



Natural Gas Connection Policy and Procedures

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Table of Contents

1.	General Information	1
1.1	Purpose of this Document	1
1.2	Singapore Gas Transportation System	1
1.3	Definitions	2
1.4	Codes of Practices and Regulatory Requirements	3
1.5	Submission of Application	3
2.	Procedures for Gas Connection and Gas Admittance	4
2.1	Apply for Gas Connection	4
2.2	Make Payment.....	5
2.3	Engage DR for Consumer's Gas Installation	6
2.4	Apply for Gas Admittance	7
2.5	Apply for Supply and Gas Turn On.....	8
3.	Guidelines for Other Applications	9
3.1	Apply for Replacement, Addition & Alteration Works.....	9
3.2	Apply for Disconnection	9
3.3	Apply for Re-connection.....	9
3.4	Other Applications.....	9
4.	Charges.....	10
4.1	Connection Policy.....	10
4.2	Connection Charge	10
5.	Unauthorised Connection and Supply of Gas.....	11
6.	Appendices	12
	Appendix 1 – Demarcation of responsibility.....	12
	Appendix 2 – Transmission Connection Flow Chart.....	13
	Appendix 3 – Transmission Connection Application Forms.....	15
	Appendix 4 – Distribution Connection Flow Chart.....	16
	Appendix 5 – Distribution Connection Application Forms	18
	Appendix 6 – Reference Rates for Transmission Project	19
	Appendix 7 – Reference Rates for Distribution Project	20
	Appendix 8 – Deductible Component for Natural Gas Distribution Connection.....	21

1. General Information

1.1 Purpose of this Document

PowerGas is licensed by the Energy Market Authority (“Authority”) to be the Gas Transporter (“Transporter”) which owns, operates, and maintains the piped gas network in Singapore.

SP PowerGrid (“SPPG”) is licensed by the Authority to be the Gas Transporter Agent to operate and maintain the piped gas network in Singapore on behalf of PowerGas. SPPG’s gas business is to plan, design, operate and maintain gas network assets in a manner that supports the delivery of safe, reliable, efficient, and quality services to customers.

Under the Gas Transporter Licence, the Gas Transporter has to develop separate fees and charges for separate gas transportation services such as connection services and transportation services. This document sets out the connection policy and procedure for Natural Gas supply.

1.2 Singapore Gas Transportation System

PowerGas owns an extensive gas transmission and distribution network throughout Singapore. The network is generally buried underground and transports natural gas to the western and northern parts of Singapore, and town gas to the whole of Singapore.

The gas assets comprise the transmission network (operating at higher pressures), which forms the main reticulation backbone and the distribution network (operating at lower pressures).

- Town gas is manufactured in Senoko Gasworks and delivered to approximately 900,000 customers in Singapore. The customers are made up of industrial, commercial, and residential gas users. Residential customers consist mainly of gas users from HDB, condominiums and landed premises. The town gas transmission network operates at 3 barg whereas the distribution network operates at pressure regimes ranging from 1 kPa to 50 kPa.

Natural gas is supplied to about 200 customers and is imported from four sources (two submarine pipelines from Indonesia, one submarine pipeline from Malaysia and internationally through the Liquefied Natural Gas Terminal). Under the Gas Network Code, Gas Shippers/Retailers represent the customers that are connected to the natural gas networks. These natural gas customers are typically commercial or industrial and include all power stations. The natural gas transmission network operates mainly at two pressure regimes, 28 barg and 40 barg, and the distribution network operates at pressure regimes ranging from 3 barg to 6 barg.

1.3 Definitions

The following terms shall have the following meanings when used in this document.

“Authority” means the Energy Market Authority of Singapore established under the Energy Market Authority of Singapore Act [Cap.92B];

“Gas Transporter” or “Transporter” means a representative holding a gas transporter’s licence;

“Gas Retailer” or “Retailer” means a person who supplies gas to Retail Customers and who holds a Retailer’s Licence;

“Gas Shipper” or “Shipper” means a person holding a gas shipper’s licence;

“Gas Network Code” refers to the Gas Network Code issued by the Authority, setting out common terms and conditions between the Gas Transporter and Shippers who engage the Gas Transporter to transport natural gas through the gas pipeline network;

“DR” known as designated representative means a professional engineer or a licensed gas service worker appointed by the developer or a responsible person for the premises;

“PE” known as professional engineer means any person who is registered as a professional engineer in the mechanical engineering discipline under the Professional Engineers Act [Cap. 253];

“LGSW” known as licensed gas service worker” means a person who is licensed under section 12 [3] of the Gas Act [Chapter 116A];

“gas service work” means any work carried out on any gas installation or gas appliance, in whole or in part, including any design, construction, installation, commissioning, erection, testing, repair, addition, alteration or maintenance work;

“gas service isolation valve [“GSIV”]” means a valve, located at or near the boundary line of any property or the apron of any building, used by a gas transporter to isolate the supply of gas to that property or building;

“gas service pipe” means a pipe or any part thereof, other than a gas main, used for the purpose of conveying gas from a gas main to a gas service isolation valve, and includes any pipe owned by, or under the management or control of, a gas transporter which is used for the purpose of conveying gas from the gas service isolation valve to the meter at a consumer’s premises as defined in the Gas Act [Chapter 116A];

“gas fitting” includes any pipe, valve, meter, regulator or other device for the control, measurement and use of gas as defined in the Gas Act [Chapter 116A];

“gas installation” means a discrete grouping of gas fittings linking a gas service pipe to a gas appliance as defined in the Gas Act [Chapter 116A];

“Gas Meter Control Valve” means a valve at the inlet of any meter used for the purpose of turning on or off a supply of gas through such meter to any gas installation as defined in the Gas [Supply] Regulation;

“Meter Installation” means any meter and its associated equipment and installation including associated pipework, filter, valve, pressure regulating equipment, seal, housing, mounting, telemetry equipment, gas chromatograph and flow computer

1.4 Codes of Practices and Regulatory Requirements

This connection procedure shall be read in conjunction with the provisions in the Gas Act, Gas [Supply] Regulations, Gas [Metering] Regulations, Gas Supply Code, Gas Metering Code, Gas Network Code, Singapore Standard, SS608 [where applicable] – Code of Practice for Gas Installation and relevant Retailer’s Handbook of Gas Supply, where applicable.

The demarcation of responsibility from the gas service pipe to the gas installation is provided in Appendix 1 for reference purpose.

1.5 Submission of Application

Please submit all connection enquiries, applications for gas connection and admittance request via the Gas Shipper/Retailer on SP Group’s eBusiness Portal [“Portal”]:

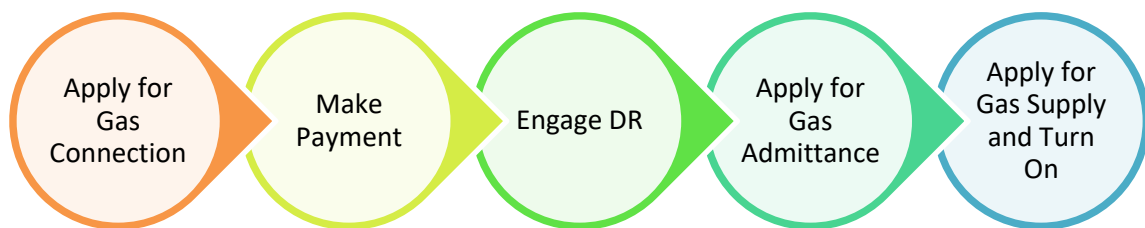
<https://ebiz.spgroup.com.sg/index.html>

For all other matters, please submit your request to:

gasenquiry@spgroup.com.sg

2. Procedures for Gas Connection and Gas Admittance

Gas users, applicants for gas supply, are advised to apply through the Shipper/Retailers for connection to the gas main network. The Shipper/Retailer will liaise with the Transporter on behalf of the applicant for gas connection and admittance. The key steps for gas connection and gas admittance are outlined below. The detailed process flow chart and Natural Gas connections application forms can be found in Appendices 2 to 5.



2.1 Apply for Gas Connection

Transmission Connection

Consumer's pressure requirement of at least 18 barg shall be eligible for connection to a transmission pipeline, subject to Gas Transporter's assessment. The actual delivery pressure would vary depending on the location of the offtake point. Consumers requiring higher or lower pressure than the transmission network operating pressure shall at its own cost install the necessary equipment to achieve the required pressure.

To apply for a natural gas transmission connection, the Shipper shall submit the following documents and information through the Portal:

- Endorsed Form GT1 - "Application for Gas Transmission Connection"; and
- A plan showing the connection point endorsed by the responsible person or applicant; and
- Consumer Project Data Information.

The Transporter shall seek the Authority's approval for the proposed transmission connection and notify the Shipper on the outcome of the application within 21 days, after obtaining a reply from the Authority. If the application is successful, the connection charge and project lead time will also be made known to the Shipper.

As the Transporter will need to determine the feasibility of the new connection and establish relevant procedures for the operational phase of the connection, Shippers are advised to request for a consultation through the Portal for the Transporter to arrange a site discussion with the Shipper and Applicant prior to sending in the application.

Distribution Connection

To apply for a natural gas distribution connection, the Retailer shall submit the following documents and information through the Portal:

- Endorsed Form GD1 - “Application for Gas Distribution Connection”; and
- Location / site plan showing the project site and proposed connection point(s) endorsed by the responsible person or applicant; and
- Location of Meter Installation ———

The Transporter shall notify the Retailer on the outcome of the application within 14 days from the date of receipt of the application. If the application is successful, the connection charge will also be made known to the Retailer.

2.2 Make Payment

The Shipper/Retailer shall confirm the project by making payment for the connection charge.

Transmission Connection

The Shipper shall confirm the project by making payment for the connection charge and book firm capacity in accordance with the requirements set forth in the Gas Network Code [“GNC”].

Upon project confirmation, the Transporter shall commence permit application, procurement and construction works to extend gas pipeline up to and including the gas service isolation valve [“GSIV”].

Distribution Connection

The Retailer shall confirm the project by making payment for the connection charge. The Retailer’s appointed Shipper shall subsequently, where necessary, book firm capacity in accordance with the requirements set forth in the GNC.

Upon project confirmation, the Transporter shall commence permit application, procurement and construction works to extend gas pipeline up to and including the GSIV.

2.3 Engage DR for Consumer's Gas Installation

The applicant shall engage a PE or a LGSW, as the case may require, as the DR for the project.

Transmission Connection

The Shipper and the DR shall liaise with the Transporter on the connection point at the property boundary, and where applicable, the location of the Meter Installation within the premises, the work schedule and other related matters throughout the entire project until final commissioning.

The DR is responsible for the design, procurement, and construction of the Gas Fittings from the GSIV to the appliance/equipment including the Meter Installation, where applicable, in accordance with the Gas Act and its subsidiary legislations and applicable Code(s).

Distribution Connection

The Retailer and the DR shall liaise with the Transporter on the connection point at the property boundary, the work schedule, the location of the Meter Installation within the consumer's premises and other related matters throughout the entire project until commissioning.

The DR is responsible for the design, procurement, and construction of the Gas Installation from the GSIV to the appliance/equipment, excluding the Meter Installation, in accordance with the Gas Act and its subsidiary legislations and applicable Code(s).

2.4 Apply for Gas Admittance

Transmission Connection

The DR shall certify completion and successful testing of the Gas Fittings and the Meter Installation, where applicable. When the Gas Fittings, the Meter Installation and the site are ready to receive gas, the DR/applicant shall apply, through the Shipper, to the Transporter to connect and admit gas into the Gas Fittings up to the Meter Installation, where applicable, by submitting the following form:

- Form GT2 - “Application for Admittance of Gas”

The DR shall conduct the necessary proof test and complete Form GT3 “Certificate of Proof Test” prior to the Transporter interim admittance of gas into the Gas Fitting up to the Meter Installation. The Transporter shall carry out gas admittance from the GSIV up to the Meter Installation.

Upon successful interim admittance of gas, the Transporter shall issue the “Statement of Interim Admittance of Gas”. Thereafter, the DR shall proceed to purge and commission the Gas Fittings up to the Meter Installation, where applicable. The Transporter shall issue the “Statement of Admittance of Gas” upon certification by the DR of successful purging and commissioning of the Gas Fittings up to the Meter Installation.

The owner of Meter Installation shall liaise with the Applicant/DR and the Shipper to purge the Meter Installation.

Distribution Connection

The DR shall certify completion and successful testing of the Gas Installation. When the Gas Installation is ready to receive gas, the DR/applicant shall apply, through the Retailer, to the Transporter to connect and admit gas into the Gas Installation up to, but excluding, the Meter Installation by submitting the following form:

- Form GD2 - “Application for Admittance of Gas”

The DR shall conduct the necessary proof test and submit the completed Form GD3 “Certificate of Proof Test” and request for interim admittance of gas immediately prior to the Transporter connecting the Gas Installation to the gas pipeline network and admitting gas into the Gas Installation up to, but excluding, the Meter Installation.

Upon successful interim admittance of gas, the Transporter shall issue the “Statement of Interim Admittance of Gas”. Thereafter, the DR shall proceed to purge and commission the Gas Installation up to, but excluding, the Meter Installation.

The Transporter shall issue the “Statement of Admittance of Gas” upon certification by the DR of successful purging and commissioning of the Gas Installation up to the Meter Installation.

2.5 Apply for Supply and Gas Turn On

The applicant shall liaise with the Shipper/Retailer to carry out gas turn-on when the installation/equipment and the site are ready to receive gas.

Transmission Connection

Where the Meter Installation is owned by the Transporter, the Applicant/DR shall submit Form GT4 “Authorisation to Turn on Gas Meter Control Valve” to instruct the Transporter to open the Gas Meter Control Valve for gas turn-on from the Meter Installation to the appliances/equipment.

For purging of the Meter Installation and gas turn on, the Shipper shall nominate for gas flow in accordance to Gas Network Code.

Distribution Connection

The Retailer shall carry out gas turn-on from the Meter Installation up to the appliances/equipment. The applicant is advised to refer to the Retailer’s Handbook on Gas Supply for the latest procedures. A summary of the procedures is shown below.

- The DR shall:
 - certify completion and successful testing of the Consumer’s Internal Pipe; and
 - apply to the Retailer for connection and gas turn-on up to the appliances/equipment when the Consumer’s Internal Pipe is ready to receive gas.

- The Retailer shall:
 - ensure appropriate tests, before and after the installation of the meter, are performed on the gas installation from and including the meter to the gas appliance before the as supply is turned on at the relevant Gas Meter Control Valve;
 - arrange for the connection of the Consumer’s Internal Pipe to the outlet of the Meter Installation thereafter; and
 - issue the “Statement of Turn-on of gas” to the applicant.

3. Guidelines for Other Applications

3.1 Apply for Replacement, Addition & Alteration Works

Any application for replacement of, or addition or alteration to, the gas installation or gas fitting located from the GSIV to [and including] the Meter Installation, where applicable, shall be made by the applicant through the Shipper/Retailer to the Transporter's email address in Section 1.5.

3.2 Apply for Disconnection

An application to disconnect a gas installation or gas fitting from a gas pipeline network shall be made by the responsible person to the Transporter in the following instances:

- When the gas supply to the premises has been discontinued; or
- When the supply of gas is no longer required; or
- When the premises are undergoing renovation or demolition and gas supply has to be disconnected for safety reasons.

Any application for the disconnection of the gas installation or gas fitting shall be made to the Transporter's email address in Section 1.5.

3.3 Apply for Re-connection

Any application for the re-connection of the gas installation or gas fitting shall be made to the gas transporter only when the applicant has rectified the defects on the gas installation/fitting.

The application should be made through the Shipper/Retailer via the Transporter's Portal. The Transporter shall respond to the Shipper/Retailer on the outcome of the application within 14 days from the date of receipt of the application.

3.4 Other Applications

The applicant is advised to consult with the Transporter if it has a request for gas connection that has not been covered in the procedures above. The applicant shall send its request to the Transporter's email address in Section 1.5.

4. Charges

4.1 Connection Policy

The cost to connect a customer's gas installation or gas fitting to the Transporter's gas pipeline network varies from case-to-case, due to the proximity of the customer's location and the cost of the materials and services required for the gas connection. Where possible, the Transporter will envisage to propose the most cost-effective connection to the applicant.

4.2 Connection Charge

The connection charge payable for all gas connection applications is the sum of the project cost less the deductible cost, subject to a minimum connection charge of zero. The description of each of the cost components are shown below.

(1) Project cost

All costs related to the provision of gas connection from the Transporter's gas pipeline network to the GSIV, including the Meter Installation [where applicable].

(2) Deductible cost

The Transporter's investment value based on the committed gas demand from the applicant for the new gas connection. For distribution connections, the investment value is derived based on the net present value of the 5-Year revenue of the average consumption for each consumption category [see Appendix 8].

For transmission connections, the connection charges are calculated individually on a case-by-case basis.

In addition, a Last Mile Connection Charge ["LMCC"] will be levied to recover the cost of the "last mile" connection of the gas installation to the GSIV from the applicant.

The natural gas transmission/distribution connection deductible cost, LMCC and unit rates used in the determination of the transmission/distribution pipeline estimated capital investment shall be reviewed and adjusted when deemed necessary by the Transporter.

The Transporter reserves the right to review the connection charge paid for any new connection and seek reimbursement for the first 5 years under-recovered revenue from the Shipper/Retailer if the actual gas consumption after 5 years of operation is more than 10% below the projected gas demand declared during application.

5. Unauthorised Connection and Supply of Gas

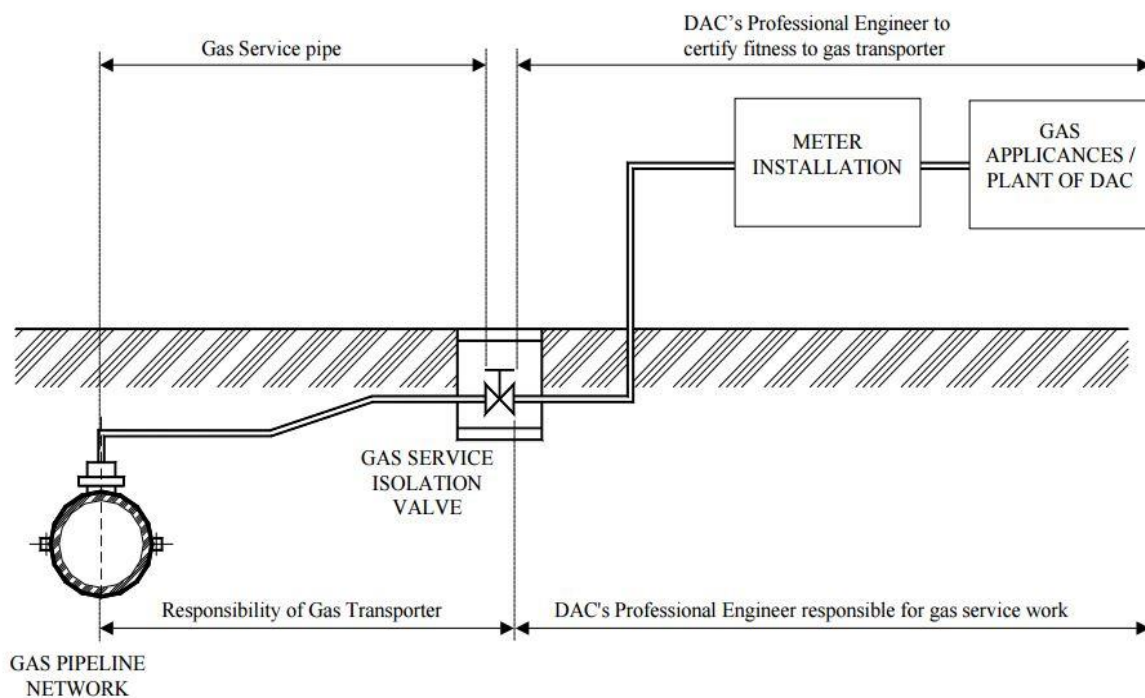
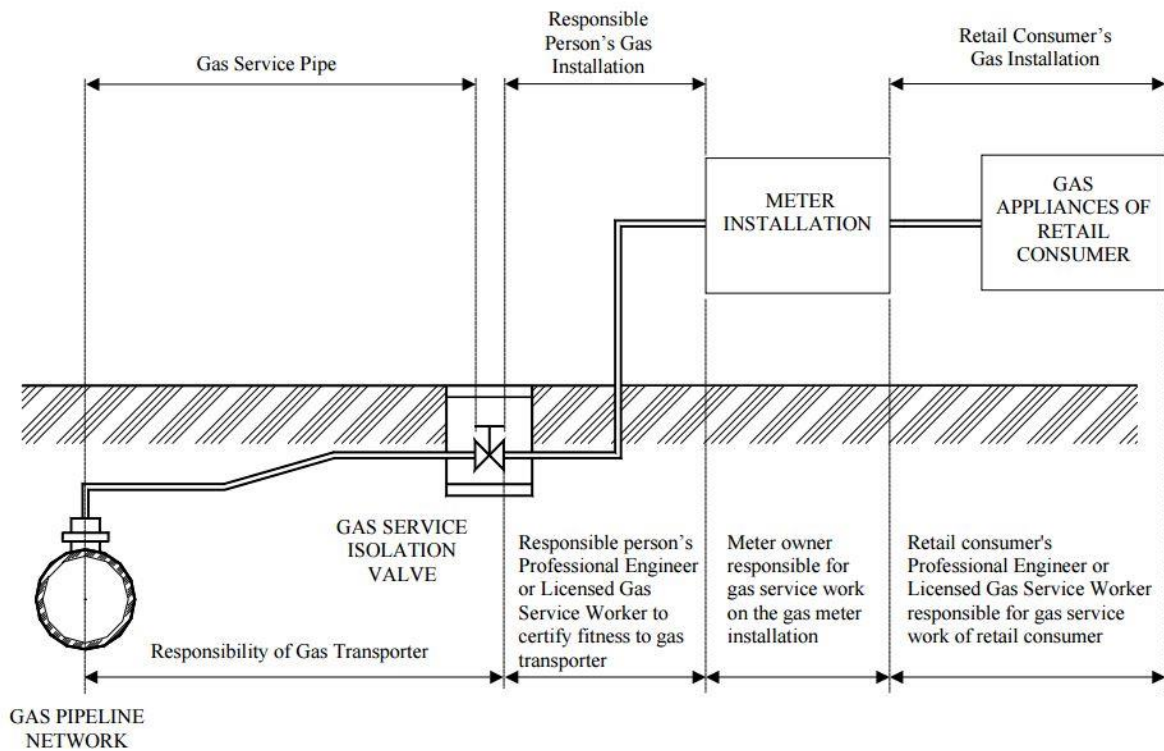
In accordance with the Gas Act, any person who:

- lays or causes to be laid gas pipe or fitting to connect to the gas network belonging to or managed by the Transporter without consent of the Transporter;
- fraudulently abstracts, uses or consumes the supply of gas;
- tempers any gas meter

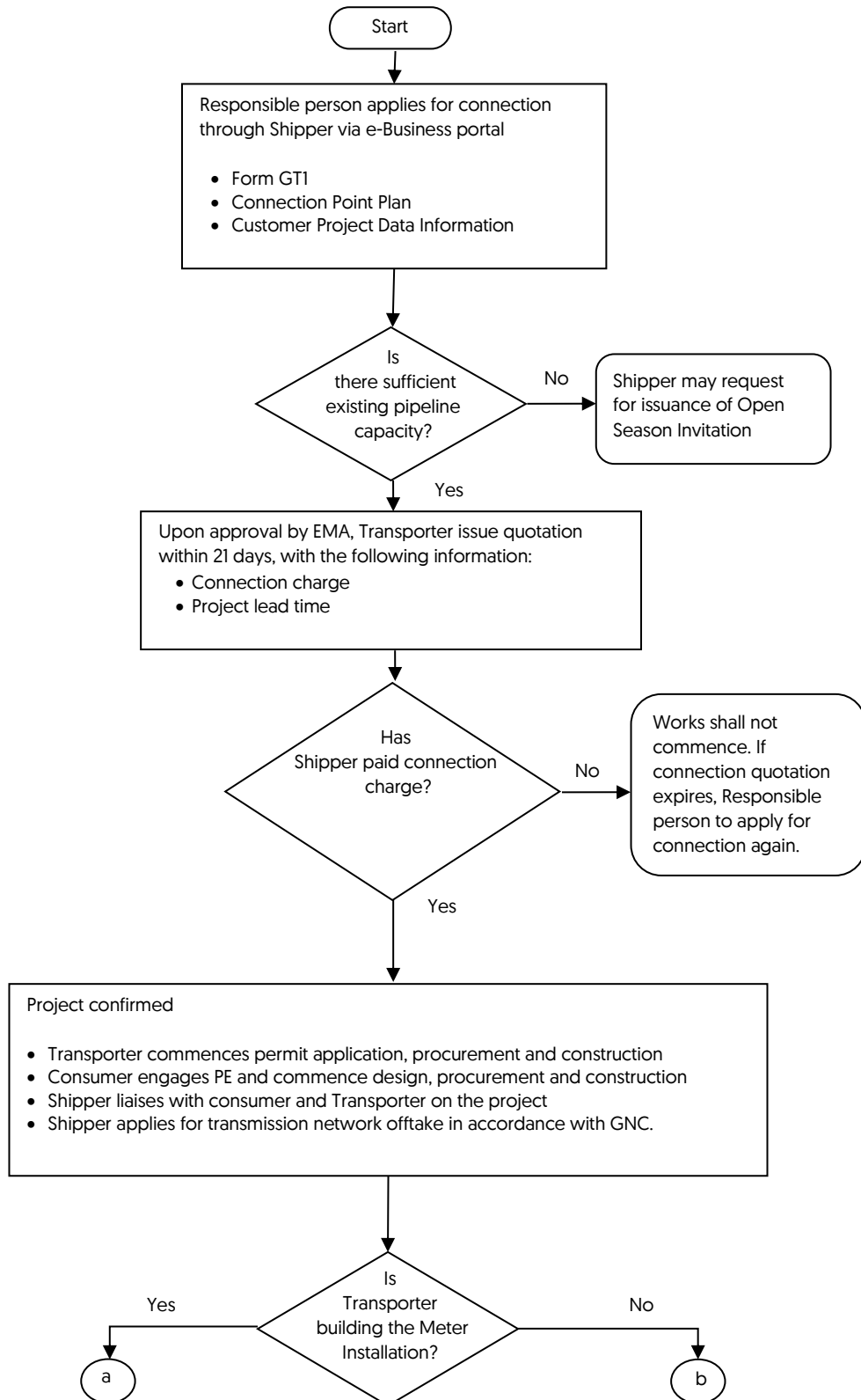
shall be guilty of an offence and shall be liable on conviction to a fine or imprisonment, or both. The Transporter may disconnect the premises of, or the gas retailer may discontinue supply of gas to the premises of, the person.

6. Appendices

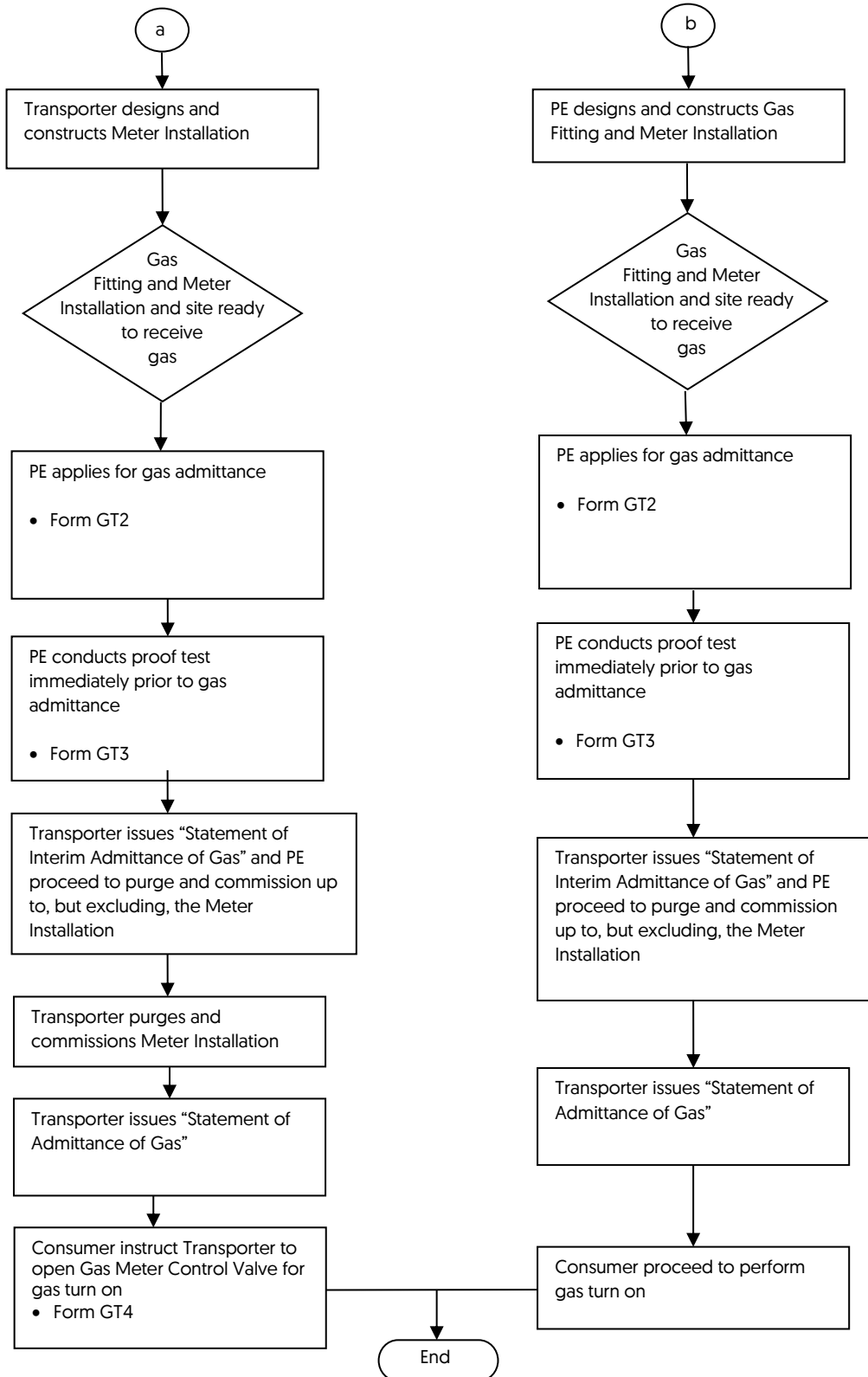
Appendix 1 – Demarcation of responsibility



Appendix 2 – Transmission Connection Flow Chart



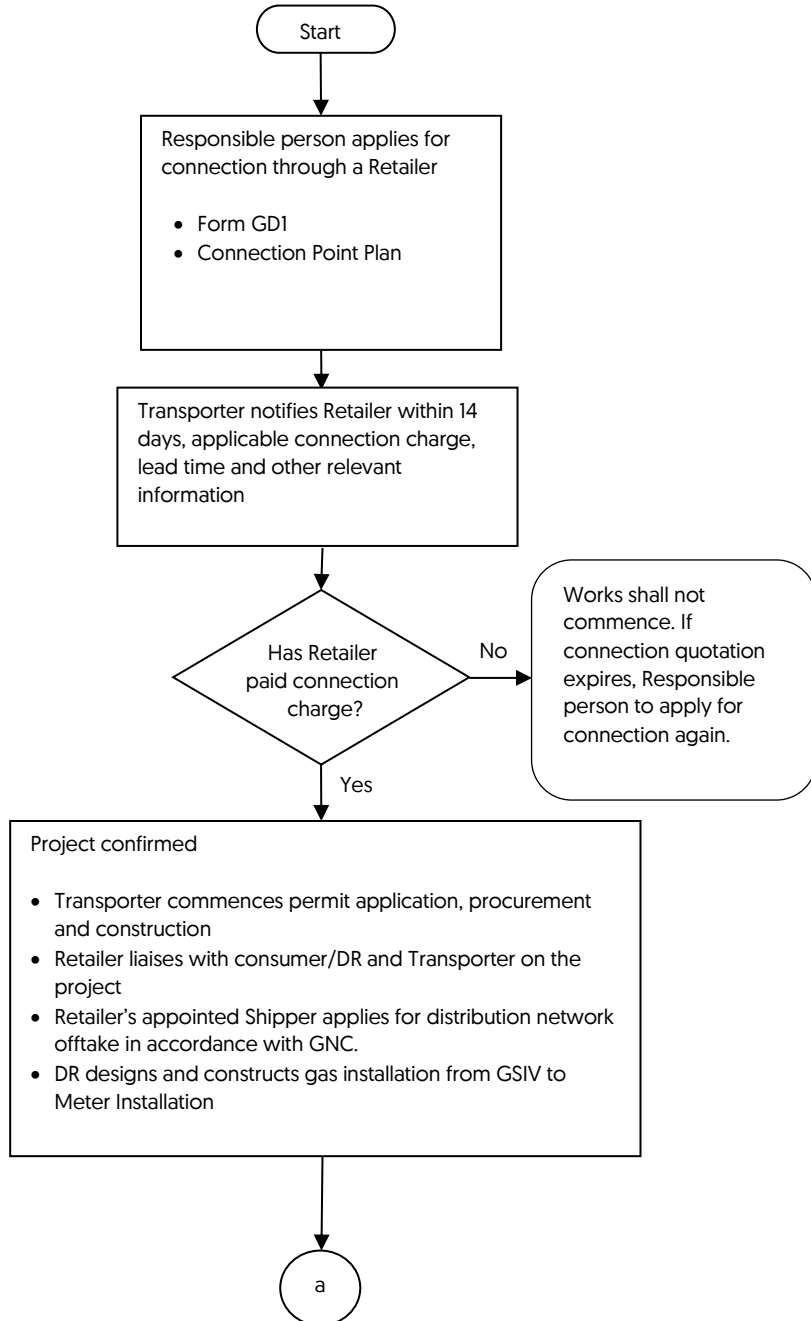
Appendix 2 – Transmission Connection Flow Chart (Cont'd)



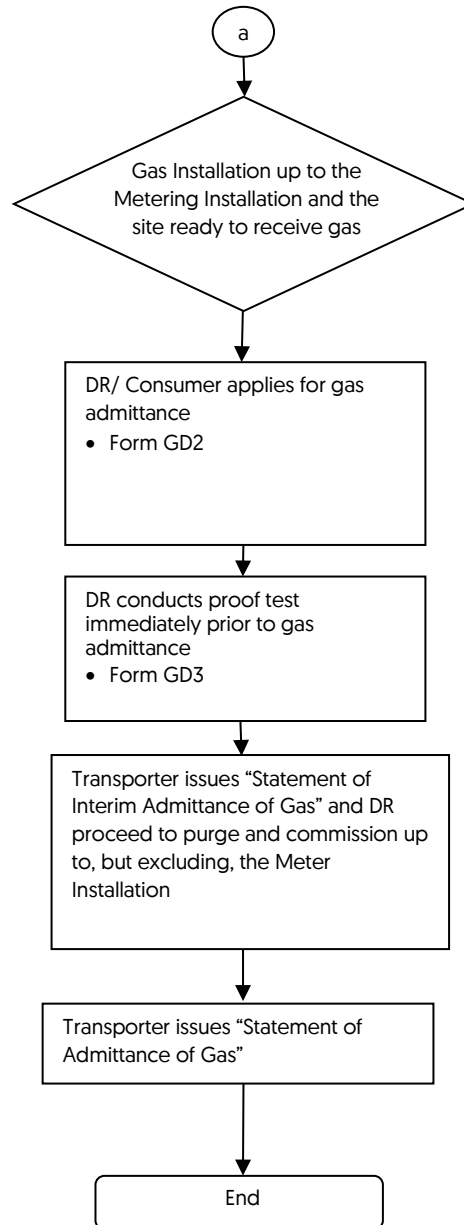
Appendix 3 – Transmission Connection Application Forms

S/No.	Form No.	Description
1	GT1	Application for Gas Transmission Connection
2	GT2	Application for Admittance of Gas
3	GT3	Certificate of Proof Test
4	GT4	Authorisation to Turn On Gas Meter Control Valve

Appendix 4 – Distribution Connection Flow Chart



Appendix 4 – Distribution Connection Flow Chart (Cont'd)



During Gas Turn-on, where applicable, the Retailer may authorise the Transporter to operate the Meter Control Valve via Form GD4

Appendix 5 – Distribution Connection Application Forms

S/No.	Form No.	Description
1	GD1	Application for Gas Distribution Connection
2	GD2	Application for Admittance of Gas
3	GD3	Certificate of Proof Test
4	GD4	Authorisation to Turn On Gas Meter Control Valve

Appendix 6 – Reference Rates for Transmission Project

This sets out a non-exhaustive list of the main cost drivers and the corresponding unit rates used in the estimation of the capital investment for a new transmission pipeline. For the avoidance of doubt, the information set out here is provided solely for reference only and is subject to changes in actual contract rates.

S/No.	Description		Size	Unit Rate (\$) excl. GST	Unit Rate (\$) incl. 9% GST
1	Laying of underground steel pipeline (\$/m)		300mm	6,200	6,758
2	Pipe jacking	Boring and installation of concrete pipe sleeve and pipeline (\$/m)	-	8,500	9,265
3		Construction of jacking and receiving pit (\$/pair)	-	1,013,000	1,104,170
4	Installation of underground valve (\$/set)		300mm	315,000	343,350
5	Electrical and Instrumentation	Installation of surveillance system, SCADA RTU and Security RTU (\$/set)	-	787,000	857,830
6	Hot tapping works	Tee-off from existing 700mm dia pipeline (\$/job)	300mm	177,000	192,930

Note:

- The amount of LTA road opening charges may vary due to the scope of the transmission project. For better clarity, please refer to LTA's website for the charging methodology for LTA road opening charges.
- Figures may not reflect the full GST effect due to rounding.

Appendix 7 – Reference Rates for Distribution Project

This sets out a non-exhaustive list of the main cost drivers and the corresponding unit rates used in the estimation of the capital investment for a new distribution pipeline. For the avoidance of doubt, the information set out here is provided solely for reference only and is subject to changes in actual contract rates.

S/N o.	Description	Size	Unit Rate (\$) excl. GST	Unit Rate (\$) incl. 9% GST
1	Supply and Laying of PE pipes and fittings (\$/m)	315mm	860	938
2	Connection to existing pipes (\$/job)	315mm	12,900	14,601
3	Installation of Valve (\$/job)	300mm	7,800	8,502
4	Reinstatement of rigid pavement / concrete panel (\$/m ²)		480	524
5	Milling and Patching of road (min 250m ²) (\$/m ²)		31	34

Note:

- The amount of LTA road opening charges may vary due to the scope of the transmission project. For better clarity, please refer to LTA's website for the charging methodology for LTA road opening charges.
- Figures may not reflect the full GST effect due to rounding.

Appendix 8 – Deductible Component for Natural Gas Distribution Connection

[wef 1 Apr 24]

c = Consumption per Annum (MMBtu)	Distribution connection within JIT (\$)	Distribution connection outside JIT (\$)
$c \leq 5,000$	nil	nil
$5,000 < c \leq 15,000$	80,000	185,000
$15,000 < c \leq 25,000$	160,000	365,000
$25,000 < c \leq 35,000$	235,000	550,000
$35,000 < c \leq 45,000$	315,000	735,000
$45,000 < c \leq 55,000$	395,000	915,000
$55,000 < c \leq 65,000$	475,000	1,100,000
$65,000 < c \leq 75,000$	550,000	1,285,000
$75,000 < c \leq 85,000$	630,000	1,465,000
$85,000 < c \leq 95,000$	710,000	1,650,000
$95,000 < c \leq 105,000$	790,000	1,835,000
$105,000 < c \leq 115,000$	865,000	2,015,000
$115,000 < c \leq 125,000$	945,000	2,200,000
$125,000 < c \leq 135,000$	1,025,000	2,385,000
$135,000 < c \leq 145,000$	1,105,000	2,565,000
$145,000 < c \leq 155,000$	1,180,000	2,750,000
$155,000 < c \leq 165,000$	1,260,000	2,935,000
Beyond 165,000	1,295,000	2,970,000