

# GTAC Interconnection Policy

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## Glossary

<i>Application</i>	The application by an <i>IP</i> to interconnect with First Gas' transmission system
<i>Bi-Directional Point</i>	An <i>Interconnection</i> where gas can be either delivered from, or injected into First Gas' transmission system
<i>Delivery Point</i>	An <i>Interconnection</i> where gas is delivered from First Gas' transmission system
<i>GIC</i>	Gas Industry Company
<i>GTAC</i>	Gas Transmission Access Code containing the standard terms of transportation and common and essential terms of interconnection, referenced by the relevant <i>TSA</i> or <i>ICA</i>
<i>ICA</i>	Interconnection Agreement – an agreement between First Gas and an <i>IP</i> that addresses the technical, operational and commercial aspects of the <i>Interconnection</i>
<i>ICEA</i>	Interconnection Establishment Agreement – an agreement between First Gas and an <i>IP</i> covering the front-end engineering and design phase of an <i>Interconnection</i> but not its detailed design or construction
<i>Interconnection</i>	A generic term for the type of connection (i.e. <i>Receipt Point</i> , <i>Delivery Point</i> or <i>Bi-directional Point</i> ) to First Gas' transmission system, and may include odorisation facilities
<i>Interconnection Fee</i>	The fee calculated by First Gas to recover its costs to design, build, commission, operate and maintain an <i>Interconnection</i> payable by the <i>Interconnected Party</i>
<i>IP</i>	Interconnecting Party - a party seeking to interconnect with the First Gas transmission system or already connected to the transmission system.
<i>Receipt Point</i>	An <i>Interconnection</i> where gas is injected into First Gas' transmission system
<i>Shipper</i>	A party who has signed a <i>TSA</i> with First Gas
<i>TSA</i>	Transmission Service Agreement - an agreement between a <i>Shipper</i> and First Gas for the transportation of gas
<i>TPA</i>	Transmission Pricing Agreement – an agreement which allows for First Gas to recover costs related to an <i>Interconnection</i> which are consequential to <i>Interconnection</i> (e.g. investment in the transmission network). This agreement seeks to define the costs of these work and in exchange provides certainty for the <i>IP</i> over transmission capacity and price.

## 1. Purpose of this Policy

First Gas Limited owns and operates the high-pressure gas transmission system in the North Island. We aim to facilitate the use of gas and maximise the use of the transmission system. It is therefore important to us that connecting to our system is a simple process, and that the terms of interconnection are fair and reasonable.

This document outlines First Gas' policy for *Interconnections*. The policy explains how we will facilitate new *Interconnections* and sets out some of the key ongoing terms of interconnection. This aims to help current and future *IPs* understand the interconnection process, how to make an *Application* to Interconnect, and the basis of our ongoing relationship with *IPs*.

This policy is designed to comply with the principles articulated in the GIC's Interconnection Guidelines (<http://gasindustry.co.nz/work-programmes/interconnection/current-arrangements/guidelines/>) shown in the box below. In these principles 'TSO' refers to 'Transmission System Operator' or First Gas.

### Box 1: Interconnection Principles from the GIC's Interconnection Guidelines

*The TSO and IP should:*

- *seek to ensure that gas is '...delivered to existing and new customers in a safe, efficient, fair, reliable and environmentally sustainable manner' (Gas Act, 43ZN(a));*
- *negotiate and act in good faith;*
- *negotiate and act in a timely manner;*
- *provide reasonable access to personnel who are knowledgeable and, as far as is reasonably possible, authorised by their respective organisations to make decisions in respect of whatever aspect of the interconnection is being attended to; and*
- *advise the other party of the contact details of their representatives for technical and commercial matters and approvals.*

*The TSO should:*

- *process applications on a non-discriminatory basis, including applications of parties affiliated with the TSO;*
- *make sufficient information available to the IP to enable it to assess the likely availability of transmission capacity to or from the interconnection point; and*
- *ensure that all equipment owned by the TSO complies with all relevant standards and regulations.*

*The IP should:*

- *where TSO specified assets are owned by the IP, ensure that those assets are designed, constructed, and operated according to the standards specified by the TSO; and*
- *ensure that all equipment owned by the IP complies with all relevant standards and regulations.*

We believe that these principles help to establish a positive, enduring relationship between First Gas and *IPs*.

### 1.1. Related Documents

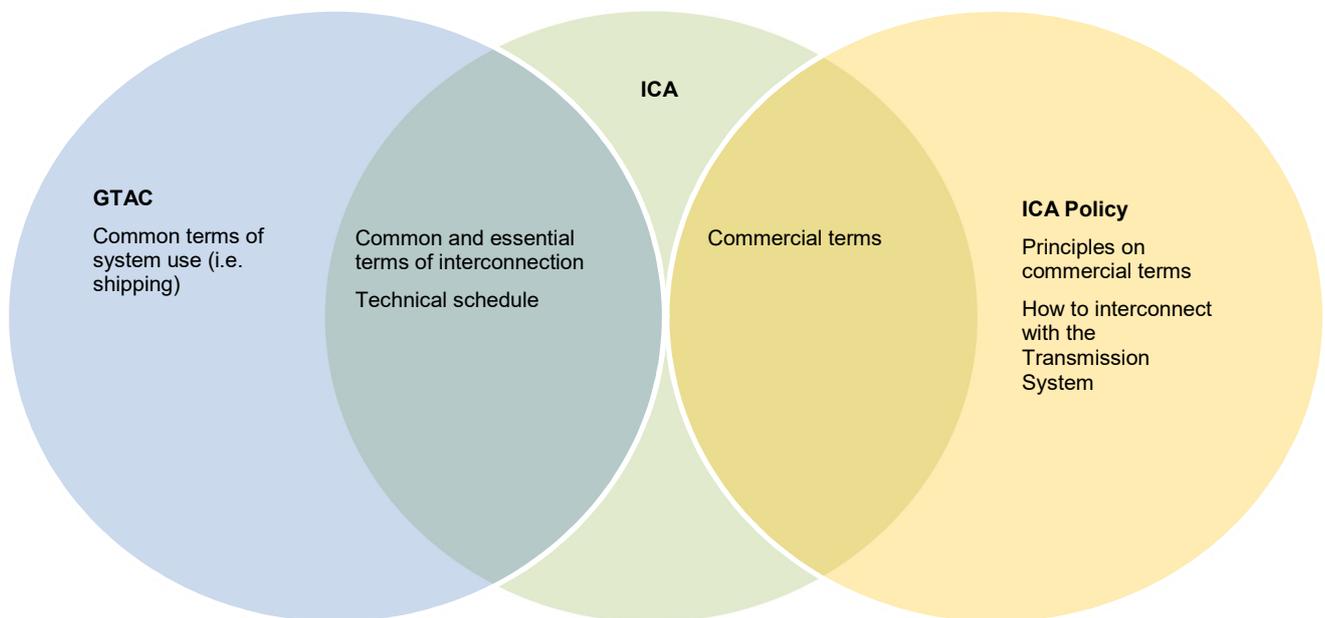
This policy is not intended to provide the contractual terms for *Interconnection*, but rather to complement existing, published template agreements. Terms in *Italics* in this document can be found in the Glossary. The definitions in the Glossary are intended to be consistent with contract definitions but, to assist those new to the industry, have been abbreviated compared with those in the contracts. In the case of any conflict, the contract definition will prevail.

This policy should be read in conjunction with the following documents:

- Gas Transmission Access Code (GTAC)
- Application for Interconnection to the First Gas Transmission System
- Metering Requirements for Receipt and Delivery Points
- Template Interconnection Establishment Agreement (if required)
- Template Interconnection Agreement for a Delivery Point
- Template Interconnection Agreement for a Receipt Point

The interrelationship between the GTAC, this policy and ICAs is shown in Figure 1 below.

**Figure 1: Interrelationship between the GTAC, the ICA Policy and an ICA**



## 2. Core Policies

First Gas' core policies are stated in this section.

### 2.1. Conduct

First Gas and each *IP* will act with the degree of diligence, prudence, foresight and skill ordinarily exercised by experienced operators engaged in the same line of business under similar circumstances, and show due consideration both for each other's interests and those of other users of the transmission system.

First Gas will deal with all *IPs* on an arms' length basis and not prefer or give any priority to any *IP* except as expressly provided for in the *Gas Transmission Access Code (GTAC)*.

Until an *ICA* is signed, the *Application* will remain confidential unless both the *IP* and First Gas agree otherwise. First Gas will publish each new *ICA* and any amendments to *ICAs*.

Each party will provide any information reasonably required of it, or carry out any work it is reasonably required to do in accordance with each stage of the Interconnection Process.

### 2.2. Contracts

All *IPs* require an *ICA*. If an *IP* has both *Receipt* and *Delivery Points* then separate agreements will be required for each type of *Interconnection*. A *Bi-directional Point* requires both a *Receipt ICA* and a *Delivery ICA*. This reduces the complexity of the agreements as First Gas has separate requirements for *Receipt* and *Delivery Points* and a hybrid agreement would become unwieldy.

An *ICA* can cover several *Interconnections* of the same type and additional *Interconnections* can be added as schedules to an *ICA*.

If an *IP* is to be responsible for part or all of the *Interconnection* construction and/or design, an *ICEA* may be entered into to cover the Front-end Engineering and Design (FEED) and ensure parties can resolve disputes during these phases. However, these provisions could also be covered in the *ICA*. The need for an *ICEA* will be agreed between the *IP* and First Gas.

A *TPA* may be used if First Gas assesses that works outside the scope of the *Interconnection* are needed to provide the required transmission capacity. This agreement is used to allow First Gas to recover the costs of such works and to give the *IP* greater certainty about future transmission pricing. First Gas will advise the *IP* in circumstances where it considers a *TPA* might be useful to facilitate an *Interconnection*.

This is a summary of the contracting arrangements for interconnection with First Gas. The *IP* will also need to either contract with a *Shipper* or become a *Shipper* itself in order to transport gas to or from the new *Interconnection*.

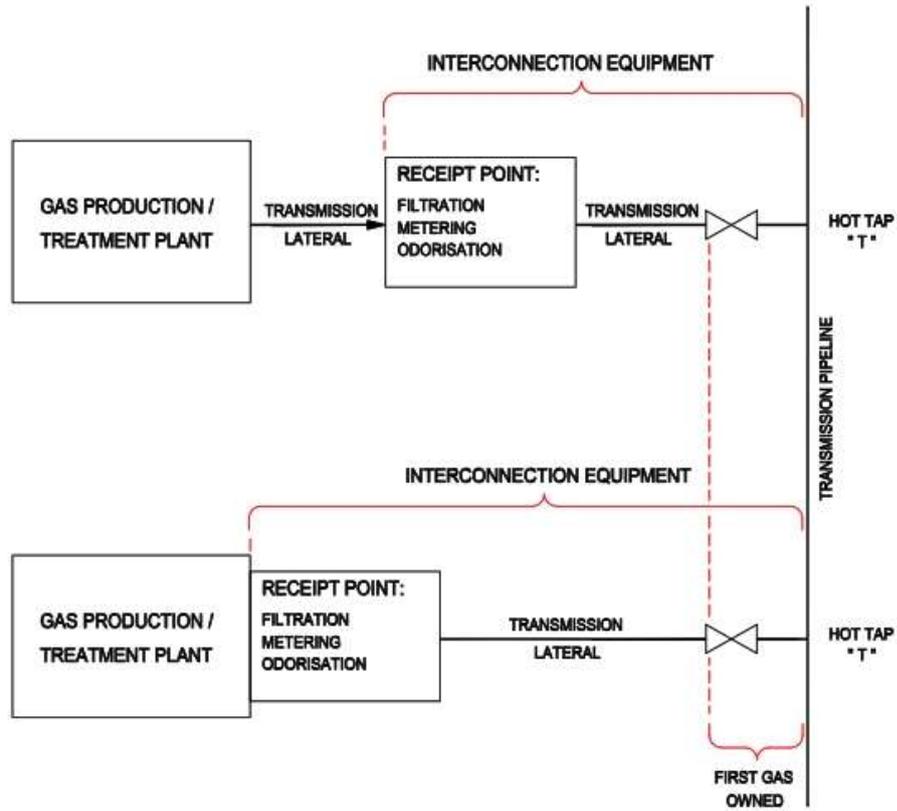
### 2.3. Ownership

#### 2.3.1. Equipment

Ownership of equipment at an *Interconnection* depends on the type of point under consideration.

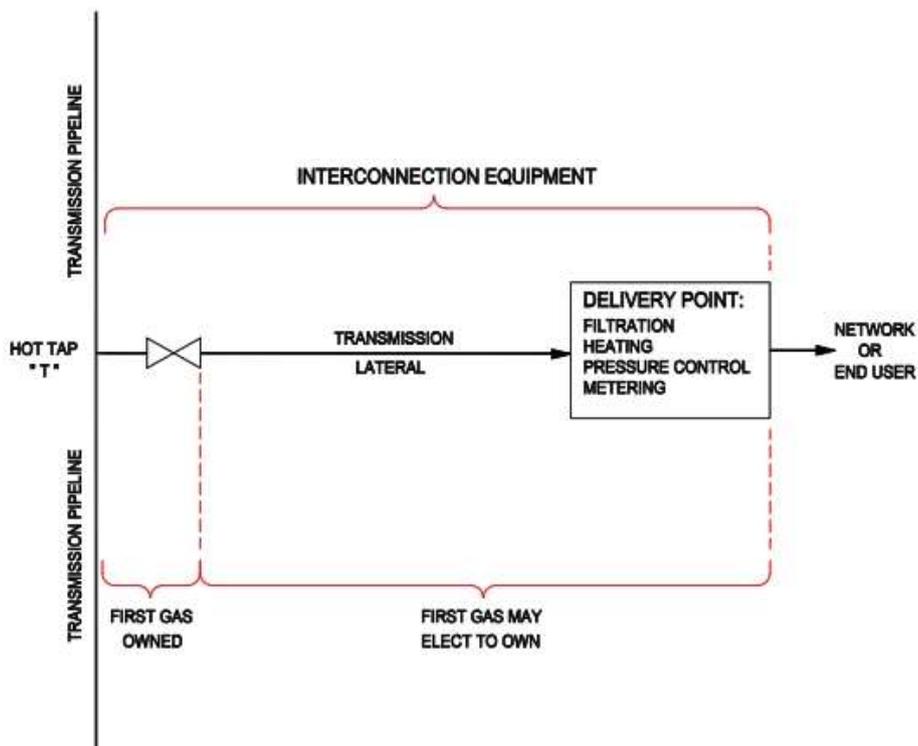
Two common *Receipt Point* configurations are shown in Figure 2. Unless otherwise agreed the *IP* will own the *Receipt Point* but First Gas will always own the physical connection to its transmission pipeline.

Figure 2: Receipt Point Configuration



The most common *Delivery Point* configuration is shown in Figure 3. Either party may own the *Delivery Point*, but First Gas will always own the physical connection to its transmission system.

Figure 3: Delivery Point Configuration



It may be expedient for one party to own equipment within an *Interconnection* owned by the other party. For example, First Gas will require a readily accessible isolation valve at *Receipt Points*, while *IPs* may need the same at *Delivery Points*. The terms of access by a party to its equipment located at an *Interconnection* owned by the other party will be set out in the *ICA*.

### 2.3.2. Land

First Gas may require access to the land at *Receipt Points*, but does not need to own that land.

If a new *Delivery Point* is proposed at an existing First Gas *Delivery Point* or other station, First Gas will assess whether there is sufficient space or if additional land is required. First Gas will require freehold title to this land.

At a greenfield *Delivery Point*, First Gas will require freehold title to the land on which it will be located. However, where the *Delivery Point* is dedicated to a single gas consumer, First Gas may be willing to lease the required land on mutually acceptable terms.

## 2.4. Technical Issues

A summary of the technical requirements applicable to both *Receipt Points* and *Delivery Points* is set out in Appendix 2.

### 2.4.1. Interconnection at an Existing Station

Where an *IP* wishes to connect to an existing *Delivery Point*, First Gas will determine whether that *Delivery Point* has sufficient capacity for the maximum flow rate of gas requested by the *IP*. This will ensure that an existing *IP* is not adversely affected by any new *Interconnection*.

### 2.4.2. Gas Quality

All gas injected at a *Receipt Point* must meet NZS 5442: 2008 (Specification for reticulated natural gas). An *IP* will be liable for losses suffered by First Gas or other users of the transmission system as a result of any non-specification gas injected into the system. The limits of this liability will be set out in the *ICA* at \$10 million per event or \$30 million in any year.

### 2.4.3. Odourisation

All gas injected at a *Receipt Point* connected to an odourised transmission pipeline must be odourised.

Gas taken from an unodorised pipeline at a new *Delivery Point* may need to be odorised, either because the *IP* wants it or the Gas (Safety and Measurement) Regulations 2010 require it.

First Gas may own the odorisation facilities either at a new *Receipt Point* or a new *Delivery Point* if odorisation is required. If First Gas owns the odorisation facilities, the cost recovery and pricing provisions below will apply to any capital and operating costs incurred.

Where the *IP* odorises gas at a *Receipt Point* First Gas may specify the odorant to be used. This ensures that the odorised gas is compatible with other odorised gas in the transmission system.

## 2.5. Design and Construction

First Gas will design and undertake any new physical connection to the transmission system, i.e. the hot-tap “T” shown in Figures 2 and 3. The ultimate owner of the *Interconnection* will undertake its detailed design and construction unless agreed otherwise.

If an *IP* designs and/or constructs an *Interconnection* it must:

- Comply with the technical requirements set out in the *ICA* or *ICEA* and any other reasonable requirements notified by First Gas;
- Indemnify First Gas for any Loss incurred arising from the *IP*'s activities (up to the liability limits set out in the *ICA*); and
- Put in place comprehensive liability insurance cover with a reputable insurer covering property damage, personal liability and loss of profits.

If First Gas is to own the *Interconnection* the *IP* will transfer the *Interconnection* to First Gas to own, operate and maintain once it is completed to First Gas' reasonable satisfaction.

## 2.6. Financial Considerations

### 2.6.1. Cost Recovery and Pricing

First Gas' allowable return on any new regulated investment is determined by the price-quality path set by the Commerce Commission under Part 4 of the Commerce Act. Among other things, the Commission regulates First Gas' weighted average cost of capital (WACC), depreciation rates, and the value of commissioned assets. First Gas' price-quality path is re-determined by the Commission every 5 years and following an application for a customised price-quality path.

The Commerce Commission has also published “Pricing Principles” that apply to First Gas. These principles state that “prices are to signal the economic costs of service provision” by (amongst other things) “being subsidy-free”. This aligns with First Gas' principle of non-discriminatory treatment of transmission system users. Accordingly, First Gas believes that, where practicable, the cost of any new investment should be recovered from the party who creates a need for investment. In the case of a new *Interconnection*, that is generally the *IP*.

In most circumstances, First Gas will charge an *Interconnection Fee* to recover the cost of a new *Interconnection*. This fee is the sum of:

- (i) The allowable return on the actual cost of the *Interconnection* to First Gas; and
- (ii) The estimated cost of operating and maintaining the new *Interconnection*.

The *IP* may construct the *Interconnection* at its own cost or elect to make an up-front capital contribution (rather than paying an interconnection fee). As this will reduce the capital invested by First Gas, the *Interconnection Fee* will reduce accordingly. Where the *IP* builds the *Interconnection* but charges First Gas to transfer ownership to First Gas, First Gas will include any payment to the *IP* as a cost to be recovered via the *Interconnection Fee*.

Other costs relating to an *Interconnection* that may be recovered via the *Interconnection Fee* include:

- Any cost incurred by First Gas relating to obtaining or occupying the land on which the *Interconnection* is located; and

- The cost of any new or dedicated assets as well as the cost of using existing assets at an existing *Interconnection*.

First Gas and the *IP* can agree to either reduce the *Interconnection Fee* over time as the relevant assets depreciate, or set the fee as a fixed annuity (adjusted for inflation). The *Interconnection Fee* will need to be redetermined periodically to reflect changes in First Gas' price-quality path. The make-up of the fee will be agreed between First Gas and the *IP* and set out in the *ICA*.

The exact cost of a new *Interconnection* will not be known precisely until after it completed. An estimated cost will therefore be used to set a provisional *Interconnection Fee*. Once the actual cost is known and the confirmed *Interconnection Fee* determined, the *IP* will be credited or debited for the difference between the provisional and confirmed fees. First Gas may be willing to cap the cost of the *Interconnection* for the purpose of determining the provisional *Interconnection Fee* to give certainty to the *IP* on its maximum charges.

First Gas may recover the cost of odorisation via the *Interconnection Fee*. This component of the fee will be determined in the same way as an *Interconnection Fee*.

Increasing consumer demand may require the initial capacity of a *Delivery Point* to be increased. This may involve completely rebuilding the *Delivery Point*, either on the existing or an enlarged area of land. First Gas normally treats investment in any such upgrade the same as if it were an investment in a "greenfields" *Delivery Point*.

### 2.6.2. Termination Fee

An *ICA* may be terminated before the term used to calculate the *Interconnection Fee*. Given this risk, First Gas may require a *Termination Fee* to recover the amount of investment cost that remains outstanding at the date of termination. First Gas will calculate the Termination Fee in line with the allowable return specified by the Commerce Commission and periodically redetermine the termination fee to reflect changes in those settings.

### 2.6.3. Prudential Requirements

First Gas requires reasonable assurance of the *IP's* financial standing. The *ICA* will set out the prudential requirements and ways the *Interconnected Party* may satisfy them.

## 2.7. Transmission of Gas

### 2.7.1. The Role of Shippers

An *ICA* does not provide for the transmission of gas to any part of the transmission system. The transmission of gas in the transmission network is a service available to *Shippers* that have entered into a Transmission Services Agreement with First Gas. Before an *Interconnection* can be used, the *IP* must therefore either contract with a *Shipper* to receive gas at and/or deliver to gas to the *Interconnection*, or the *IP* must become a *Shipper* itself.

### 2.7.2. Insufficient Transmission Capacity

First Gas will notify the *IP* where First Gas believes that transmission of the quantities of gas indicated in an *Application* would be impractical, either because there is insufficient transmission capacity to accommodate the flow of gas or because the load would result in congestion. This may not become clear until First Gas undertakes its detailed assessment of the *Application* (section 3.1.2).

In the event that the transmission system is not able to accommodate intended flows, First Gas will:

- Indicate the amount of transmission capacity currently available;
- Identify potential technical enhancements to the transmission system that could make the required transmission capacity available;
- Describe the provisions of the GTAC that could make some or all of the required transmission capacity available, and on what basis.

### 2.7.3. Investment in Transmission Capacity

First Gas may be willing to undertake investment in the transmission system (i.e. in addition to that relating to the *Interconnection*) to provide the physical transmission capacity required by an *Interconnection*. A decision to invest would consider:

- The economic viability of the proposed investment;
- Any impacts on other transmission system users; and
- The means of recovering the cost of any investment.

#### **2.7.4. Transmission Pricing Agreement**

At a *Delivery Point*, First Gas may offer a *TPA* to allow the costs for transmission works to be recovered from an *IP*, while providing the *IP* with increased certainty as to future transmission prices. Key elements of a *TPA* include:

- The transmission capacity that First Gas must provide at the *Delivery Point*
- The prices payable for that capacity; and
- A commitment from the *IP* to contract one or more *Shippers* to deliver gas to the *Delivery Point* and pay the specified transmission charges or, if it fails to do that, pay those transmission charges itself.

First Gas will advise the *IP* in circumstances where it considers a *TPA* might be useful to facilitate an *Interconnection*.

### 3. Interconnection Process

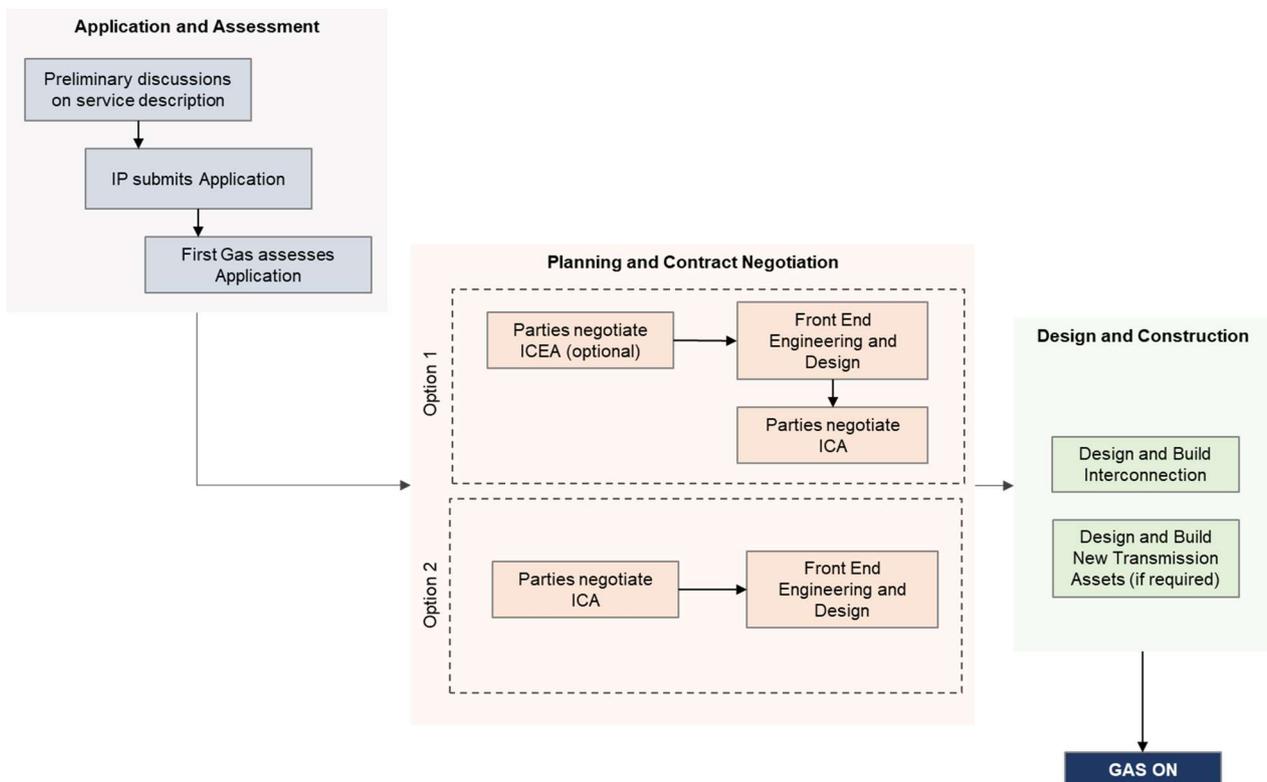
The interconnection process is shown below. The diagram in Figure 4 shows the interconnection process for an *IP* who either:

- Does not have any existing *Interconnection*; or
- Has an *ICA* which does not provide for an additional *Interconnection*.

Some existing *ICAs* provide for the construction of additional *Delivery Points*, which may allow the interconnection process to be shortened if mutually agreed.

The principal steps in the interconnection process are described in more detail in the following sections.

**Figure 4: Interconnection Process**



#### 3.1. Application and Assessment

##### 3.1.1. Application

First Gas welcomes any opportunity to discuss a potential *Interconnection*. To formally initiate the interconnection process, an *IP* needs to submit an *Application* to First Gas. This allows First Gas to gather initial information about the *IP* and the proposed *Interconnection* and make an initial assessment of the proposed *Interconnection*. First Gas will provide assistance to complete the *Application* if required. The information to be included in the *Application* is given in Box 2 below.

After receiving an *Application*, First Gas will notify the *IP* within 5 business days that it is suitable to be assessed or whether further information is required before assessment can occur.

Acceptance of an *Application* means that First Gas will proceed to assess the proposed *Interconnection* in accordance with this policy. It does not commit either party to proceed with the *Interconnection*.

**Box 2: Information to be provided in an Application**

*IP's* legal name and contact details

Type of Interconnection (i.e. *Receipt Point*, *Delivery Point* or *Bi-directional Point*)

Proposed location (and/or any alternatives being considered)

Any dependencies for the *Interconnection* (e.g. the success of a gas exploration programme, construction of a gas-using enterprise/realisation of sufficient gas demand, the granting of resource consents or other necessary statutory approvals)

Maximum and minimum design gas flow rates (in standard cubic metres/hour)

Estimated maximum daily quantity and annual quantity of gas (in GJ)

Proposed gas-on date

Proposed term of Interconnection

For *Receipt Points*:

Source of gas (e.g. the relevant gas production or processing facility)

Typical gas analysis showing all constituents (mole%)

Representative gas properties, including Gross Calorific Value (Megajoules/standard cubic metre), Wobbe Index, relative density, water content (milligrams/standard cubic metre) and hydrocarbon dewpoint (°Celsius at 50 bar g)

Expected variability of gas composition and gas properties

How compliance with NZS 5442: 2008 will be ensured

For *Delivery Points*:

Whether the gas will supply new demand or existing gas consumers

Use of gas (i.e. industrial, power generation or a diverse mix of consumers)

Whether “controlled” delivery pressure is required and nominal delivery pressure required

Whether odourisation is required (i.e. where the transmission pipeline is unodorised)

For *Bi-directional Points* the information for both *Delivery Points* and *Receipt Points* is required.

**3.1.2. Assessment**

First Gas will complete its assessment of an accepted *Application* within 25 business days. First Gas will contact the *IP* if further clarification is required during the assessment process. The scope of First Gas' assessment is outlined in Box 3. First Gas will notify the *IP* if its Application has been approved or is not yet suitable for assessment.

**Box 3: Application Assessment Criteria**

Availability of transmission capacity to support the design flow rates  
Means of connecting to the transmission system at the requested location  
Technical issues associated with the proposed *Interconnection*  
Risks  
Space and/or land availability  
Requirements of the GTAC  
Resource consents and other statutory approvals required  
Preliminary estimates of the time and cost to complete the proposed *Interconnection*  
Other issues specific to the *Application*

If First Gas cannot approve an *Application*, or the approval requires other works on the transmission system, First Gas will notify the *IP* of its reasons and discuss these with the *IP*. The *IP* may resubmit an amended *Application*. First Gas will then assess the amended *Application* within a further 10 business days and notify the *IP* whether or not it has been approved.

If the *IP* disagrees with First Gas' decision not to approve its *Application* the following process will apply:

- The *IP* will notify First Gas in writing of the grounds for disputing First Gas' decision; and
- The parties will meet within 10 business days to resolve any issues.

If the dispute remains unresolved, the parties will refer the matter to their respective senior management within five business days. The senior managers will make a further genuine effort to resolve any issues in whatever manner they may choose within 10 business days of referral.

**3.2. Planning and Contract Negotiation Phases**

The GIC's Interconnection Guidelines suggest separate planning and negotiation phases, with the outcomes being:

- Planning – establishing ownership of the equipment at the *Interconnection*, and who will be responsible for designing and constructing the *Interconnection*; and
- Negotiation – executing the agreements required to allow the *Interconnection* to be used.

In practice, First Gas has found that these phases run concurrently and discussions over ownership tend to merge with contract negotiations.

**3.2.1. Interconnection Establishment Agreement (optional)**

An *ICEA* covers the relationship between First Gas and the *IP* during the design phase of the *Interconnection*. An *ICEA* is not required where both parties agree to proceed directly from the application and assessment stage to an *ICA* (described in section 3.2.2).

Where an *ICEA* is used, the purpose of this agreement is to:

- Ensure a practical concept design is agreed;
- Provide for a front-end engineering design (FEED) study on that concept design to be undertaken;
- Refine the cost estimate for the *Interconnection*
- Ensure those undertaking the FEED are suitably qualified; and
- Allow for allocation of costs.

Once an Application has been approved, the *IP* must enter into an *ICEA* with First Gas within 20 business days (unless the parties have agreed to proceed directly to an *ICA*). Otherwise the *Application* will be deemed to have lapsed.

The *IP* will pay for the FEED study and provide a copy of the study First Gas. The *IP* will also cover all costs reasonably incurred by First Gas under the *ICEA*. Entering into an *ICEA* will not commit either party to proceed with the *Interconnection*.

The *IP* must notify First Gas that it wishes to proceed further with the *Interconnection* as soon as practicable after the FEED is completed. The parties must then proceed to negotiate an *ICA*.

Where an *ICEA* is not used, First Gas may agree to undertake the preliminary design and FEED and recover the cost of those activities via the *Interconnection Fee*. First Gas will require provisions in the *ICA* that allow for First Gas to recover costs incurred if the *IP* does not wish to complete the *Interconnection*.

### 3.2.2. Interconnection Agreement

The *ICA* will define the contractual relationship between First Gas and the *IP* during the detailed design, construction and operation phases of the *Interconnection*.

The common and essential terms of the *ICA* are contained in the GTAC. These are the technical and administrative terms that need to be standardised in order to maintain safe, efficient operation of the transmission system and provide assurance of non-discriminatory treatment. Commercial and operational terms specific to an individual *Interconnection* will be negotiated between the *IP* and First Gas. These terms will be consistent with the policies set out in this document.

Detailed design, procurement of materials, construction and commissioning of a proposed *Interconnection* will only occur once the parties have signed an *ICA*, and will be undertaken under the terms of that *ICA*.

If the *ICA* is not agreed within the timeframe set out in the *ICEA*, First Gas may require any subsequent reactivation of that proposed *Interconnection* by the *IP* to be treated as a completely new *Application*. If an *ICEA* is not used, the time for an *Application* to lapse will be on a case-by-case basis. This will ensure that technical data relating to the *Interconnection* remains current.

### 3.3. Design and Construction Phases

Successful completion of the *Interconnection* will require collaboration between the *IP* and First Gas. First Gas will ensure:

- Clear lines of communication and responsibility are set out between the *IP* and First Gas
- A project plan is set out and shared with the *IP*
- Suitably qualified personnel are made available to complete work in line with the agreed project plan
- Issues and risks are managed in an appropriate manner
- Changes to the project plan or costs are shared early with the *IP*

First Gas will require the same commitments from if the *IP* is designing and/or constructing the *Interconnection*.

The exact terms of how the design and construction phases of the *Interconnection* will be conducted will be set out in the *ICA*.

#### 4. First Gas Contact

Enquires in relation to any proposed *Interconnection* should be directed as follows:

Transmission Development Manager

First Gas Limited  
Level 6, Resimac House  
45 Johnston Street  
Wellington Central 6011  
PO Box 865, Wellington 6140

email: [steve.kirkman@firstgas.co.nz](mailto:steve.kirkman@firstgas.co.nz)

Enquiries are welcomed prior to lodging an *Application*. First Gas will provide assistance in formulating an *Application*.

## APPENDIX 1 – TECHNICAL REQUIREMENTS

### Standards

The technical requirements relating to a specific *Interconnection* will be set out in the relevant *ICA*. This Appendix 2 summarises the technical requirements for both *Receipt* and *Delivery Interconnections*.

Design, construction, commissioning, operation and maintenance of *Receipt Points* and *Delivery Points* must conform with good gas industry engineering practice and comply with the requirements of recognised and applicable standards and legislation, including:

- AS 2885.1: 2007 Pipelines - Gas and Liquid Petroleum, Part 1: Design and Construction;
- Gas Act 1992 and associated regulations;
- Health and Safety at Work Act 2015;
- Health and Safety in Employment (Pipelines) Regulations;
- Resource Management Act 1991; Electrical (Safety) Regulations;
- AS/NZS 3000 – Wiring Rules;
- AS/NZS 60079.14 - Explosive Atmospheres: Electrical Installations, Design Selection and Erection; and
- mandatory Codes of Practice and Standards.

### General Requirements

A *Receipt Point* or *Delivery Point* may be required to incorporate:

- appropriate security fencing to reasonably prevent unauthorised access;
- adequate means of access and egress for vehicles and personnel;
- adequate space to accommodate and permit the safe operation and maintenance of all equipment and structures;
- at a *Delivery Point* where the delivery pressure is controlled, heating equipment sufficient to ensure that the temperature of gas delivered there complies with NZS 5442: 2008 (Specification for reticulated natural gas);
- pressure-control equipment as further detailed below;
- metering;
- clear signs indicating restricted access and hazardous areas, supplemented by secure barriers where required;
- an above-ground isolation valve to allow First Gas and the *IP* to securely and safely isolate their equipment from the other party's;
- suitable bonding of above-ground piping and metallic structures to ensure their electrical continuity, and a suitable earth bed connected to such piping and structures;
- means to electrically isolate the transmission system from the *IP*'s pipeline, as well as a suitable surge diverter installed across each such isolating device;

- equipment to prevent any solid or liquid contaminants from (as applicable) reaching, or being delivered from the transmission system;
- a flow-restriction device to prevent over-speeding of any meter, and/or ensure that the maximum design flow rate is not exceeded;
- a check (non-return) valve to prevent reverse flow;
- SCADA (“Supervisory, Control and Data Acquisition”) and/or other equipment to enable First Gas to remotely monitor the Interconnection, metering and odourisation facilities (if any), retrieve data and other information and (if required) control any First Gas Equipment;
- a secure, ventilated shelter or building in a non-hazardous area to house equipment that First Gas reasonably considers requires such protection;
- means to enable First Gas to remotely control the flow of gas; and
- a mains supply of electricity and an adequate uninterruptible power supply.

### **Pressure Control and Over-Pressure Protection Equipment**

First Gas will undertake a risk assessment at *Receipt Points* to determine if means to prevent over-pressurisation of the transmission system are required. At these points First Gas may require “working” and “standby” pressure control equipment, each comprising:

- an active regulator or pressure control valve as primary means of pressure control; and
- separate and independent means of over-pressure protection as back-up.

At a *Delivery Point* where the delivery pressure is controlled, the *Delivery Point* will unless the parties agree otherwise incorporate independent “working” and “standby” pressure control streams, each comprising:

- an active regulator in both the working stream and the standby stream; and
- separate and independent means of over-pressure protection, as back-up.

The means of over-pressure protection will comprise:

- a monitor regulator; and
- a “token” pressure relief valve sized for any leakage past the regulators when they are in the closed (“no flow”) position; or
- a slam-shut valve; or
- all of the above.