



**CITY-OG GAS ENERGY
SERVICES PTE. LTD.
HANDBOOK ON GAS SUPPLY**

Version 1

Mar 2016

INTRODUCTION AND SCOPE

This Handbook on Gas Supply has been prepared by City-OG Gas Energy Services Pte. Ltd. to assist the developers, consultants, Professional Engineers, Licensed Gas Service Workers, owners, gas retail customers and other responsible persons in the application of gas connection / supply.

The procedures and requirements as stated in this Handbook are applicable to the application of gas supply for both town gas and natural gas.

All gas service work must comply with the Gas Act (Cap 116A), Gas (Supply) Regulations, Gas Supply Code, Singapore Standard, SS608: Code of Practice for Gas Installation, City-OG Handbook on Gas Supply and all other relevant acts, regulations and requirements.

FOR ASSISTANCE/CLARIFICATIONS ON THIS HANDBOOK

If you have any enquiry on any aspect of this handbook, please contact our staff for assistance/clarification.

CONTACT NOS OF SALES & MARKETING DIVISION OFFICERS: -

	<u>Tel No.</u>
Senior Manager	65787765/66

CONTACT US: -

Emergency Hotline	1800-7521800
Email	mktg@city-og.com.sg

Contents

A	GENERAL INFORMATION ON GAS SUPPLY	3
1	GENERAL	3
2	GAS SUPPLY SYSTEM	4
3	PROFESSIONAL ENGINEER (PE) AND LICENSED GAS SERVICE WORKER (LGSW)	4
4	CODE OF PRACTICE AND REGULATORY REQUIREMENTS	4
5	TRANSPORTATION TARIFFS	5
B	GENERAL PROCEDURES/REQUIREMENT FOR OBTAINING GAS SUPPLIES	5
1	PREMISES WITH EXISTING NATURAL GAS CONNECTION	5
2	PREMISES WITHOUT EXISTING NATURAL GAS CONNECTION	5
2.1	Enquiry on the Availability of the Gas Supply	5
2.2	Pre-submission Consultation	6
3	DESIGNATED REPRESENTATIVE AND PROJECT COORDINATOR	6
C	APPLICATION FOR THE GAS SUPPLY	6
1	SUBMISSION OF GAS SUPPLY APPLICATION	6
2	PROCESS OF APPLICATION	6
3	SITE MEETING AFTER APPROVAL OF GAS SUPPLY APPLICATION	7
4	PIPEWORK	7
5	SUBMISSION OF CERTIFICATE OF CONFORMITY	7
7	FINAL PRESSURE TEST	8
8	FORMAL REQUEST FOR TURN-ON OF GAS SUPPLY	8
9	TURN-ON OF GAS SUPPLY	9
D	APPLICATION FOR CONNECTION AND ADMITTANCE OF GAS	9
1	APPLICATION FOR CONNECTION (FOR DISTRIBUTION CUSTOMERS)	10
1.2	CONSTRUCTION	10
1.3	FINAL PRESSURE TEST	11
1.4	ADMITTANCE OF GAS	11
2.0	APPLICATION FOR CONNECTION (FOR TRANSMISSION CUSTOMERS)	12
2.1	APPROVAL FOR CONNECTION	13
2.2	CONSTRUCTION	13
2.3	FINAL PRESSURE TEST	14
2.4	ADMITTANCE OF GAS	14
2.5	POST ADMITTANCE OF GAS	15

E	PROCEDURES FOR THE REPLACEMENT, ADDITION OR ALTERATION OF GAS INSTALLATION	16
1.	REPLACEMENT, ADDITION OR ALTERATION OF GAS INSTALLATION	16
1.1	Replacement, Addition or Alteration of gas installation from the GSIV to and including the meter	16
1.2	Replacement, Addition or Alteration of Consumer's Internal Pipe	16
1.3	Submission of Application	16
1.4	Site Meeting and Commencement of Work	16
1.5	Re-admitting Gas on Completion of Work	17
1.6	Charges	17
2	REPLACEMENT OF GAS APPLIANCES	17
F	DISCONNECTION OF GAS SUPPLY	17
	APPENDIX A: Singapore Natural Gas Specification	19
	APPENDIX B: Flowchart for Distribution Connection	20
	APPENDIX C: Flowchart for Transmission Connection	21
	APPENDIX D: Designated Representative Connection Forms	23
	APPENDIX E: Distribution Connection Forms	23
	APPENDIX F: Transmission Connection Forms	24
	APPENDIX G: City-OG Connection Forms	24
	APPENDIX H: Request for Termination of Gas Supply	24
	APPENDIX I: Notification of Isolation of Gas Supply	24
	APPENDIX J: Revision History	25

A GENERAL INFORMATION ON GAS SUPPLY

1 GENERAL

City-OG Gas Energy Services Pte. Ltd. (City-OG) is a joint business venture established by City Gas Pte Ltd (as trustee of City Gas Trust) and Osaka Gas Singapore Pte. Ltd. to market and sell natural gas to industrial customers in Singapore. Under the agreement, City Gas will contribute its existing business of marketing and selling of natural gas to industrial customers in Singapore to City-OG. City Gas has entered into the joint venture to leverage on Osaka Gas' technology and expertise in cogeneration systems and industrial furnaces to grow the Natural Gas Retail Business while contributing its own customer knowledge and network in Singapore. City-OG will maximize the synergies and expertise of City Gas and Osaka Gas to further develop and promote the use of natural gas for industrial applications.

About City Gas Pte Ltd (as trustee of City Gas Trust) (CG)

CG was constituted as a private trust on 5 January 2007. City Gas Trust is a wholly owned subsidiary of Keppel Infrastructure. City Gas Trust is managed by CG.

The core business of City Gas Trust is the production of town gas. Town gas is retailed island-wide to all residents. City Gas Trust also supplies town gas and natural gas to commercial and industrial customers.

With a long heritage history of over 150 years, City Gas Trust have been supplying town gas to almost 90% of the residents living in new Housing Development Board estates and private properties as well as many commercial and industrial operations like hawker centres, food courts, restaurants, hotels, hospitals, laundries, electronics and printing plants etc. City Gas Trust supply town gas and natural gas to more than 750,000 customers.

City Gas Trust is committed to deliver excellent customer service. City Gas Trust are an ISO 9001 certified company and provide safe and reliable gas supply, 24-hour customer service, day and night maintenance, gas appliance servicing, regular safety inspections, installation of internal gas pipes and consultancy services.

About Osaka Gas Singapore Pte. Ltd. (OGS)

OGS is a wholly owned subsidiary of Osaka Gas Co., Ltd. (OG) and it was established in March 2013 to manage and operate gas and energy services in South East Asia. OG is a leading energy supplier with its core natural gas supply business serving 7 million customers in the Kansai Region, Japan. With its portfolio of diversified energy businesses, OG is developing into a multi-energy services provider of natural gas, electricity, LPG, district heating/cooling, and other services.

With its affiliated enterprises, the Osaka Gas Group is also active in various non-energy business fields.

2 GAS SUPPLY SYSTEM

This handbook serves as a general guide for connection, supply of gas and replacement, addition and alteration of gas installation. It shall be read in conjunction with the Gas Act, Gas (Supply) Regulations, Gas Supply Code and all other relevant Regulations, Codes and Standards.

City-OG retails natural gas through the Gas Transporter's piped natural gas network that serves the industrial users on Jurong Island and mainland Singapore. Typical gas specifications for natural gas and town gas can be found at EMA website at www.ema.gov.sg.

3 PROFESSIONAL ENGINEER (PE) AND LICENSED GAS SERVICE WORKER (LGSW)

Gas service work shall be carried out by a Professional Engineer (PE) who has a valid practicing certificate in the mechanical engineering discipline or a Licensed Gas Service Worker (LGSW) who holds a valid gas service worker licence.

The PE/LGSW shall be responsible to ensure all gas service work is in full compliance with the Gas Act, the relevant Regulations and Codes. If a PE is engaged for the gas service work, the work shall be performed by or under the supervision of the PE.

Submission of plans for gas installation pipework and addition and alteration work shall be carried out by a PE/LGSW.

A LGSW may submit plans for the gas service work except the following works:

- (a) Operating pressures of system above 30 mbars; and
- (b) Involves specialised gas equipment not used for cooking purposes.

The PE/LGSW must endorse on his plans to confirm/certify that the submission complies with the Gas Act, relevant Regulations, Codes and Standards.

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

4 CODE OF PRACTICE AND REGULATORY REQUIREMENTS

A PE/LGSW applying on behalf of customer for the supply of gas shall ensure the design of the gas installation or part and the gas service work carried out

on the gas installation comply with the requirements of the latest revision of the following:-

- (i) The Gas Act (Cap 116A);
- (ii) The Gas (Supply) Regulations;
- (iii) The Gas Supply Code;
- (iv) Singapore Standard, SS608: Code of Practice for Gas Installation;
- (v) City-OG Handbook on Gas Supply; and
- (vi) Any other relevant rules, regulations and Codes of Practice.

5 TRANSPORTATION TARIFFS

The Gas Transporter levied transportation tariffs for the transportation of natural gas from the Gas Injection Point to the Customer's premise.

Further details on the tariffs including the prevailing tariff rates may be obtained by contacting Sales.

B GENERAL PROCEDURES/REQUIREMENT FOR OBTAINING GAS SUPPLIES

1 PREMISES WITH EXISTING NATURAL GAS CONNECTION

For Commercial and Industrial premises, the customer can engage a LGSW or a Professional Engineer (Mechanical), as the case may be, to submit the gas supply application and, request for the turn-on of the gas supply.

2 PREMISES WITHOUT EXISTING NATURAL GAS CONNECTION

Where a premise is not connected with gas supply, an application for connection for the supply of gas shall be made in compliance with Regulation 5 of the Gas (Supply) Regulations; further details are provided in Section D, APPLICATION FOR THE CONNECTION AND ADMITTANCE OF GAS. A flowchart on the application procedures is attached in Appendix B and C.

2.1 Enquiry on the Availability of the Gas Supply

All enquiries on connection of gas installation for natural gas supply to any premises can be made to City-OG Gas Energy Services Pte. Ltd., 26 Senoko Avenue, Singapore 758312. The Senior Sales Manager will inform you of the availability of the gas supply.

A proposed building plan and site plan would be needed for the discussion. City-OG would also need to know the type of gas appliance to be installed, phasing of the development, the targeted date for completion and the anticipated load for the project

2.2 Pre-submission Consultation

If the gas supply to a development is feasible, the developer's PE/LGSW may request for a pre-submission consultation with the Senior Sales Manager or his Sales Manager to discuss the gas connection application procedures and requirements, pipe routing, meter positions, load requirements, safety requirements, targeted date of completion, etc.

3 DESIGNATED REPRESENTATIVE AND PROJECT COORDINATOR

The owner/developer shall appoint a Designated Representative (DR) who will liaise directly with City-OG Project Coordinator (PC) on all matters relating to the gas installation. The DR shall be a PE or a LGSW in accordance with the requirements of the Gas (Supply) Regulations and Gas Supply Code.

The DR shall ensure that the gas installation is designed, constructed, tested and commissioned in accordance to the requirements of the Gas Act, and all relevant Regulations, Codes and Standards. The DR shall endorse all drawings, documents, applications and submissions in relation to the gas installations.

C APPLICATION FOR THE GAS SUPPLY

1 SUBMISSION OF GAS SUPPLY APPLICATION

An application for a supply of gas shall be made to the gas retailer in compliance with Regulation 3 of the Gas (Supply) Regulations. The submission shall be accompanied by two sets of site plan and floor plan with the proposed gas pipe route with dimensions highlighted in red (one set of the plans will be returned to the applicant upon approval). The estimated load for the proposed gas outlet shall be clearly indicated in the plan.

Declaration of compliance with relevant Acts, Regulations and Codes by the PE/LGSW shall be made using Form DR 03 as well as on all plans submitted.

If the applicant is not the owner of the gas installation through which gas is to be supplied, a written consent of the responsible person for such gas installation shall be obtained and submitted together with the application.

2 PROCESS OF APPLICATION

All applications submitted using the prescribed forms (Form DR01, DR 02 and Form DR 03) accompanied with the proposed gas installation drawings/plan duly endorsed by the PE/LGSW shall be submitted to City-OG for approval. **This approval does not cover the checking on the compliances and engineering design.** The PE/LGSW has to check, ensure and confirm/certify that the

submission and all gas service work are in compliance with the Gas Act (Cap 116A), the Gas (Supply) Regulations, the Gas Supply Code, the Singapore Standard, SS608: Code of Practice for Gas Installation, City-OG Handbook on Gas Supply and all other relevant acts, regulations and rules. However, City-OG may request the submission be amended, updated and resubmitted (via Form GR/1X).

After the submission has been processed, the applicant will be informed of the outcome (via Form GR/1, GR/1A).

3 SITE MEETING AFTER APPROVAL OF GAS SUPPLY APPLICATION

Before commencement of the gas service work, the DR shall arrange with City-OG PC for a site meeting. During the site meeting, the DR shall inform the PC of the date of commencement of work.

4 PIPEWORK

The gas installation shall be carried out in accordance with the plans submitted to City-OG. If a PE is engaged for the gas service work, the work shall be performed or supervised by the PE. A re-submission of plans will not be necessary for any deviation from the submitted plan provided that the routing complied with the necessary codes and standards.

The PE/LGSW shall ensure that the deviations comply with the Gas Act, the Gas (Supply) Regulations, the Gas Supply Code, Singapore Standard, SS608: Code of Practice for Gas Installation, City-OG Handbook on Gas Supply and all other relevant acts, regulations and rules, and the deviations shall be reflected in the as-built plan (with amendment) for submission to City-OG when notifying City-OG for the final pressure test.

If welded API pipes are used, the DR must ensure the welding work and appropriate radiographic tests are carried out by competent persons for all welded joints and, the installation with these joints are safe for pressure tests and the intended operations.

5 SUBMISSION OF CERTIFICATE OF CONFORMITY

A Certificate of Conformity (Form DR 09) shall be submitted confirming that the gas appliances are installed in accordance with the requirements of Regulation 20 of the Gas (Supply) Regulations and that the appliances can be used without constituting a danger to any person or property.

6 NOTIFICATION OF FINAL PRESSURE TEST

The DR must ensure that the installation complies with all relevant acts, regulations, codes and rules and free from leak before arranging for the final pressure test (Form DR 04), when the work is completed.

The notification for final pressure test must be accompanied by the as-built drawings (inclusive of a line/isometric drawing) showing actual location of the completed gas installation pipe work with dimensions and duly endorsed by the DR. The proposed date for the final pressure test shall be clearly indicated (Form DR 04).

The final pressure test and turn-on / re-commissioning of gas supply may be carried out in one operation to consumer's internal pipes, replacement, minor addition or alteration of gas service works. In such a case, the DR shall submit Form CG DR 06A, together with Form DR 04.

Once the date is finalised, City-OG will inform DR in writing (via Form GR/2), the DR is required to notify all relevant parties of the agreed date of the final pressure test.

7 FINAL PRESSURE TEST

The DR, relevant parties and City-OG's PC shall be present at the final pressure test. The DR shall ensure that all the necessary equipment is ready at the time of the test.

Final pressure test shall be carried out on the gas installation and the consumer's internal pipe. The test is to be carried out or supervised by the DR and witnessed by City-OG's PC. When the installation has passed the pressure test, Form DR 05 shall be certified by the DR and countersigned by City-OG's PC as a witness to the test.

In the event that the installation has failed the final pressure test, the DR shall rectify the fault prior to carrying out the test again. A resubmission of a fresh notification for final pressure test is required if the final pressure test could not be carried out on the same occasion.

After the gas installation has been tested and passed, the DR shall affix all plugs, caps and other ends of the installation with warning labels that read '**Gas Pipe Tested. Do Not Tamper**'.

No person is allowed to carry out any further work without prior written consent from City-OG after the gas installation has passed its final pressure test. Any further work on the installation will render the final pressure test null and void. If any further work has to be carried out, a new application for the work shall be made together with the proposed plans and submitted to City-OG.

8 FORMAL REQUEST FOR TURN-ON OF GAS SUPPLY

After the gas installation has passed the final pressure test, the DR must formally notify City-OG in writing that the site is ready to receive gas and submit a formal request for the turn-on of gas supply (Form DR 06).

The consent of the applicant (if differs from the DR) and the main contractor (if any) must be obtained before submitting the request for turn-on.

Where the DR appointed by the owner is a LGSW, the consent of the owner shall be obtained before submitting the request for turn-on.

City-OG will notify the DR in writing (Form GR/3) the date of turn-on. Upon receipt of such notification, it shall be the duty of the DR to notify all relevant parties to witness the turn-on.

9 TURN-ON OF GAS SUPPLY

The DR, the relevant parties who have been notified by the DR and City-OG's PC shall be present to witness the turn-on. The DR shall arrange for a proof test and set up all necessary equipment, fittings and vent points for purging and ensure that all necessary safety precautions are taken. After the installation has been confirmed to be sound with the proof test, Form DR 07 shall be certified by the DR and submitted to City-OG; the installation shall then be purged and turned-on with gas. Turn on of the gas supply via the meter control valve shall only be carried out by City-OG's PC or City-OG's agent. After the turn-on of the gas supply, the DR shall affix the '**Live Gas. Do Not Tamper**' labels to all plugs, caps and other end points of the gas installation.

When turn-on of gas is completed, a statement of turn-on of gas (Form GR/4) shall be signed by the PC and issued to the applicant or a person authorized by the applicant (DR). The applicant or the person authorized by the applicant shall countersign the turn-on of gas (Form GR/4) and submit the "Acknowledge of Turn-on/ Re-commissioning of Gas Supply" (Form DR 08) to PC. In the case of addition or alteration of gas installation, a statement of re-commissioning of gas supply (Form GR/5) shall be issued.

The DR shall proceed and be responsible to commission the gas installation and gas appliances upon the turn-on of gas. After confirming the gas installation and the gas appliances are safe to be used, the DR shall issue a written statement Letter of Commissioning (Form DR 10) certifying the appliances are safe for use, in accordance with Regulation 21 of the Gas (Supply) Regulations, for the type of gas supplied.

The DR shall inform all relevant parties, including but not limited to, the responsible person, owner/developer, architect, engineer, main contractor, sub-contractors, suppliers and vendors etc., gas has been turned on to the gas installation and not to tamper with the gas installation.

The DR shall submit one set of endorsed as-built drawings to the owner after successful completion of the turn-on of gas.

D APPLICATION FOR CONNECTION AND ADMITTANCE OF GAS

All applications for connection and admittance of gas shall be carried out in compliance with the Gas (Supply) Regulations and Gas Supply Code.

For further details on the application for gas connection and admittance of gas, please refer to the Transporter's Standard Operating Procedures for Gas Connection.

1 APPLICATION FOR CONNECTION (FOR DISTRIBUTION CUSTOMERS)

To connect a premise for gas supply, the applicant shall appoint a DR for the project. Where necessary, the DR may carry out pre-submission consultation with City-OG to discuss on the availability of gas supply; connection point(s); load requirements etc.

The applicant shall complete and submit Forms GDP101, "Application for Gas Distribution Connection" and GDP102, "Customer Project Data Sheet", together with drawings of the proposed gas installation endorsed by the DR.

The drawings of the proposed gas installation shall include, but not limited, to the following information,

- Location of the site;
- Proposed location(s) of connection;
- Declaration of compliance with Act / Regulations;
- The Code / Standard that the gas installation is designed to;
- Design and operating pressure;
- Total load and maximum flow rate;
- Single-line diagram;
- Layout ; and
- Other relevant information.

1.1 APPROVAL FOR CONNECTION

City-OG shall review the submission and approved the application for connection based on the information provided without checking for detail engineering design and compliance with Statutory and Codes/Standards requirements (using Form GR/1B).

City-OG shall submit a quotation for connection and extension of mains, when applicable, to the Applicant. Upon agreement of the Terms and Conditions of supply where applicable, and receipt of payment, PowerGas will then proceed to lay the gas mains and service pipes.

For connection to medium pressure natural gas distribution network, typically a lead time of 18 to 20 weeks is required to fabricate, deliver, install and commission the MPRS (Metering and Pressure Reduction Skid).

1.2 CONSTRUCTION

Upon confirmation of the project, the DR shall arrange with the PC for a site meeting after the approval. The DR shall liaise closely with the PC for the construction of the gas installation.

The DR shall ensure that the gas installation is constructed in accordance with the plan approved for construction and in full compliance with the Statutory and specified Codes/Standards requirements. Prior written consent shall be sought from City-OG for deviation from the plan approved for construction.

If the project involves mains (underground pipe) laying, a checklist indicating the type of pipe material used shall be submitted. The DR shall ensure that the pipes are installed by a competent person.

For every project, final inspections shall be conducted by the DR in the presence of the City-OG PC, the main contractor and the owner representative.

If welded API pipes are used, the DR must ensure the welding work and appropriate radiographic tests are carried out by competent persons for welded joints and, the installation with these joints are safe for pressure tests and the intended operation.

1.3 FINAL PRESSURE TEST

Upon completion of the gas installation, the DR shall arrange for the final pressure test to be carried out.

The DR shall submit Forms GDP106, "Certificate of Completion", and Form DR 04, together with 2 sets of endorsed as-built drawings, including isometric line diagrams of the gas installation to City-OG and arrange with the PC at least 3 days in advance to witness the conduct of the final pressure test. The DR shall also notify all other relevant parties of the conduct of the final pressure test. The DR shall be responsible for the preparation of the site, including but not limited to, final inspection, setting up of warning signs, safety devices etc. to ensure the safe conduct of the final pressure test.

Upon successful conduct of the final pressure test, the DR shall complete and endorse Form GDP107, "Certificate of Final Pressure Test" counter signed by the PC.

The DR shall ensure that no person is allowed to carry out any further work without prior written consent from City-OG after the gas installation has passed its final pressure test. Any further work on the installation will render the final pressure test null and void. If any further work has to be carried out, a new application for the work shall be made together with the proposed plans and submitted to City-OG.

1.4 ADMITTANCE OF GAS

When the site is ready to receive gas, the DR shall submit to the PC Form GDP105, "Application for Admittance of Gas", together with Form GDP107, "Certificate of Final Pressure Test". The PC shall thereafter liaise and arrange with PowerGas for the final connection and admittance of gas.

Immediately prior to the final connection, the DR shall conduct a proof test in compliance with the requirements stipulated in SS608: Code of Practice for Gas Installation witness by the PC. For gas installation with operating pressure exceeding 20 KPa, the proof test pressure shall be 100KPa or the operating pressure whichever is lower for a duration of 30 mins. Upon successful conduct of the proof test, the DR shall issue Form GDP108, "Certificate of Proof Test", to the PC. PowerGas will then be notified by the DR through the PC to proceed with the connection work.

Upon completion of the connection and notification by PowerGas, the DR shall prepare the gas installation for purging and commissioning and request, using Form GDP108, for interim admittance of gas when ready. Form GDP109 "Statement of Interim Admittance of Gas" shall be issued by PowerGas to the DR. The DR shall proceed to purge and commission the gas installation upon interim admittance of gas.

The DR shall ensure that all end points are affixed with "Live Gas. Do Not Tamper" labels.

Upon certification by the DR of the successful completion of purging and commissioning of the gas installation, using Form GDP109, PowerGas shall issue Form GDP110A "Statement of Admittance of Gas (with MPRS)" or Form GDP110 "Statement of Admittance of Gas (without MPRS)" to the Applicant.

If the DR does not complete purging and commissioning of the gas installation within the agreed time period, or for whatever reasons gas is not admitted into the installation or has to be isolated from the installation, PowerGas shall shut the Gas Service Isolation Valve and disconnect the installation.

The applicant shall ensure that no gas is taken from the gas supply system until he has received a statement of admittance of gas issued by the gas transporter.

1.5 POST ADMITTANCE OF GAS

The DR shall also notify all relevant parties, including but not limited to, the responsible person, owner/developer, main contractor, sub-contractors, architect, engineer, suppliers and vendors etc. that gas has been admitted into the gas installation and ensure that the gas installation is not tampered with and hot works in the vicinity of the gas installation are carried out with all necessary safety precautions.

The DR shall submit one set of endorsed as-built drawings to the owner after successful completion of the admittance of gas.

2.0 APPLICATION FOR CONNECTION (FOR TRANSMISSION CUSTOMERS)

To connect a premise for gas supply, the applicant shall appoint a DR for the project. Where necessary, the DR may carry out pre-submission consultation with City-OG to discuss on the availability of gas supply; connection point(s); load requirements etc.

The applicant shall complete and submit Forms GTP101, "Application for Gas Transmission Connection" and GTP102, "Customer Project Data Sheet", together with drawings of the proposed gas installation endorsed by the DR.

The drawings of the proposed gas installation shall include, but not limited, to the following information,

Location of the site;
Proposed location(s) of connection;
Declaration of compliance with Act / Regulations;
The Code / Standard that the gas installation is designed to;
Design and operating pressure;
Total load and maximum flow rate; and
Other relevant information

2.1 APPROVAL FOR CONNECTION

City-OG shall review the submission and approved the application for connection based on the information provided without checking for detail engineering design and compliance with Statutory and Codes / Standards requirements (using Form GR/1B).

City-OG shall submit a quotation for connection and extension of mains, when applicable, to the Applicant. Upon agreement of the Terms and Conditions of supply where applicable, and receipt of payment, PowerGas will then proceed to lay the gas mains and service pipes.

2.2 CONSTRUCTION

Upon confirmation of the project, the construction of the pipeline extension shall be undertaken by PowerGas. The DR shall arrange with the PC and PowerGas for a site meeting before commencement work. PowerGas will install a Gas Service Isolation Valve (GSIV) at the Customer's premise's end of the pipe extension.

The DR shall liaise closely with the PC for the construction of the gas installation and ensure that the gas installation is constructed in accordance with the plan approved for construction and in full compliance with the Statutory and specified Codes / Standards requirements. Prior written consent shall be sought from City-OG for deviation from the plan approved for construction.

If the project involves mains (underground pipe) laying, a checklist indicating the type of pipe material used shall be submitted. The DR shall ensure that the pipes are installed by a competent person.

For every project, final inspection shall be conducted by the DR in the presence of the City-OG Project Coordinator, the main contractor and the owner representative.

If welded API pipes are used, the DR must ensure the welding work and appropriate radiographic tests are carried out by competent persons for welded joints and, the installation with these joints are safe for pressure tests and the intended operation.

2.3 FINAL PRESSURE TEST

Upon completion of the gas installation, the DR shall arrange for the final pressure test to be carried out.

The DR shall submit Forms GTP108A, "Certificate of Completion (GSIV to Meter)", GTP 108, "Certificate of Completion (Consumer's Internal Pipe)" and Form G2, together with 2 sets of endorsed as-built drawings, including isometric line diagrams, of the gas installation to City-OG and arrange with the PC at least 3 days in advance to witness the conduct of the final pressure test. The DR shall also notify all other relevant parties of the conduct of the final pressure test. The DR shall be responsible for the preparation of the site, including but not limited to, final inspection, setting up of warning signs, safety devices etc. to ensure the safe conduct of the final pressure test.

Upon successful conduct of the final pressure test, the DR shall complete and endorse Form GTP109A, "Certificate of Final Pressure Test (GSIV to Meter)" and GTP 109, "Certificate of Final Pressure Test (Consumer's Internal Pipe)" counter signed by the PC.

The DR shall ensure that no person is allowed to carry out any further work without prior written consent from City-OG after the gas installation has passed its final pressure test. Any further work on the installation will render the final pressure test null and void. If any further work has to be carried out, a new application for the work shall be made together with the proposed plans and submitted to City-OG.

2.4 ADMITTANCE OF GAS

When the site is ready to receive gas, the DR shall submit the following forms to the PC:

For gas installation between GSIV to MPRS inlet Valve:

GTP 105A, "Application for Admittance of Gas"; and
GTP 109A, "Certificate of Final Pressure Test (GSIV to Meter)".

For gas installation after the MPRS (Consumer's Internal Pipe):

GTP 107, "Application of Gas Turn-on"; and
GTP 109, "Certificate of Final Pressure Test (Consumer's Internal Pipe)".

The PC shall thereafter liaise and arrange with PowerGas for the final connection and admittance of gas. A final inspection shall be carried out by the DR, PC, PowerGas and other related parties.

Prior to the connection between the transmission pipeline and the Gas Fitting, the DR shall conduct a proof test. Upon successful conduct of the proof test, the DR shall issue Form GTP 110A, "Certificate of Proof Test (GSIV to Meter)", to PowerGas. After receipt of GTP 110A, PowerGas will then admit gas into the Gas Fitting up to and including the MPRS.

Upon successful interim admittance of gas, PowerGas shall issue Form GTP 106A, "Statement of Interim Admittance of Gas". The DR shall proceed to purge and commission the Gas Fitting up to and including the MPRS. After the successful purging and commissioning of the Gas Fitting up to the MPRS, PowerGas shall issue Form GTP 106, "Statement of Gas Admittance".

Prior to the turn-on of gas into the Consumer's Internal Pipe, the DR shall conduct a proof test and issue Form GTP 110 "Certificate of Proof Test (Consumer's Internal Pipe)". After completion of proof test, PowerGas will then open the MPRS control valve and turn-on gas into the Consumer's Internal Pipe up to the gas appliances / equipment. Upon successful interim gas turn-on, PowerGas will issue Form GTP 111 "Statement of Interim Turn-on". Thereafter, the DR shall proceed to purge and commission the Consumer's Internal Pipe up to the gas appliances / equipment.

Upon certification by the DR of the successful completion of purging and commissioning of the gas installation, PowerGas shall issue Form GTP112 "Statement of Turn-on" to the DR. When the turn-on of gas is completed, a statement of turn-on (Form GR/4) shall be signed by the PC and issued to DR.

The DR shall ensure that all end points are affixed with "Live Gas. Do Not Tamper" labels.

If the DR does not complete purging and commissioning of the gas installation within the agreed time period, or for whatever reasons gas is not admitted into the installation or has to be isolated from the installation, PowerGas shall shut the Gas Service Isolation Valve and disconnect the installation.

The applicant shall ensure that no gas is taken from the gas supply system until he has received a Statement of Turn-on of gas issued by the gas transporter.

2.5 POST ADMITTANCE OF GAS

The DR shall also notify all relevant parties, including but not limited to, the responsible person, owner/developer, main contractor, sub-contractors, architect, engineer, suppliers and vendors etc. that gas has been admitted into the gas installation and ensure that the gas installation is not tampered with and hot works in the vicinity of the gas installation are carried out with all necessary safety precautions.

The DR shall submit one set of endorsed as-built drawings to the owner after successful completion of the admittance of gas.

E PROCEDURES FOR THE REPLACEMENT, ADDITION OR ALTERATION OF GAS INSTALLATION

1. REPLACEMENT, ADDITION OR ALTERATION OF GAS INSTALLATION

Application for replacement, addition or alteration of gas installation shall be made in accordance with Regulation 14 of the Gas (Supply) Regulations.

No replacement, addition or alteration of any gas installation shall be carried out without the prior written consent from City-OG.

1.1 Replacement, Addition or Alteration of gas installation from the GSIV to and including the meter

Natural Gas customers who appoint City-OG as the Retailer shall apply to City-OG for replacement, addition or alteration to the natural gas installation.

1.2 Replacement, Addition or Alteration of Consumer's Internal Pipe

Application for the replacement, addition or alteration of consumer's internal pipe shall also be made to City-OG.

1.3 Submission of Application

A DR, a PE or LGSW as the case may be, shall submit Forms DR 01, DR02 and DR 03 together with endorsed drawings of the proposed replacement, addition or alteration works. The DR has to check, ensure and confirm/certify that the submission and all gas service work are in compliance with the Gas Act, the Gas (Supply) Regulations, the Gas Supply Code, , Singapore Standard, SS608: Code of Practice for Gas Installation, City-OG Handbook on Gas Supply and all other relevant acts, regulations and rules.

City-OG shall review the submission and approved the application for replacement, addition or alteration to the gas installation based on the information provided without checking for detail engineering design and compliance with Statutory and Codes / Standards requirements.

1.4 Site Meeting and Commencement of Work

The DR shall arrange for a site meeting with the PC of City-OG before commencement of the gas service work. The DR shall liaise closely with the PC in the carrying out of the work, including but not limited to, construction of new pipes, interruption of gas supply, isolation, purging, decommissioning, connection and subsequent commissioning and re-admittance of gas of the gas installation.

If a PE is engaged for the gas service work, the gas service shall be performed or be supervised by the PE.

The DR shall arrange with the gas transporter through the PC to turn off the gas service isolation valve or temporary disconnect the gas installation from the gas networks should the need arises.

1.5 Re-admitting Gas on Completion of Work

For replacement, addition or alteration of existing gas installation, turning-on/re-admittance of gas may be allowed immediately after successful completion of the work and all required tests and commissioning.

The DR shall ensure that the work is carried out in compliance with the Gas Act, the Gas (Supply) Regulations, the Gas Supply Code, , Singapore Standard, SS608: Code of Practice for Gas Installation, City-OG Handbook on Gas Supply and all other relevant acts, regulations and rules.

1.6 Charges

City-OG may levy a fee to recover its overhead and expenses for attending to site inspections and operations in connection with addition and alteration works.

2 REPLACEMENT OF GAS APPLIANCES

The work shall be carried out in compliance with Regulations 20 and 21 of the (Gas Supply) Regulations. The PE/LGSW shall test the gas appliance and its connection to the gas installation and all affected joints to ensure that the gas installation and the gas appliance are safe to be used. If the gas appliance requires technical specialist to carry out installation, supporting documents to certify that the gas appliance has been commissioned to the manufacturers' specifications would have to be provided to the PE/LGSW.

After confirming the gas installation and the gas appliances are safe to be used, the PE/LGSW shall issue a written document Statement of Safe for Use (Form DR 10) certifying the appliances are safe for use, in accordance with Regulation 21 of the Gas (Supply) Regulations.

F DISCONNECTION OF GAS SUPPLY

In the event that the customer wishes to discontinue the natural gas supply to their premises, the customer or the appointed DR shall submit Form DR01 and a "Request for Termination of Gas Supply" (Appendix H).

The customer or the appointed DR shall inform City-OG at least thirty business days in advance to make the following arrangements:

- a. Gas Transporter to disconnect supply

- A “Notification of Isolation of Gas Supply” (Appendix I) will be issued to the customer by City-OG upon complete isolation of gas supply at the MPRS inlet valve or GSIV, whichever is applicable. A copy of the notification will be sent to PowerGas for their information;
- Upon completion of the disconnection, PowerGas will issue a notification letter to the requestor for termination of the gas installation. Once the disconnection process is completed, the DR shall ensure the gas installation is completely free of gas and submit CG_Form DR 11 upon successful purging of the gas installation.

b. Removal of the MPRS; and

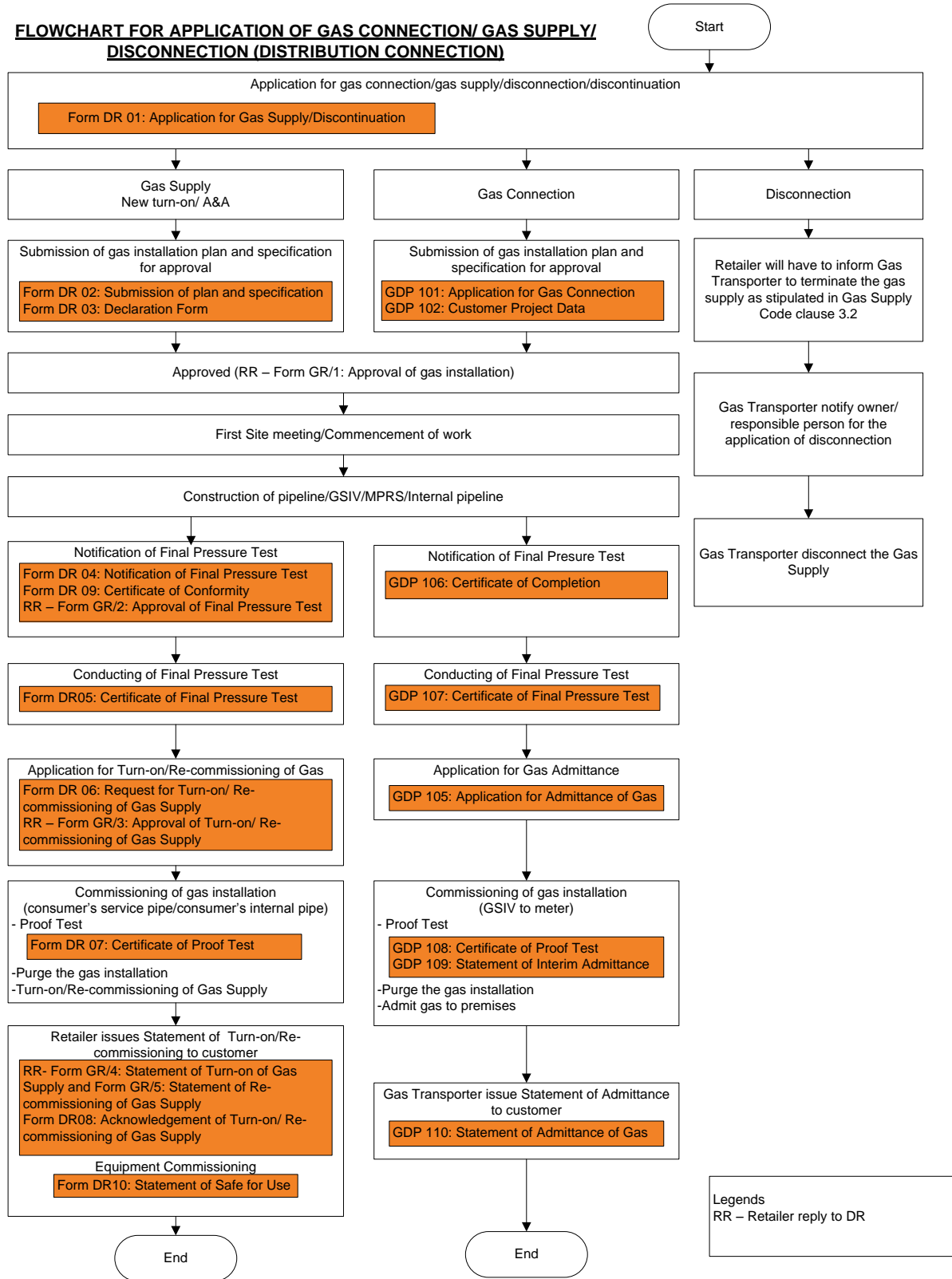
c. City-OG to arrange for the final settlement of payment.

APPENDIX A: Singapore Natural Gas Specification

Properties	Gas Specification parameters	
Calorific Value:	Minimum	948 Btu/scf
	Maximum	1350 Btu/scf
Wobbe Index:	Minimum	1213 Btu/scf
	Maximum	1396 Btu/scf
Hydrocarbon Dew point:	Maximum	55°F @ 725 psi
Water Dew point:	Maximum	49°F @ 725 psi
Free Liquids	Maximum	zero
Total Sulphur	Maximum	30 ppm by volume
Oxygen:	Maximum	0.1% by volume
Hydrogen sulphide:	Maximum	8 ppm by volume
Methane	Minimum	80% by volume of total reactants
Carbon Dioxide	Maximum	5% by volume
Nitrogen	Maximum	5% by volume
Total Inerts (including CO2)	Maximum	10% by volume
Particulate size	Maximum	10 microns
Particulate quantity	Maximum	3 ppm by weight
Potassium and Sodium	Maximum	0.5 ppm by weight
Lead	Maximum	1 ppm by weight
Magnesium	Maximum	2 ppm by weight

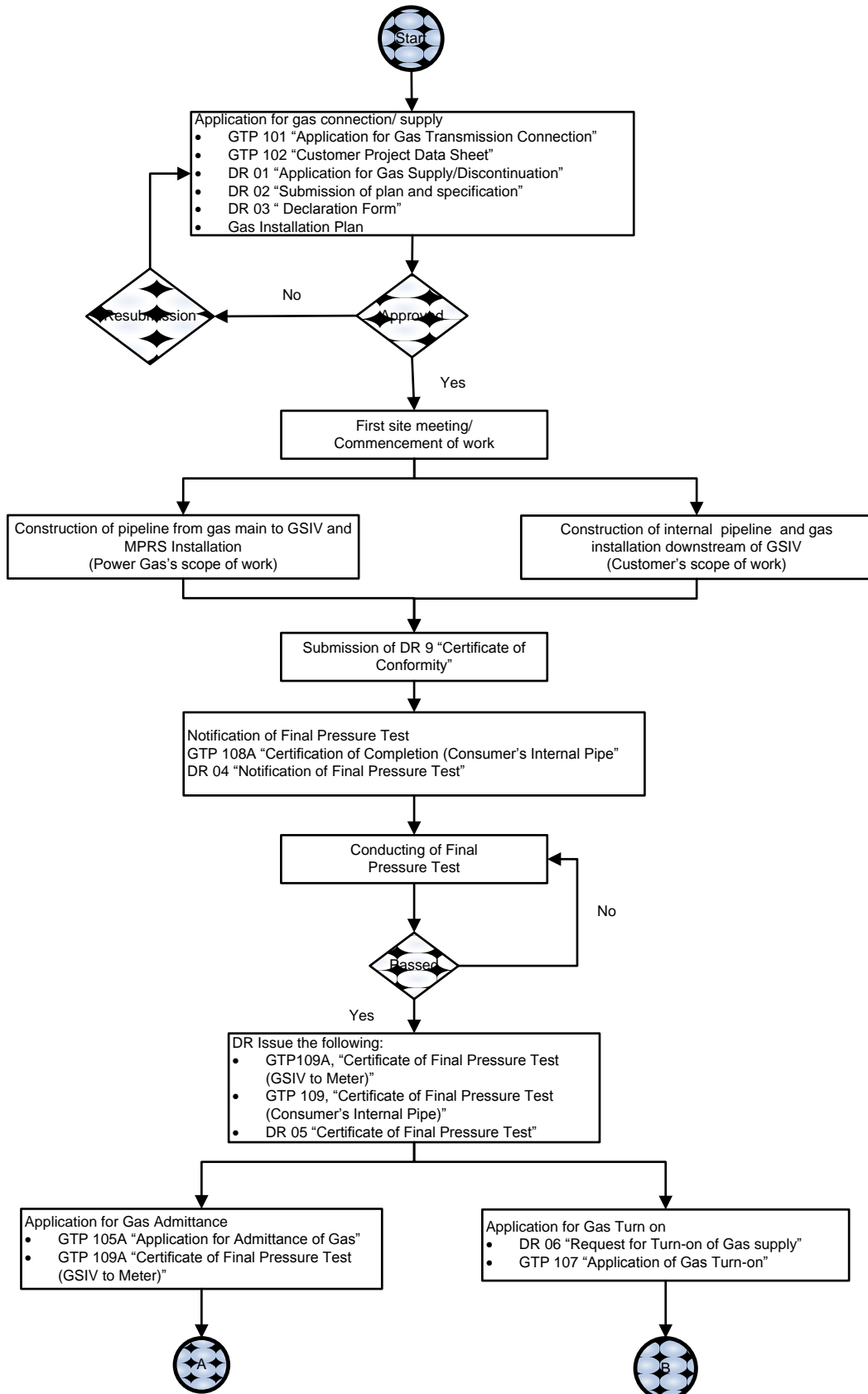
APPENDIX B: Flowchart for Distribution Connection

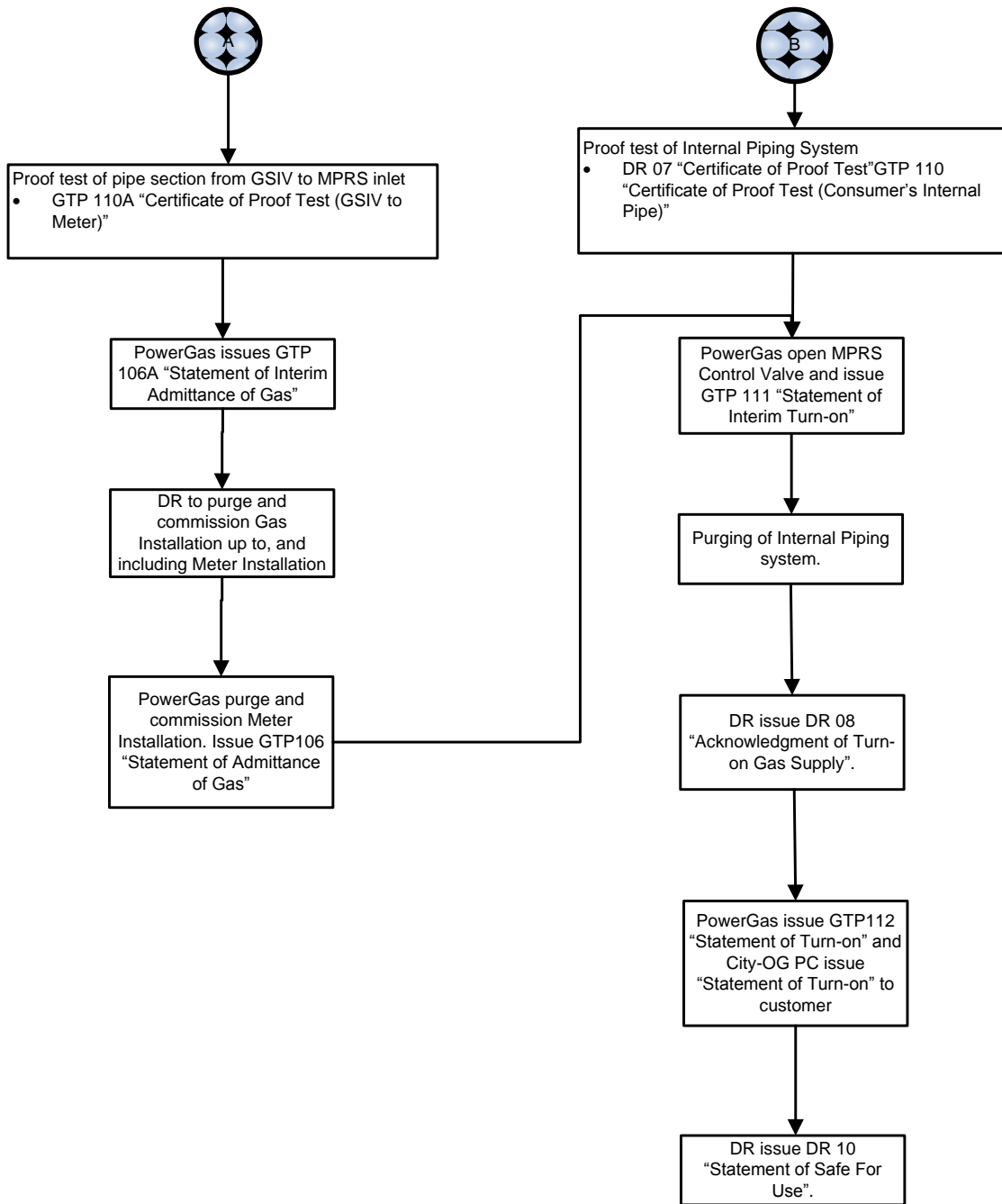
FLOWCHART FOR APPLICATION OF GAS CONNECTION/ GAS SUPPLY/ DISCONNECTION (DISTRIBUTION CONNECTION)



APPENDIX C: Flowchart for Transmission Connection

FLOWCHART FOR THE APPLICATION OF GAS CONNECTION / SUPPLY (For Transmission Connection)





APPENDIX D: Designated Representative Connection Forms

- Form DR01 : Application for Gas Supply/Disconnection/Discontinuation
- Form DR02 : Submission of Plan & Specification
- Form DR03 : Designated Representative Declaration Form
- Form DR04 : Notification of Final Pressure Test
- Form DR05 : Certificate of Final Pressure Test
- Form DR06 : Request for Turn-on/ Re-commissioning of Gas Supply
- Form CG_DR06A : Request for Turn- on/ Re-commissioning of Gas Supply (*)
- Form DR07 : Certificate of Proof Test
- Form DR08 : Acknowledgement of Turn-on/ Re-commissioning Gas Supply
- Form DR09 : Certificate of Conformity for Gas Appliance
- Form DR10 : Statement of Safe for Use
- Form CG_DR11 :Statement of Completion of Purging of Gas Installation

APPENDIX E: Distribution Connection Forms

- Form GDP101 : Application for Gas Distribution Connection
- Form GDP102 : Consumer Project Data Sheet
- Form GDP105 : Application for Admittance of Gas
- Form GDP106 : Certificate of Completion
- Form GDP107 : Certificate of Final Pressure Test
- Form GDP108 : Certificate of Proof Test
- Form GDP109 : Statement of Interim Admittance of Gas
- Form GDP110 : Statement of Admittance of Gas (Without MPRS)
- Form GDP110A : Statement of Admittance of Gas (With MPRS)
- Form GDP111 : Authorisation to Open Gas Meter Control Valve

APPENDIX F: Transmission Connection Forms

- Form GTP101 : Application for Gas Transmission Connection
- Form GTP102 : Consumer Project Data Sheet
- Form GTP105A : Application for Admittance of Gas (Meters by Others)
- Form GTP106 : Statement of Admittance of Gas
- Form GTP106A : Statement of Interim Admittance of Gas
- Form GTP107 : Application for Gas Turn-On
- Form GTP108 : Certificate of Completion (Consumer's Internal Pipe)
- Form GTP108A : Certificate of Completion (GSIV to Meter)
- Form GTP109 : Certificate of Final Pressure Test (Consumer's Internal Pipe)
- Form GTP109A : Certificate of Final Pressure Test (GSIV to Meter)
- Form GTP110 : Certificate of Proof Test (Consumer's Internal Pipe)
- Form GTP110A : Certificate of Proof Test (GSIV to Meter)
- Form GTP111 : Statement of Interim Turn-On
- Form GTP112 : Statement of Turn-On

APPENDIX G: City-OG Connection Forms

- Form GR/1 : Approval for Gas Supply/A&A Work/Disconnection
- Form GR/1X : Written Comments
- Form GR/1A : Amendments Plans for Gas Supply/Connection/A&A Work/Disconnection
- Form GR/2 : Approval for Final Pressure Test
- Form GR/3 : Approval for Turn-On/ Re-Commissioning of Gas Supply
- Form GR/4 : Approval of Turn-On of Gas Supply
- Form GR/5 : Statement of Re-Commissioning of Gas Supply

APPENDIX H: Request for Termination of Gas Supply

APPENDIX I: Notification of Isolation of Gas Supply

APPENDIX J: Revision History

CITY-OG GAS ENERGY SERVICES PTE. LTD.			
City-OG Handbook on Gas Supply		Revision History Record	Page: 1
Revision	Effective Date	Description of Change	
0	01/11/2013	Initial Release	
1	21/03/2016	<ol style="list-style-type: none">1. Replace Gas Retailer application forms with the DR forms released by EMA.2. Replace all CP51: 2004 with SS608, Code of Practice for Gas Installation3. Updated Appendix B: Flowchart for Distribution Connection	