allocation Agent

Section 7: Additional Agreements (non-standards)

- **Purpose:** Sets out requirements for other agreements (aside from TSAs) relevant to transmission services, namely Supplementary Agreements, Interruptible Agreements, and Interconnection Agreements

Supplementary agreements

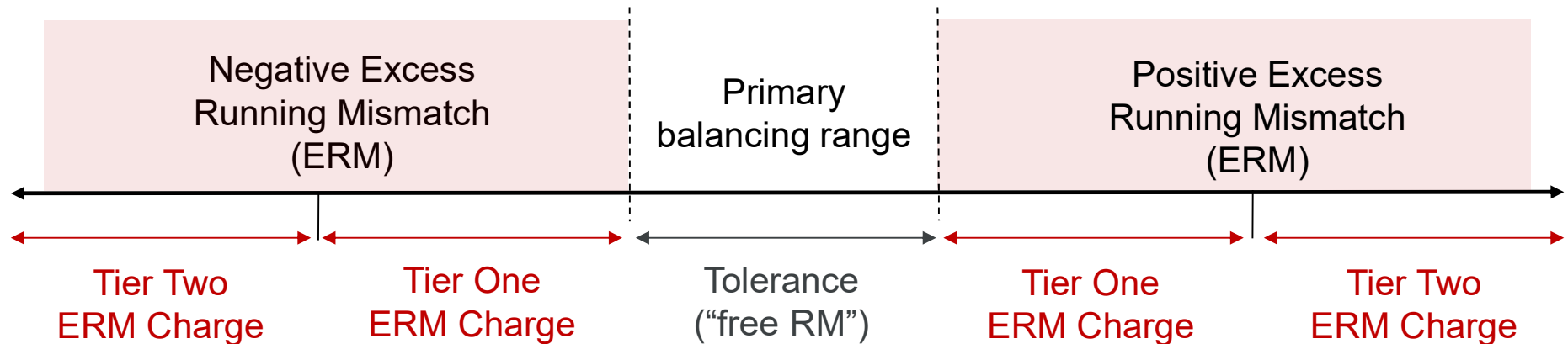
- General support for proposed approach gained early in process (SCOP2)
- Preserves flexibility (currently found in VTC but not MPOC) to enter into non-standard agreements
- Seeks to limit availability of non-standard agreements to:
 - Situations of genuine bypass risk (with requirement on shippers and end-users to demonstrate)
 - Opportunities to expand use of transmission system that would not be taken up at standard prices
- Required to be published in full once signed (s 7.6)

Interruptible agreements

- Non-standard capacity option (to maximise use of transmission capacity)
- Additional tool (as well as PRs) to help manage prospect of congestion

- Interconnected Agreements (ICAs) continue to be bilateral arrangements between First Gas and an interconnected party
- Template Receipt Point and Delivery Point ICAs available
- All new receipt and delivery points will be governed by ICA (s 7.12)
- GTAC specifies the provisions that must be included in and principles that will apply to every new ICA (s 7.13), such as:
 - Must only inject gas that meets the Gas Specification;
 - Technical information e.g. max/min flow rates;
 - Any interconnection fees that apply;
 - Metering information and requirements;
 - Information flows;
 - Process for material modification to existing interconnection or development of new point;
 - Specifying of nomination and allocation mechanism
- ICA deems certain provisions of the GTAC to apply e.g. where “OBA Party” or “Interconnected Party” is specifically mentioned in the GTAC
- First Gas proposes to use the template Receipt Point and Delivery Point ICA’s that have released as a foundation for discussions with the Maui Pipeline “Welded Parties” who will need to transition to a new ICA

- **Purpose:** Provides obligations, incentives and tools to match gas injections with deliveries
- Set out parties' obligations to match receipts with deliveries across a Day (shippers, OBAs, First Gas)
 - Provides incentives for primary balancing through excess running mismatch (ERM) charges



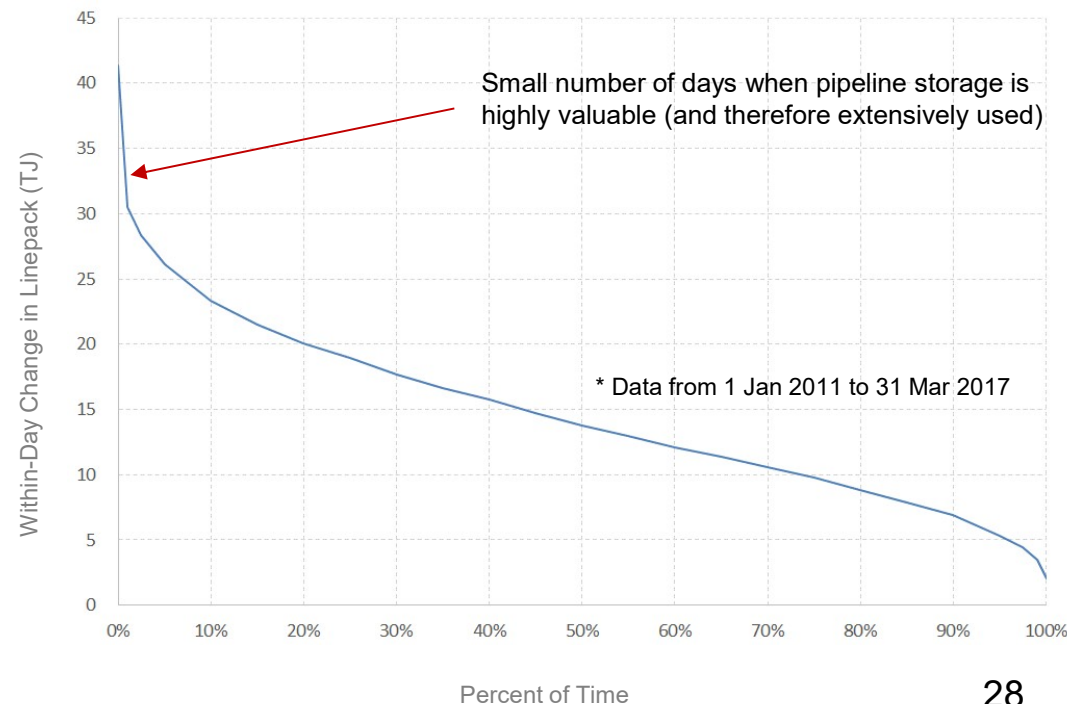
- Gives First Gas tools as system operator to manage line pack:
 - Park and loan facility to give greater visibility of intended use of storage
 - Buying and selling balancing gas where acceptable limits are likely to be breached (and allocating costs to parties with running mismatch at the end of the day before)
 - Reflect situations where line pack has greater value (see slide 28)

Section 8: Balancing – Park and Loan

- We have proposed the option (but not the obligation) for First Gas to offer park and loan services. In effect, an authorised running mismatch for a pre-determined period
 - Provides an additional tool for shippers to manage their gas positions (intra-week)
 - Provides greater visibility of intended system use
 - Provides a clearer view on the value of linepack to assess investments to increase linepack
- Two concerns raised on park and loan through Emerging Views paper
 - Risk that First Gas dedicates too much pipeline flexibility to park and loan (reducing volume of linepack available for other parties (i.e. to provide Running Mismatch))
 - Risk that park and loan becomes a substitute for trading gas on wholesale market
- Both are legitimate concerns that we think can be adequately managed
 - Obligations in section 2 (transmission capacity obligation s 2.3, RPO obligation s 2.13) should lead to a conservative approach to offering park and loan – accepting that parties can still incur ERM anyway
 - Pricing of park and loan relative to market prices will be transparent

Section 8: Balancing – “Difficult Period”

- General philosophy in MPOC and draft GTAC is to give shippers access to linepack for intra-day differences and fluctuations in injections/offtake
- ERM charges should then reflect value of storage across days (relative to alternatives such as the gas market, flexible supply contracts, etc)
- However, the value of linepack can vary significantly – as suggested by the load duration curve shown below, when linepack is heavily relied on (>30PJ) to match supply and demand within a day
- A single set of tolerances/ERM charges is unlikely to work across the range of linepack outcomes
- TSO able to adjust ERM (and park and loan) charges in situations that warrant such a response (s 8.12 and s 8.13)
- Having the ability for the TSO to declare a difficult period means:
 - Providing shippers and OBA parties with access to linepack on one set of terms when conditions are “normal”
 - Signalling when linepack has a higher value (e.g. during a sustained period of shipper mismatch, as observed in May 2017)



- **Purpose:** Set out circumstances where First Gas may curtail nominations and provides processes for managing such events, and prescribe processes for dealing with situations where demand exceeds ability to deliver gas on any part of the transmission system
- General philosophy is to avoid curtailment wherever possible
- There are circumstances where TSO action is needed to avoid emergencies / CC events (s 9.1)
- Hierarchy of actions:
 - Operational Flow Orders (s 9.3)
 - Curtailment of injection / off-take (s 9.5) - note: failure to comply with OFOs has same effects on liability as incurring overruns
- Congestion management provides contractual process for managing nominations so demand does not exceed transmission capacity
 - Enables First Gas to enter into contracts for Interruptible Load (with costs recovered from parties that benefit, s 10.14)
 - Gives effect to firm nature of PRs by scaling back DNC as required
 - Addresses risk of over-nomination to congested locations (s 10.18 and 10.19)
 - Provides for requirements about notifying new loads
- Exclusion of TSO liability (s 10.24) reflects inherently uncertain nature of congestion

Section 11: Fees and Charges

- **Purpose:** Set out the fees that First Gas can charge for access products and balancing services, and specify billing and payment requirements
- **Transmission Charges:**
 - DNC charges (for each zone and delivery points not in a zone)
 - Throughput charge (initially propose to set at 0)
 - PR charges (determined via auction) and credited to DNC charges for same period
 - Overrun and underrun charges
 - Hourly overrun charge
 - Congestion management charges
- Note: Overruns do not enable party to claim RPO defence against any resulting loss, but still subject to liability caps in s 14
- **Balancing Charges:**
 - ERM Charges
 - Park and Loan Charges
 - Balancing Gas Charges

- First Gas proposes to set initial DNC fees (and other fees) so that the fee paid per GJ for transmission to any point approximately equals what it would have done in total under the MPOC and VTC
- Basic methodology will involve the following process:
 - Subtract revenue from non-standard agreements
 - Determine total delivered GJ to each zone or point
 - Determine the total \$ for those GJ under the MPOC and VTC
 - Determine the estimated quantity of DNC that will be booked for those GJ and the estimated quantity of overruns
 - The total \$ divided by the estimated DNC quantity (adjusted for overruns) will determine the DNC fee
- In setting these prices, First Gas aims to recover its maximum allowable revenue set by the Commerce Commission. If prices generate more revenue than allowed, this must be deducted from allowable revenue in future years

- **Purpose:** Set out First Gas responsibilities for ensuring that only spec gas is injected and transported, and the actions taken in the event of non-spec gas entering the system, and First Gas responsibilities for odourising gas
- Obligation on First Gas to require (via Receipt Point ICAs) that only specification gas is injected into the transmission system
- ICA counterparties are required to have adequate facilities, systems, procedures and monitoring to ensure that only specification gas is injected into the transmission system
- First Gas retains the right in its ICA's with injecting parties to periodically seek a demonstration of compliance with the Gas Specification
- Similar provisions from previous transmission codes requiring Shippers to be notified as soon as practicable after First Gas detects, suspects, or has been notified of a gas quality excursion
- Obligation on First Gas to take reasonable steps to avoid causing non-specification gas as a result of gas transmission
- Odourisation provisions carried over from VTC

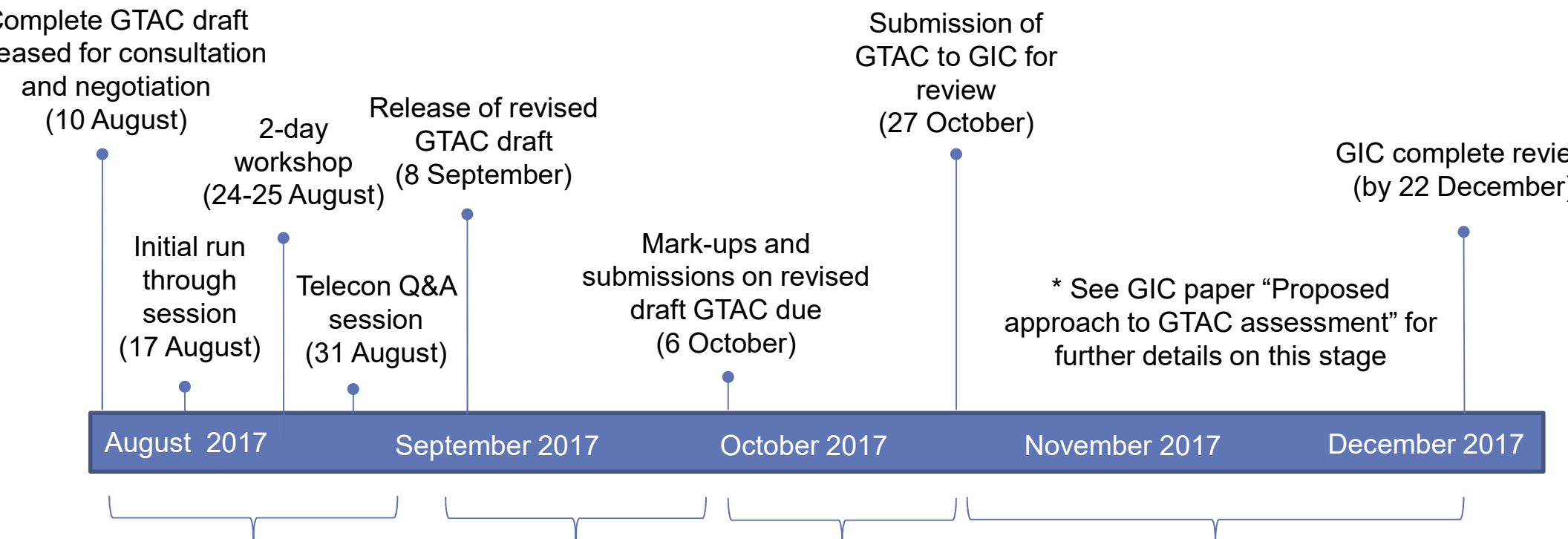
- **Purpose:** Prescribe requirements for shippers to post credit support for gas transmission services, define circumstances for FM, and limit liabilities
- **Prudential** requirements carried across from existing codes
- **Force majeure**
 - FM Event is a defined term
 - Requires an “event or circumstance beyond the reasonable control of a Party which results in or causes a failure or inability by such Party in the performance of any obligations”
 - Also seeks to clarify circumstances that do not constitute an FM event (s 15.4 & 15.5)
- **Liabilities**
 - Proposing largely the same exclusions and caps on liability as in existing codes

Sections 17 & 18: Code Governance

- **Purpose:** Set out processes for changing the code and resolving disputes
- Intention is to provide a process that allows GTAC to evolve and improve over time
- Proposed change process:
 - Enable party requesting change to carry out initial consultative process for change requests (similar to VTC)
 - Give GIC decision-making role (similar to MPOC)
 - In line with recommendations from Concept Consulting in its report to GIC, except that ability to propose change limited to contract counterparties.
 - Have provided fast-track process for minor and urgent changes
 - Will require an MoU between First Gas and GIC.
- Standard provisions to resolve disputes (negotiation, arbitration)

Next steps and proposed process

Revised engagement approach for draft GTAC



- Ensure provisions of GTAC are well-understood before inviting mark-ups
- Enable further revisions to be made to better achieve intent and eliminate ambiguities
- Allow stakeholders to propose improvements and highlight any remaining concerns on design
- Time for First Gas to review proposed changes and submissions
- Allow stakeholders further opportunity to address any unresolved issues (including issues raised by other parties prior to submission of final GTAC)