

# **KEPPEL GAS**

## **GAS SUPPLY HANDBOOK**

## INTRODUCTION

This Gas Supply Handbook (“Handbook”) is prepared by Keppel Gas to serve as a guide to eligible Customers who are current or future offtakers of Gas from the Singapore Gas Network for the application for supply, connection and turn-on of Gas.

This Handbook will cover the procedures, requirements and relevant forms for existing and new Customers looking at Gas connection and supply, switching of Gas Retailer, or addition and alteration work for expansion projects.

In addition, developers, consultants, Professional Engineers, Licensed Gas Service Workers, contractors, and all other relevant persons involved in the connection for Gas lines may also obtain key information and forms from this Handbook.

Keppel Gas may amend this Handbook from time to time, without prior notice, which include but not limited to changes to the relevant statutes, regulations, by-laws, directives, policies and codes of practice in force from time to time which include but not limited the following:

- a. Gas Act ;
- b. Gas (Supply) Regulations;
- c. Gas Supply Code;
- d. Gas Metering Code;
- e. Gas Retailer Code of Conduct;
- f. Gas Safety Code; and
- g. Singapore Standard, SS 608, Code of Practice for Gas Installation.

Item a and b can be found at <http://statutes.agc.gov.sg> while Item c to f can be found at <http://www.ema.gov.sg>

Please visit Keppel Gas’ website at <http://www.keppelgas.com> for the latest copy of the Handbook. Do not hesitate to contact Keppel Gas, through the contact details below, for any queries.

### Business Centre & Account Management

| Matters Concerning                      | Department            | Contact Number              | Email                       |
|---|-----------------------|-----------------------------|-----------------------------|
| Gas Commercial matters                  | Keppel Gas Commercial | +65 8838 3396               | gas.commercial@kepinfra.com |
| Gas Operation matters; i.e. Maintenance | Keppel Gas Operations | +65 9220 8610               | kgas@kepinfra.com           |
| Gas leak or other emergencies           | PowerGas Senoko CCR   | 1800 752 1800<br>(24 hours) | -                           |

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## 1. Definitions

**Act** shall mean the Gas Act (Cap.116A);

**Agreement** shall mean the gas sale agreement relating to the supply of Gas to Customer;

**Check Meter** shall mean any subsidiary device used to verify the readings taken by a Meter;

**Customer** shall mean a Transmission Customer or a Retail Customer;

**Designated Representative** shall mean a Professional Engineer;

**EMA** shall mean Energy Market Authority;

**Gas** shall mean natural gas;

**Gas Appliance** shall mean any appliance in which Gas is consumed, either for domestic requirements (including for cooking, heating or cooling purposes) or for industrial or commercial requirements (including for powering a gas engine or as feedstock in a chemical process);

**Gas Distribution Network** shall mean those part of the Transportation System which do not comprise the Transmission Network;

**Gas Fitting** shall mean any pipe, valve, Meter, regulator or other device for the control, measurement and use of Gas;

**Gas Installation** shall mean a discrete grouping of Gas Fittings linking a Gas Service Pipe to a Gas Appliance;

**Gas Main** shall mean any Gas pipe used for the distribution of Gas from a Gas Transmission Pipeline to a Customer but does not include a Gas Service Pipe or an Internal Pipe;

**Gas Retailer** shall mean any person who is issued a gas retailer license by EMA;

**Gas System** shall mean the Internal Pipes, fittings, valves, elbow joints etc up to the Gas Appliance which is located with the Customer's premises;

**Gas Service Isolation Valve or GSIV** shall mean 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** shall mean 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 Customer's premises;

**Gas Service Work** shall mean 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 Transmission Pipeline** shall mean a bulk transmission pipeline or interconnected transmission pipeline, together with equipment (including pressure regulating and control valves) used for the conveyance of Gas to a Customer or a Gas Mains network, and "Gas Transmission Network" shall be construed accordingly;

**Gas Transporter** shall mean PowerGas Ltd;

**GD** shall mean Gas Distribution;

**Internal Pipe** shall mean any pipe, not being a gas pipeline, used for the purpose of conveying gas from a Gas Service Pipe to a Gas Appliance, including a Gas Fitting inserted therein but excluding a Meter;

**Keppel Gas** shall mean Keppel Gas Pte. Ltd.;

**Licensed Gas Service Workers** shall mean a person who is licensed under section 12 (3) of the Act;

**Meter** shall mean any device for computing the volume of Gas supplied or amount of energy supplied, for charging purposes, but does not include a Check Meter;

**Meter Installation** shall mean any meter and its associated equipment and installation, including any associated pipework, filter, valve, pressure regulating equipment, seal, housing, mounting, telemetry equipment and gas chromatograph;

**Metering and Pressure Regulating Skid** shall mean the equipment housing the meter located at the Customer's premises to meter and regulate the delivery gas pressure according to the Retail Customer's Gas supply requirement.

**MOM** shall mean Ministry of Manpower;

**Professional Engineer** shall mean a person who is registered as a professional engineer in the mechanical engineering discipline under the Professional Engineers Act (Cap. 253);

**Retail Customer(s)** shall mean any customer who offtakes Gas from the Distribution Network;

**Transmission Customer(s)** shall mean any customer who offtakes Gas from the Transmission Network.

## 2. General Information

### 2a. Background

Keppel Gas establishes its presence and delivers value to the Singapore Gas market by covering the entire Gas supply value chain as an importer, shipper and retailer. Keppel Gas is a fully-owned subsidiary of Keppel Infrastructure Holdings Pte. Ltd. (“KI”).

KI drives the Keppel Group's strategy to invest in, own and operate competitive energy and infrastructure solutions and services by tapping the expertise of its environmental engineering and technology.

Keppel Gas is the first importer of piped Gas from Malaysia, bringing in competitive molecules to the Singapore shores from national oil and gas company, Petronas Nasional Berhad.

Keppel Gas operates under the Energy Infrastructure division in KI comprising of other business units, namely; generation company, Keppel Merlimau Cogen; electricity retailer, Keppel Electric; utilities, Keppel DHCS, and service corridor provider in Jurong Island, Keppel Energy Nexus. The Energy Infrastructure division provides synergistic services across the entire utilities value chain, aiming to provide one-stop solution to customers.

### 2b. Gas Supply System

Keppel Gas manages a supply portfolio comprising of piped Gas from Malaysia and Indonesia, and liquefied Gas from Shell Gas Marketing Singapore Pte Ltd. With a portfolio of Gas supply, Keppel Gas can deliver Gas to its Customers with security and flexibility.

Keppel Gas delivers molecules to the Customers' premises by flowing Gas through Transmission Network 2 as defined in Annexure 12 of the Singapore Gas Network Code which are onshore regulated assets owned, operated and maintained by the Gas Transporter.

Gas can be supplied through the 28 barg or 40 barg Gas Transmission Network to Transmission Customers. In contrast, supply pressure for Distribution Networks is about 2 barg. Depending on the Retail Customer's requirement, the delivery pressure to the Retail Customer's premises can be up to 2 barg.

For Retail Customers requiring pressure higher than 2.0 barg, costs associated with the installation of necessary equipment to achieve the required pressure shall be borne by the Retail Customers.

Customers can refer to the specification found on EMA's website at <http://www.ema.gov.sg> to find out more information about Gas supplied in Singapore.

### 2c. Professional Engineer and Licensed Gas Service Worker

All Gas Service Work shall only be carried out by a Professional Engineer with a valid practicing certificate in the mechanical engineering discipline. In particular, all Gas boilers must be certified by a Professional Engineer with specialization in boiler equipment in accordance with MOM requirements.

The Professional Engineer shall be responsible for:

- a) Designing and construction of the pipeline section from the Gas Service Isolation Valve to the Inlet Service Valve (as illustrate in Section 8 of the Handbook) of the Metering and Pressure Regulating Skid; and
- b) Designing and construction of the pipeline section from the Outlet Service Valve (as illustrate in Section 8 of the Handbook) of the Metering and Pressure Regulating Skid up to and including the Gas Installation.

The abovementioned works in (a) can be undertaken by the Gas Transporter for an agreed fee.

The Professional Engineer shall ensure all works must be carried out in full compliance with the Act, and all relevant regulations, codes and standards. All works performed by or conducted by a Licensed Gas Service Worker must be carried out under the supervision of the Professional Engineer.

Submission of As-built plans for Gas Installation pipework and addition and alteration work shall be carried out by a Professional Engineer.

The Professional Engineer must endorse his plans to confirm / certify that the submission complies with the Act, and all relevant regulations, codes and standards. These plans will then be used for application for Gas admittance and Gas turn-on.

A list of registered Licensed Gas Service Workers can be obtained from EMA's website at <http://www.ema.gov.sg>

## **2d. Tariff**

The Gas Transporter will levy a transportation tariff for the transportation of Gas to the Customer's premises. The transportation tariff comprises the following three main components:

- a. Transmission capacity charges;
- b. Transmission usage charges; and
- c. Distribution charge component (for Retail Customer(s)).

These charges are subject to review by the Gas Transporter and approval of EMA. Please note that Keppel Gas will levy a transportation charge on its Customers.

Further details on the transportation charges may be obtained from Keppel Gas via email at [gas.commercial@kepinfra.com](mailto:gas.commercial@kepinfra.com)

### 3. Procedure for New Gas Supply Connection – Transmission Customer(s)

#### 3a. Pre-submission Consultation / Budgetary Connection Cost

All enquiries for Gas supply can be made to Keppel Gas customer service at +65 8838 3396, 0900 hours to 1730 hours from Monday to Friday (excluding public holidays), or email to [gas.commercial@kepinfra.com](mailto:gas.commercial@kepinfra.com). Keppel Gas will arrange for a follow up meeting with the Transmission Customer to understand the requirements.

The Transmission Customer shall appoint a Designated Representative (usually the PE), who will liaise directly with Keppel Gas on all matters relating to Gas Installation. The Designated Representative shall ensure that the Gas Installation is designed, constructed, tested and commissioned in accordance to the requirements of the Act, and all relevant regulations, code and standards. The Professional Engineer shall endorse all drawings, documents, applications and submission in relation to the Gas Installation.

The Transmission Customer shall submit the following documents to Keppel Gas for Keppel Gas to submit a request to the Gas Transporter for a budgetary connection cost to the Transmission Customer's premises:

- GT1 – Application for Gas Transmission Connection;
- Site plan showing location of Meter Installation and the Gas Service Isolation Valve (GSIV).

Keppel Gas will arrange for a site survey together with the Designated Representative and the Gas Transporter to determine, amongst others, the feasibility of the location of the Meter Installation, the entry point at the Customer's premises and the land area required for the meter installation.

The Gas Transporter is expected to reply to Keppel Gas on the budgetary connection cost to the Customer's premises, typically within 30 days of such request by Keppel Gas. Upon receiving the budgetary connection cost, Keppel Gas will inform the Designated Representative accordingly. Keppel Gas will continue to work with the Designated Representative to determine the most feasible location for the Gas Service Isolation Valve (GSIV) and/or the Meter Installation.

#### 3b. Application for Gas Connection

Once the location of the Gas Service Isolation Valve (GSIV) and the Meter Installation is finalised, the Transmission Customer shall submit the following documents to Keppel Gas. This submission is necessary for Keppel Gas to put in a request to the Gas Transporter for the actual connection cost to the Transmission Customer's premises:

- GT1 – Application for Gas Transmission Connection;
- Site plan showing location of GSIV and Meter Installation endorsed by the Customer.

The Gas Transporter is expected to reply to Keppel Gas on the actual cost of connection usually within 30 days of such request by Keppel Gas. The actual connection cost will be issued in the form of a Tax Invoice for the cost of connection. Typically, the Tax Invoice is valid for three (3) months.

Concurrently, Keppel Gas will continue to engage the Transmission Customer to conclude the Agreement for the supply of Gas to the Customer. Upon the conclusion of the Agreement, the



Transmission Customer shall pay the connection fee to Keppel Gas in accordance with the agreed terms as stipulated in the Agreement. Keppel Gas will pay the connection fee to the Gas Transporter and book the necessary capacity required on behalf of the Transmission Customer to kick-start the process of pipe laying to the Transmission Customer's premises.

Concurrently, the Transmission Customer shall proceed with the detailed engineering and construction of the Gas System.

### **3c. Gas Admittance Process**

When the premises is ready to admit Gas up to the Meter Installation, the Transmission Customer shall submit two (2) hardcopies and a softcopy (in the form of a CD or via email) of the following documents to Keppel Gas at least 15 business days prior to the date of Gas admittance. These include:

- GT2 - Application for Admittance of Gas;
- GT3 - Certificate of Proof Test;
- GT4 - Authorisation to Turn on Gas Meter Control Valve
- As Built drawings illustrating the pipe routing from the GSIV to the Meter Installation;
- Welder's certificate;
- Non Destructive Testing ("NDT") report for pipework; and
- Written consent of the owner (if the applicant is not the owner).

Upon receiving the documents, Keppel Gas will proceed to inform the Gas Transporter accordingly and check the availability of the Gas Transporter for the gas admittance.

Upon receiving confirmation from the Gas Transporter about the date of Gas admittance, Keppel Gas will inform the Designated Representative accordingly. The Designated Representative is required to notify all relevant parties that Gas will be admitted into the premises on the agreed date and time. The relevant parties shall include but not limited to the person responsible for the premises, owner/developer, main contractor, sub-contractor, engineer, supplier and vendors.

On the day of Gas admittance, the Designated Representative shall ensure that there is no hot works being carried out in the area during the Gas admittance process. The Professional Engineer shall also ensure that the Meter Installation is physically separated from the Gas System. This is necessary to prevent inadvertently admittance of Gas into the Gas System resulting in a safety hazard.

The Professional Engineer shall proceed to carry out the proof test again to ensure that the section of pipeline from the GSIV to the Meter Installation is not tampered with. The Designated Representative shall also proceed to purge the system with 100% nitrogen. The process shall be witness by the Professional Engineer. Upon receiving such confirmation from the Professional Engineer, Keppel Gas and the Gas Transporter shall proceed to admit Gas into the premises based on the instruction of the Professional Engineer.

Upon successful admittance of Gas into the premises (up to the GSIV), the Gas Transporter will issue the "Statement of Interim Admittance of Gas" to Keppel Gas and the Designated Representative.

### 3d. Commissioning of Gas System

Prior to the application for Gas turn on, the Professional Engineer shall proceed to carry out the final pressure test, the proof test to ensure the safeness of the Gas System.

### 3e. Gas Turn-On Process

When the premises is ready to admit Gas up to the Gas Appliances, the Transmission Customer shall submit (two) 2 hardcopies and a softcopy (in the form of a CD or via email) of the following documents to Keppel Gas at least fifteen (15) business days prior to the date of Gas turn on. These include:

- KG-T01 - Certificate of Completion (Consumer's Internal Pipe);
- KG-T02 - Certificate of Final Pressure Test (Consumer's Internal Pipe);
- KG-T03 - Certificate of Proof Test (Consumer's Internal Pipe);
- As Built drawings including pipe layout, single line diagram for the Gas System;
- Welder's certificate;
- Non Destructive Testing ("NDT") report for pipework;
- Risk Assessment of Gas Turn On procedure; and
- Written consent of the owner (if the applicant is not the owner).

Upon receiving the documents, Keppel Gas will proceed to inform the Gas Transporter accordingly and check the availability of the Gas Transporter for the gas turn on. Upon receiving confirmation from the Gas Transporter about the date of Gas turn on, Keppel Gas will inform the Designated Representative accordingly. The Designated Representative shall be responsible to prepare and set up all necessary equipment such as flame arrestor, Gas detectors for the testing process

On the day of Gas turn on, the Designated Representative shall ensure that there is no hot works being carried out in the premises during the gas turn on process. The Professional Engineer shall proceed to carry out the proof test and final pressure test again to ensure that Gas System is not tampered with.

The Professional Engineer, with the assistance of the Designated Representative shall also set up vent points with flame arrestor in open space area for the Gas turn on process. This is necessary to ensure that Gas will be readily dispersed into the surrounding.

The Professional Engineer shall proceed to purge the Gas System with 100% nitrogen, witnessed by Keppel Gas and the Gas Transporter. Keppel Gas and the Gas Transporter shall proceed to admit Gas up to the Gas Appliances upon the instruction of the Professional Engineer at a nominal pressure of 2 barg.

The Professional Engineer shall check for 100% methane at the pre-identified location of the Gas System. Upon confirmation the Gas System is filled with Gas, the Gas Transporter will issue the "Statement of Interim Turn On" to Keppel Gas and the Designated Representative upon successful interim Gas turn on.

Upon receiving further instruction from the Professional Engineer, the Gas Transporter shall proceed to elevate the pressure of the Gas System in phases until the optimal pressure (typically the network operating pressure) is achieved. The Gas Transporter will issue the "Statement of Turn On" to Keppel Gas and the Designated Representative. Concurrently, Keppel Gas will work with the Designated Representative to record the turbine meter readings into KG-T04 (Initial Turbine Meter Record). Keppel Gas will also issue the KG-T05 (Statement of Turn-On of Gas) to the Designated Representative.

### 3f. Completion of Gas Turn-On

The Designated Representative shall provide and affix the “**LIVE GAS. DO NOT TAMPER**” labels on all plugs, caps, isolating valves and other end points of the Gas Installation. The Designated Representative shall also ensure that safety lockout tags are provided for at the Transmission Customer’s own cost.

The Transmission Customer is required to carry out maintenance on the Gas System on a regular basis in accordance to industrial practice. The Transmission Customer shall ensure that such maintenance records are properly documented.

## 4. Procedure for New Gas Supply Connection – Retail Customer(s)

### 4a. Pre-submission Consultation / Budgetary Connection Cost

All enquiries on Gas supply can be made to Keppel Gas customer service at +65 8838 3396, from 0900 hours to 1800 hours from Monday to Friday (excluding public holidays), or email to [gas.commercial@kepinfra.com](mailto:gas.commercial@kepinfra.com). Keppel Gas will follow up with the Retail Customer to understand the requirements.

The Retail Customer shall appoint a Designated Representative who will liaise directly with Keppel Gas on all matters relating to Gas Installation.

The Designated Representative shall ensure that the Gas Installation is designed, constructed, tested and commissioned in accordance to the requirements of the Act, and all relevant regulations, code and standards. The Professional Engineer shall endorse all drawings, documents, applications and submission in relation to the Gas Installation. Keppel Gas will acknowledge the request for connection by providing KG-D01 (Approval for Gas Supply) to the Retail Customer.

Concurrently, the Retail Customer shall submit the following documents to Keppel Gas, endorsed by the Professional Engineer, for Keppel Gas to submit a request to the Gas Transporter for a budgetary connection cost to the Retail Customer's premises:

- DR01 – Application for Gas Supply / Disconnection / Discontinuation;
- GD1 – Application for Gas Distribution Connection; and
- Site plan showing location of MPRS.

All proposed Gas Installation drawings / plans must be duly endorsed by the Professional Engineer prior to submitting to Keppel Gas for preliminary approval. It is prudent to note that the preliminary approval by Keppel Gas does not cover the checking on the compliances and engineering design. The Designated Representative shall work closely with the Professional Engineer to ensure and confirm that the submission and all Gas service works are in compliance with the code of practice as recommended by the various government agencies

Keppel Gas will also arrange for a site survey together with the Designated Representative and the Gas Transporter to determine, amongst others, the feasibility of the location of the Meter Installation and the Gas Service Isolation Valve (GSIV), and the land area required for the meter installation.

The Gas Transporter is expected to reply to Keppel Gas the budgetary connection cost to the Customer's premises usually within fourteen (14) days of such request by Keppel Gas. Upon receiving the budgetary connection cost, Keppel Gas will inform the Designated Representative accordingly.

### 4b. Application for Gas Connection

Once the project details are finalised, Keppel Gas will request Customer to submit the following documents for request of the actual connection cost to the Customer's premises.

- GD1 – Application for Gas Distribution Connection
- Site plan showing location of MPRS and GISV endorsed by the Customer
- Pipe routing from property boundary to MPRS

- Written consent of the owner (if the applicant is not the owner)

The Gas Transporter is expected to reply to Keppel Gas on the actual cost of connection usually within fourteen (14) days of such request by Keppel Gas. Concurrently, Keppel Gas will continue to engage the Customer to conclude the Agreement.

Upon the execution of the Agreement, Customer shall pay the connection fee to Keppel Gas in accordance to the agreed terms of the Agreement. Upon receiving the payment from the Customer, Keppel Gas will pay the connection fee to the Gas Transporter to kick start the process. Concurrently, the Customer shall proceed with the detailed engineering and construction of the Gas System from the MPRS outlet valve up to the Gas Appliances. Prior written consent must be sought from Keppel Gas if it involves plans which deviate from the original submission. Any deviation(s) from the original submission must be re-certified and approved by the Professional Engineer again.

#### **4c. Gas Admittance Process**

When the premises is ready to receive Gas, the Customer shall inform Keppel Gas that its premises is ready to receive Gas. The Customer is required to provide at least (ten) 10 business days notification prior to the date of Gas admittance.

Upon receiving the notification, Keppel Gas will proceed to inform the Gas Transporter accordingly and check the availability of the Gas Transporter. Upon receiving confirmation from the Gas Transporter on the date of Gas admittance, Keppel Gas will inform the Designated Representative accordingly. The Designated Representative is required to notify all relevant parties that Gas will be admitted into the premises on the agreed date. The relevant parties shall include but not limited to the person responsible for the premises, owner/developer, main contractor, sub-contractor, engineer, supplier and vendors.

On the day of Gas admittance, the Designated Representative shall ensure that there is no hot works being carried out in the area during the Gas admittance process. The Professional Engineer shall ensure that the MPRS is physically separated from the Gas System. A blind flange will be installed if Gas turn on is not being carried out on the same day.

The Gas Transporter shall proceed to admit Gas up to the MPRS outlet based on the instruction of the Professional Engineer. The Gas Transporter will continue to purge the MPRS until the MPRS is 100% filled with Gas.

#### **4d. Gas Turn On Process**

Prior to the Gas Turn on process, the Designated Representative shall notify Keppel Gas of its intention of carrying out the final pressure test by submitting DR04 – Notification of Final Pressure Test / Request of Turn-On / Commissioning of Gas Supply. Keppel Gas will work with the Designated Representative to witness the final pressure test.

Upon successful carrying out of the final pressure test, the Designated Representative shall submit form DR05 (Certificate of Final Pressure Test) to Keppel Gas for record.

When the premises is ready to admit Gas up to the Gas Appliances, the Customer shall submit (two) 2 hardcopies and a softcopy version (in the form of a CD) of the following documents to Keppel Gas at least (ten) 10 business days prior to the date of Gas admittance. These are:

- DR06 - Request for Turn On of Gas Supply;
- DR07 - Certificate of Proof Test;
- DR09 - Certificate of Conformity for Gas Appliance
- DR10 - Statement of Safe for Use
- GD2 - Application for Admittance of Gas
- GD3 - Certificate of Proof Test;
- GD4 - Authorisation to Turn On Gas Meter Control Valve
- As Built drawings including pipe layout, single line diagram for the Gas System;
- Welder's certificate;
- Non Destructive Testing ("NDT") report for pipework;
- Risk Assessment of Gas Turn On procedure;
- Statement of Method of Gas Turn-on. The statement shall clearly illustrate the steps/measures taken by the PE to ensure that Gas Turn-on is being carried out in a safe and efficient way;
- Gas Installation Specifications; and
- Written consent of the owner (if the applicant is not the owner).

Upon receiving the documents, Keppel Gas will proceed to inform the Gas Transporter accordingly and check the availability of the Gas Transporter. Upon receiving confirmation from the Gas Transporter about the date of Gas turn on, Keppel Gas will inform the Designated Representative accordingly. The Designated Representative is required to notify all relevant parties that Gas will be admitted into the premises on the agreed date. The relevant parties shall include but not limited to the person responsible for the premises, owner/developer, main contractor, sub-contractor, engineer, supplier and vendors. The Designated Representative shall also be responsible to prepare all necessary equipment such as flame arrestor, Gas detectors typically used for the Gas turn on process.

On the day of Gas turn on, the Designated Representative shall ensure that there is no hot works being carried out in the premises during the Gas turn on process. The Professional Engineer shall proceed to carry out the proof test and final pressure test again to ensure that Gas System is not tampered with.

The Professional Engineer, with the assistance of the Designated Representative shall also set up vent points with flame arrestor in open space area for the Gas turn on process. This is to allow Gas to disperse into the surrounding easily.

The Professional Engineer shall proceed to purge the system with 100% nitrogen, witness by Keppel Gas. Keppel Gas and the Gas Transporter shall proceed to admit Gas up to the Gas Appliances upon the instruction of the Professional Engineer at a pressure as required by the Customer.

Upon the instruction of the Professional Engineer, Keppel Gas shall authorise the Gas Transporter to turn on the Gas Meter Control Valve to admit Gas from the outlet valve of the MPRS to the Gas System. The Professional Engineer shall check for 100% methane at the Gas System. Upon confirmation the Gas System is filled with Gas, Keppel Gas will issue GR04 (Statement of Turn-On / Commissioning of Gas Supply) to the Designated Representative. Concurrently, Keppel Gas will work with the Designated Representative to record the turbine meter readings into KG-D02 (Initial Turbine Meter Records). Keppel Gas will also issue the KG-D03 (Statement of Turn-On of Gas) to the Designated Representative.

#### 4e. Completion of Gas Turn On

The Designated Representative shall provide and affix the **“LIVE GAS. DO NOT TAMPER”** labels on all plugs, caps, isolating valves and other end points of the Gas System. The Designated Representative shall also ensure that safety lockout tags are provided for at the Customer’s own cost.

The Retail Customer is required to carry out maintenance on the Gas System on a regular basis in accordance to industrial practice. The Retail Customer shall ensure that such maintenance records are properly documented. Keppel Gas reserves the right to review the maintenance records.

## 5. Procedure for Modification of Gas Supply System

In the event any addition and alteration work is to be performed on the Gas System, the Retail Customer is required to submit an application to Keppel Gas. Such application shall include but not limited to the following information:

- DR01 – Application for Gas Supply / Disconnection / Discontinuation;
- Statement illustrating the type of modification works being carried out; and
- The estimated timeline for the modification works to be carried out.

Application for works to be carried out on the underground gas mains, such as the application for the termination of the Gas supply to premises and the diversion of underground Gas pipes, shall be made to Keppel Gas who will then inform the Gas Transporter. Under no circumstances should any modification works be carried out without the written approval of Keppel Gas.

Upon receiving written approval from Keppel Gas, Keppel Gas shall work with both the Customer and the Gas Transporter to isolate the Gas supply to the premises on the specific date as agreed by all parties. The above procedures in Section 3 and/or 4 are also applicable for the replacement, addition and alteration of Gas Fittings and Gas Appliances.



## 6. Procedure for Gas Supply Connection – Existing Natural Gas Users

For existing Customers who intend to apply for Gas supply from Keppel Gas, please contact Keppel Gas for commercial / technical discussion via the following method:

- a. Customer service telephone number +65 8838 3396 / +65 9220 8610; or
- b. Email to [gas.commercial@kepinfra.com](mailto:gas.commercial@kepinfra.com); or
- c. Request for Quotation page from <http://www.keppelgas.com>.

Keppel Gas will work with the Gas Transporter and any other relevant parties to determine

- a. The supply arrangement to the premises;
- b. Requirements for new Metering and Pressure Regulating Skid installation (if applicable); and
- c. Modifications to existing Gas System (if required).

Upon execution of the Agreement, Keppel Gas will work with the relevant parties to ensure a smooth switch over from the existing Gas Retailer to Keppel Gas.

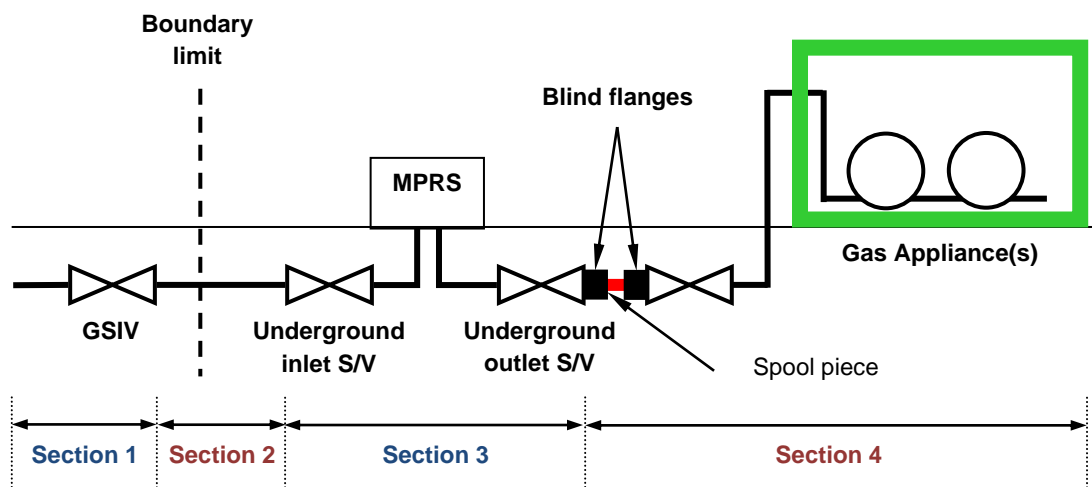
## 7. Procedure for Gas Supply Isolation / Termination

In the event that the Agreement expires or terminates in accordance with its terms, the Customer shall notify Keppel Gas. Upon receipt of the written notice, Keppel Gas will work with the Gas Transporter and any other relevant parties to effect the following arrangement:

- a. Gas Transporter to disconnect and isolate the Gas supply to the premises;
- b. A "KG-D04 (Notification of Gas Supply Isolation / Termination) will be issued to the Customer by Keppel Gas upon complete isolation / termination of Gas supply at the MPRS outlet S/V or GSIV, whichever is applicable. A copy of the Notification will be sent to the Gas Transporter for record purposes;
- c. The removal of the MPRS (if necessary) (to be witnessed by Keppel Gas);
- d. Keppel Gas to arrange for the final settlement of any outstanding payment;

## 8. Demarcation of Works for Natural Gas Connection for Retail Customer

(Please refer to the Gas Supply Code for the exact demarcation of the ownership and responsibility)



### LEGEND

- MPRS Metering & Pressure Regulating Skid
- S/V Service Valve
- GSIV Gas Service Isolation Valve

| Section | Description   | Scope of Work   |
|---------|---|-----------------|
| 1       | Gas Mains to GSIV                                     | Gas Transporter |
| 2       | GSIV to MPRS inlet Service Valve                      | Customer        |
| 3       | MPRS Inlet Service Valve to MPRS Outlet Service Valve | Gas Transporter |
| 4       | MPRS Outlet Service Valve to Gas Appliance(s).        | Customer        |

### Note:

Customer shall be responsible for the fabrication of the inter-connecting spool piece complete with gaskets on both sides of the spool piece.

## 9. Submission Forms

Please refer to the attachment for the forms.