## DOCUMENT HISTORY

<table>
<thead>
<tr>
<th>Issue Date</th>
<th>Amended by</th>
<th>Description of Changes</th>
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<tbody>
<tr>
<td>November 2011</td>
<td>J Commarmond</td>
<td>Various changes to align with Gas Supply Amendment Regulation 2010.</td>
</tr>
<tr>
<td>January 2018</td>
<td>J Chang</td>
<td>Revised into new format.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Various changes throughout to all sections reflecting the current</td>
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<td></td>
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<td>technical and regulatory requirements.</td>
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## AUTHORISATION

### REVIEWED BY

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<th>Signature</th>
<th>Date</th>
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<thead>
<tr>
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<tbody>
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## OWNING FUNCTIONAL GROUP & DEPARTMENT / TEAM

Asset Management : Asset Strategy Gas : Asset Management Networks
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1 PRELIMINARY

1.1 SCOPE

These Rules are issued by Jemena and form part of Jemena’s Safety and Operating Plan for its Networks in New South Wales. The Safety and Operating Plan and these Rules are prepared in accordance with the Gas Supply Regulation.

These Rules specify Jemena’s requirements for work involving:
- The installation or replacement of a gas meter or any part of the basic metering equipment; and
- The installation, alteration, extension or repair of, or any other work on a consumer service.

The Rules are limited to gas pressure (system MAOP) up to 400kPa only. For any works on system with a pressure of greater than 400kPa, Jemena needs to be contacted directly.

1.2 PREVIOUS RULES

These Rules will apply from 1st of March 2018 and replace Jemena’s previous Network Operator Rules (dated November 2011).

The new design requirements introduced by these Rules are not retrospective for existing premises. However, other elements within these Rules may apply to existing premises under certain conditions. If further clarification is required, please contact Jemena.

Note: Jemena understands that as the 1st of March 2018 some projects will have already passed milestones where it is impracticable to implement some of the new requirements in these Rules. Therefore, for projects already in progress, these Rules will only apply to new developments having a Development Application lodgement date on or after 1st of May 2018 or as formally approved by Jemena.

1.3 WHO THESE RULES APPLY TO

These Rules apply to any person who performs gasfitting work (as described in Section 1.8 - Definitions) in connection with a premises which is connected or being connected to, or being disconnected from, the Jemena network.

Note: Where the person performing the gasfitting work is not doing so on behalf of Jemena (e.g. where the person is engaged by a gas consumer or a gas retailer), special additional requirements apply. These are described in Section 2 – Performing Gasfitting Work.

1.4 GASFITTING WORK

The prime objective of these Rules is to provide the design and installation requirements for connection of natural gas to a property from the Network.

The Rules specify the requirements for:
- The criteria for a licensed person performing gasfitting work;
- Process of performing gasfitting work; and
Completing tests after performing gasfitting work. Gasfitting work to which these Rules apply is defined in Section 1.8 - Definitions.

The Rules provide for:

- The standards, codes, specifications, methods and procedures to be applied when installing, altering, extending or repairing a consumer service;
- The standards, codes, specifications, methods and procedures and requirements for installing or repairing basic metering equipment; and
- The requirements for leak test certificates and certificates of compliance.

Compliance with these Rules, as well as the codes and standards referred to, is a legislative requirement pursuant to the Gas Supply Regulation. The person performing the gasfitting work is responsible for having a thorough knowledge and understanding of these regulations.

A person who supervises others performing gasfitting work must also accept responsibility for issuing advice and instructions about correct procedures to those performing gasfitting work under their supervision and control.

In the event that, for a particular job, there is a need to deviate from the requirements of these Rules, Jemena’s approval for variance must be obtained at the design stage for the job.

1.5 AUSTRALIAN/NEW ZEALAND STANDARDS

The following Australian/New Zealand standards have been used in the development of these Rules.

- AS/NZS1170.1 - Structural design actions - Permanent, imposed and other actions;
- AS/NZS 1319 – Safety signs for the occupational environment;
- AS 1432 - Copper tubes for plumbing, gasfitting and drainage applications;
- AS 1725.1 - Chain link fabric fencing - Security fences and gates - General requirements;
- AS 2944.1 - Plastics pipes and fittings for gas reticulation - Polyamide pipes;
- AS/NZS 3000 - Electrical installations;
- AS/NZS 4130 - Polyethylene (PE) pipes for pressure applications;
- AS/NZS 4645.1 - Gas Distribution Networks (Network Management);
- AS/NZS 4645.2 - Gas Distribution Networks (Steel Pipe Systems);
- AS/NZS 4645.3 - Gas Distribution Networks (Plastic Pipe Systems);
- AS/NZS 60079.10.1 - Explosive atmospheres - Classification of areas - Explosive gas atmospheres; and
- AS/NZS 60079.14 - Explosive atmospheres Electrical installations design, selection, erection and initial inspection.

1.6 WHAT THE RULES DO NOT COVER

These Rules specifically cover the matters outlined in clause 8(1) of the Gas Supply Regulation only.

Work on the gas installation (i.e., downstream of the basic metering equipment) is not within the scope of these Rules. The requirements for this work can be found in the Gas Supply (Consumer Safety) Regulation 2012 and AS/NZS 5601.1 – Gas Installations (General Installations).
This document also does not cover the process for Type B appliance approval. However, **Jemena** reserves the right to withhold gas supply to an installation that does not have Type B appliance approval. Furthermore, safety requirements for carrying out *gasfitting work* are not within the scope of these **Rules**. It is the responsibility of persons carrying out *gasfitting work* to satisfy themselves as to the particular safety requirements applicable to the work being carried out.

### 1.7 CONTACT DETAILS

**Jemena’s** contact details are as follow:

<table>
<thead>
<tr>
<th>Service</th>
<th>Contact Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Portal Website</td>
<td>mygasservices.jemena.com.au</td>
</tr>
<tr>
<td>Phone for Meter Upgrade</td>
<td>1300 722 914</td>
</tr>
<tr>
<td>Phone for <strong>Standby</strong></td>
<td>1300 665 380</td>
</tr>
<tr>
<td>Phone for Customer Service</td>
<td>1300 137 078</td>
</tr>
<tr>
<td>E-mail Address</td>
<td><a href="mailto:netconnect@jemena.com.au">netconnect@jemena.com.au</a></td>
</tr>
<tr>
<td>E-mail Certificate of Compliance</td>
<td><a href="mailto:NG-Compliance@jemena.com.au">NG-Compliance@jemena.com.au</a></td>
</tr>
<tr>
<td>Post</td>
<td>Attention: Jemena</td>
</tr>
<tr>
<td></td>
<td>PO Box 1220 North Sydney NSW 2059</td>
</tr>
</tbody>
</table>

### 1.8 DEFINITIONS

The following definitions apply within this document:

<table>
<thead>
<tr>
<th><strong>AS/NZS</strong></th>
<th>When followed by numbers or letters <strong>AS/NZS</strong> means a standard published by Standards Australia/New Zealand, e.g., <strong>AS/NZS 4645.1</strong> - Gas Distribution Networks (Network Management).</th>
</tr>
</thead>
</table>
| **Basic metering equipment** | Equipment encompassed in a **boundary regulator**, **meter kit** or **meter set** that includes one or more of the following devices:  
  (a) Meters to measure the volume of gas flow;  
  (b) Valves to isolate gas supply;  
  (c) Pipework – including a combination of pipes, flanges, tees, elbows and other pipe connecting equipment designed to convey gas;  
  (d) Fittings – smaller components used in conjunction with fittings, pressure sensing tubing and tube fittings, instrument valves and associated equipment;  
  (e) Filters – devices designed to trap and remove foreign matter from gas streams;  
  (f) Pressure regulators - devices to reduce and control **gas pressure**;  
  (g) Over pressure protection devices to protect downstream equipment from exposure to excessive pressure (over pressure) in the event of upstream equipment failure;  
  (h) Non-return valves to ensure gas flow travels in one direction and to prevent reverse flow;  
  (i) Mechanical indexes to indicate raw metered gas consumption;  
  (j) Meter bars and other equipment designed to support a gas meter and associated equipment that form part of the meter installation; |
(k) Electrical connections and wiring to convey electrical signals for gas meters, flow correctors, alarms and metering communications equipment;
(l) Flow correction devices or software to enable (actual) uncorrected raw metering data to be adjusted for effects of temperature and/or pressure and/or gas quality and referenced to standard pressure and temperature conditions;
(m) Temperature and pressure correction devices or software to enable raw (actual) uncorrected metering data to be adjusted for effects of temperature and pressure; and
(n) Devices and equipment designed to analyse and calculate the heating value of the gas stream such as gas chromatographs or calorimeters.

<table>
<thead>
<tr>
<th><strong>Boundary regulator</strong></th>
<th>Equipment installed to reduce gas pressure to a lower level prior to entry to high rise buildings, shopping centres and where required for other consumers. (see basic metering equipment for more information).</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Consumer</strong></td>
<td>A person who occupies premises connected to a gas network, who is supplied with natural gas by a gas retailer.</td>
</tr>
<tr>
<td><strong>Consumer piping</strong></td>
<td>Pipe, fittings, components and other equipment that are owned by the owner of the premises occupied by the consumer. Consumer piping conveys gas to the consumer's appliances from the downstream outlet of the basic metering equipment.</td>
</tr>
<tr>
<td><strong>Consumer service</strong></td>
<td>The pipework and associated fittings that conveys gas from the network service to the inlet of the basic metering equipment. If a boundary regulator is installed, the pipework between the boundary regulator and the inlet of the meter kit or meter set is also considered as part of the consumer service.</td>
</tr>
<tr>
<td><strong>Enclosure</strong></td>
<td>Any cage/structure/room where basic metering equipment is housed, with or without a roof.</td>
</tr>
<tr>
<td><strong>Gas installation</strong></td>
<td>Installation of consumer piping within a consumer's premises, downstream, of the basic metering equipment.</td>
</tr>
<tr>
<td><strong>Gas main</strong></td>
<td>Pipes used in Jemena's network to transport gas.</td>
</tr>
</tbody>
</table>
| **Gas pressure**       | The pressure of gas above atmospheric pressure, classified as follows:
  (a) Low pressure – up to 7 kPa  
  (b) Medium Pressure – over 7 kPa and up to 400 kPa  
  (c) Secondary pressure – over 400 kPa and up to 1050 kPa |
| **Gas retailer**       | A holder of a retailer authorisation and who supplies natural gas to consumers connected to the network. |
| **Gas Supply Regulation** | The Gas Supply (Safety and Network Management) Regulation 2013 (NSW), as amended or replaced from time to time. |
| **Gasfitting work**    | (a) The installation, alteration, extension or repair of any part of a consumer service up to the inlet of the basic metering equipment.  
  (b) The installation or replacement of a gas meter or any part of the basic metering equipment including boundary regulators. |
| **Jemena** | Jemena Gas Networks (NSW) Limited ACN 003 004 322, being the network owner and operator of the **Network**. |
| **Licensed person** | A person holding a current gasfitters licence issued under the *Home Building Act 1989* (NSW). |
| **Manual shut-off valve** | A manually operated valve which allows a section of pipework to be shut off. |
| **Master isolation valve** | A valve installed to isolate gas supply at the point of entry inside the building. |
| **Master meter** | A component of the **basic metering equipment** that is typically used to measure gas flow to water heating appliances on high rise buildings with centralised hot water and individual hot water meters. It can apply to other installation types such as commercial tenancies. |
| **Meter set** | **Basic metering equipment** that has been assembled for the purpose of measuring gas flow that exceeds 75 m³/hr. |
| **Meter kit** | **Basic metering equipment** with the purpose of measuring gas flow that is equal to or less than 75 m³/hr. |
| **Meter control valve (MCV)** | Isolation valve on the inlet of **basic metering equipment**. |
| **MAOP** | Maximum allowable operating pressure. |
| **Network** | Jemena’s gas distribution system in New South Wales, consisting of a system of pipes and associated facilities and equipment that are used to convey and control the flow of gas to **consumers**. For clarity, the **Network**:  
(a) Includes any pipe or fitting upstream of the **consumer service**, generally at a point in the public thoroughfare 225 mm outside the **property boundary**; and  
(b) Ends at the downstream outlet of the **network service**.  
Note: The **consumer service**, including any pipe and associated fittings downstream from the point in the public thoroughfare 225 mm outside the **property boundary**, is not part of the **network**. |
<p>| <strong>Network operator</strong> | The holder of a <strong>Reticulator’s Authorisation</strong>. For the purpose of these <strong>Rules</strong>, <strong>Jemena</strong> is the <strong>network operator</strong>. |
| <strong>Network service</strong> | The part of the <strong>network</strong> that joins the <strong>consumer service</strong>. |
| <strong>Property boundary</strong> | Is the boundary line which divides private property from public areas, such as public footpaths, streets, roads, public lanes etc. |
| <strong>Path valve</strong> | A valve situated approximately 225 mm outside the <strong>property boundary</strong> at the inlet of the <strong>consumer service</strong>. It is usually below ground in a path box for easy access, and is used to control the flow of gas into the <strong>consumer service</strong>. |
| <strong>Rules</strong> | These Network Operator Rules for the <strong>network</strong>, as may be amended from time to time. |
| <strong>Standby</strong> | Means a <strong>Jemena</strong> representative requested by a <strong>licensed person</strong> to disconnect or reconnect a service, usually under live gas conditions, while work is in progress. |</p>
<table>
<thead>
<tr>
<th>Type 1 enclosure</th>
<th>A type of enclosure that is externally positioned outside the confines of a building. The enclosure is typically constructed of wire fencing, brick or concrete and is not covered by a solid roof.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 2 enclosure</td>
<td>A type of internal enclosure that is inside a building. The room must be externally accessible with no access to the remainder of the building, and be covered by a solid roof.</td>
</tr>
</tbody>
</table>

### 1.9 DISCLAIMER

These Rules apply to the consumer service and basic metering equipment including boundary regulators associated with Jemena’s network, specifically in relation to the matters outlined in clause 8(1) of the Gas Supply Regulation only. Jemena accepts no responsibility for any other use of these Rules.
2 PERFORMING GASFITTING WORK

2.1 CRITERIA FOR PERFORMING GASFITTING WORK

Where a person plans to perform gasfitting work and that work is not being performed by Jemena, that person must meet Jemena’s criteria before performing such work.

The person undertaking the gasfitting work must:

- Be a licensed person in accordance with NSW Fair Trading requirements; and
- Possess the relevant skills or engage suitably qualified personnel with the necessary skills, certifications and competence to undertake gasfitting work.

Note: the licence details of the person undertaking the gasfitting work must be provided as part of an application for gas connection. Application for gas connection are performed by the customer, licenced person or customers’ gas retailer through the gas portal. Refer to Section 1.7 - Contact Details for the link to the gas portal.

The verification of the person undertaking the gasfitting work is conducted by Jemena or its authorised contractor when the meter is being issued for installation. Where gasfitting work is undertaken on an existing installation, Jemena or its authorised contractor will seek to verify that the above requirements have been met.

2.2 RESPONSIBILITIES OF A LICENSED PERSON

It is a requirement of these Rules that the licensed person is fully responsible and liable for all gasfitting work they perform, including but not limited to the following:

(a) Meeting the criteria for performing gasfitting work as per Section 2.1 – Criteria for Performing Gasfitting Work;

(b) Once all the criteria are met, performing and / or supervising the gasfitting work. If the licensed person is supervising the gasfitting work, that work must be performed by:
   i. a licenced and competent gasfitter; and/or
   ii. an apprentice gasfitter

(c) Ensuring that the gasfitting work complies with the current version of AS/NZS 4645.1 - Gas Distribution Networks (Network Management) and any other applicable Australian Standards and these Rules;

(d) Ensuring all work is performed, and all notifications and certificates are provided in accordance with the Gas Supply Regulation;

(e) Designing and performing the gasfitting work in a tradesman-like manner and to the requirements of Jemena;

(f) If any issues or defects are detected, rectifying those promptly;

(g) Ensuring when consumer service pipes are completely or partially renewed that such pipes are properly connected to the network service pipes. Where the supply from the network service pipe is defective, do not connect the consumer service and notify Jemena immediately;
(h) Taking corrective action where a consumer service or basic metering equipment has been found to be unsafe and to ensure the consumer and Jemena are advised immediately of the defect and the corrective action taken, as required by regulations governing the issue of leak test certificates;

(i) Responding to and managing any direct or indirect claims arising from any injury or damage to persons or property through work performed by the licensed person, under the licensed person’s supervision and/or by the licensed person’s employees or contractors;

(j) Where explicitly given permission by Jemena, returning meters or other equipment owned by Jemena from premises that have been disconnected by or under the supervision of the licensed person. Refer to Section 5.21 – Returning a Gas Meter for more details;

(k) Ensuring that the consumer service is designed and installed so that all gas conveyed through the consumer service is measured through the basic metering equipment;

(l) Not tampering with any seals on metering assets or adjusting any regulator or over pressure protection setting unless requested to do so by Jemena; and

(m) Installing basic metering equipment in accordance with Jemena’s installation instructions provided with the equipment.

2.3 NON-COMPLIANCE WITH THESE NETWORK OPERATOR RULES

Where a licensed person, in connection with any gasfitting work:

(a) Fails to comply with these Rules in any respect; or

(b) Otherwise causes any damage or harm, or a significant risk of such damage or harm, to persons or property,

Jemena may:

i. Suspend or disconnect the gas supply to the relevant premises;

ii. Authorise another licensed person to complete any incomplete gasfitting work at the relevant premises;

iii. Complete any incomplete gasfitting work itself and recover the reasonable cost of doing so from the licensed person; and / or

iv. Inform NSW Fair Trading for possible action to be taken against the licensed person.
3 NETWORK SERVICE

3.1 GENERAL

Jemena will provide a network service to a point in the public thoroughfare approximately 225mm outside the property boundary. That point will normally be located where the property boundary is closest to the gas main unless otherwise agreed and approved by Jemena.

If a network service is needed in a different location to that normally provided and the work is not being performed on behalf of Jemena, the licensed person must ask Jemena for approval for the alternative location. Where it is necessary to re-locate a network service, the licensed person must ask Jemena for a quotation for all charges involved in performing the re-location before starting any gasfitting work on the consumer’s property.

No person is permitted to alter or interfere with a network service without specific approval from Jemena, except where a hazard may exist. In this instance, temporary repairs may be carried out to reduce the hazard until Jemena personnel arrive to make a permanent repair. Jemena must be notified immediately by phone on 131 909.
4 INSTALLATION OR REPAIR WORK CARRIED OUT ON THE CONSUMER SERVICE

4.1 GENERAL

The consumer service must end so that it can connect with the network service approximately 225 mm outside the property boundary in the public footpath or thoroughfare. The following conditions must be met:

(a) If required, the consumer service must terminate with a Jemena approved path valve (see Section 4.11 – Path Valve);
(b) If the consumer service pipe diameter is 50 mm or less, then it must terminate on the meter end with a BSP male tapered thread, above this size a flange with ASME Class 150 raised face shall be used;
(c) The terminal of the consumer service must be at right angles to the line of the gas main;
(d) There should be no poles, pits, manholes or other obstructions between the terminal of the consumer service and the gas main; and
(e) The depth of the consumer service at the property boundary must be no less than 450mm from the ground surface and at least 50mm clearance between the top of any path valve spindle and the finished ground level.

4.2 STANDARDS FOR CONSUMER SERVICE PIPE

The installation, repair or replacement of a consumer service pipe must be performed in accordance with the requirements of AS/NZS 4645 - Gas distribution networks (series comprising AS/NZS 4656.1 Network Management, AS/NZS 4645.2 Steel Pipe Systems and AS/NZS 4645.3 Plastic Pipe Systems).

4.3 MATERIALS

Materials of construction for a buried consumer service equal or less than 400kPa shall be one of the following:

(a) Copper or copper alloy (Type A or B) as per AS 1432 - Copper tubes for plumbing, gasfitting and drainage applications;
(b) Polyamide (Class 400) as per AS 2944.1 - Plastics pipes and fittings for gas reticulation - Polyamide pipes; and
(c) Polyethylene (SDR11) as per AS/NZS 4130 - Polyethylene (PE) pipes for pressure applications.

Aboveground piping and components shall be constructed of copper or copper alloy.

4.3.1 PROHIBITED MATERIALS

Jemena prohibits the use of composite pipe, anaerobic thread sealants and PVC.
4.4 REPAIR OF CONSUMER SERVICE

Jemena is not responsible or liable for the cost of repair to the consumer service. If the repair is carried out by Jemena with the approval of the property owner the cost of repair will be passed through to the property owner.

4.5 SIZING THE CONSUMER SERVICE

At an existing premises where additional gas load is required, the existing consumer service and basic metering equipment should be checked to ensure that adequate capacity is available for the additional load.

The following information will be required for pipe sizing:

(a) Heating value of the natural gas (if unknown, assume 37.5 MJ/m³);
(b) Sum of gas consumption from each appliance (MJ/h);
(c) An allowance, if any, where there is a probability that not all appliances will be used at the same time;
(d) The MAOP available at the start of the consumer service;
(e) The allowable pressure drop. Refer to Section 4.6 – Maximum Allowable Pressure Drop below; and
(f) The proposed layout of the consumer service, including all pipe lengths and the location of basic metering equipment.

4.6 MAXIMUM ALLOWABLE PRESSURE DROP

Maximum pressure loss between the path valve (225mm outside the property boundary) and basic metering equipment is as per Table 1 below.

Table 1: Maximum allowable pressure drop for various pressures

<table>
<thead>
<tr>
<th>Supply Pressure (kPa)</th>
<th>Maximum Allowable Pressure Drop (kPa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 &lt; MAOP &lt; 7</td>
<td>0.015</td>
</tr>
<tr>
<td>7 ≤ MAOP ≤ 100</td>
<td>0.3</td>
</tr>
<tr>
<td>100 ≤ MAOP ≤ 400</td>
<td>7</td>
</tr>
</tbody>
</table>

4.7 STANDBY ARRANGEMENTS

Where gasfitting work is being performed by the licensed person, at least 10 working days’ advance notice must be given when requesting Jemena standby arrangements for repairs or alterations to a consumer service. The applications are received and processed through the gas portal system. Charges apply for this service.
4.8 LEAK TESTING THE CONSUMER SERVICE

The following must be adhered to when leak testing a consumer service:

(a) Leak testing must be against approved testing valves or sealed caps and must not be against process valves that are connected to a network service (e.g. live path valve) or squeeze off clamps;

(b) Connect a suitable pressure gauge and pressurise the consumer service with air or nitrogen to 1.5 times the MAOP but not less than 35 kPa;

(c) If a boundary regulator is installed, the test pressure shall be 1.5 times the set point of the boundary regulator pressure relief valve or OPSO, whichever is the greater;

(d) Isolate the pressure source and allow a suitable period for the temperature of the testing medium within the consumer service to stabilise. The period for temperature stabilisation will depend on a number of conditions including ambient temperature, test fluid temperature and proposed length of test period;

(e) For consumer services with a volume not exceeding 30L (0.03m$^3$), there is to be no loss of pressure during a test period of 15 minutes;

(f) Where the pipe volume exceeds 30L, the test period required in (e) is to be extended by 15 minutes for every additional 30L or part thereof; and

(g) The test period indicated is for where a Bourdon pressure gauge testing instrument is used. Where another instrument such as a digital manometer is used, contact Jemena for an appropriate test period.

4.9 PIPEWORK AND COMPONENTS NOT SUBJECTED TO THE LEAK TEST

All joints that have not been leak tested as part of the consumer service leak test must be tested with leakage detection fluid (e.g. snoop) in the following manner:

(a) Ensure that the section or joint is pressurised to operating pressure;

(b) Spray leakage detection fluid over entire joint/s;

(c) Check for leaks by visually inspecting joints for bubbling or foaming; and

(d) Repair any joints or replace any defective fittings, components or pipe that indicates a leak, and re-test.

4.10 PURGING

The consumer service must be purged independently of the basic metering equipment.

Purging is carried out to avoid the possibility of an explosive air/gas mixture existing within the pipework. Purging is the displacement of:

(a) Air, or an inert gas, by a fuel gas; or

(b) A fuel gas by air, or an inert gas.

Nitrogen is the preferred inert gas.
4.10.1 PRECAUTIONS BEFORE PURGING COMMENCES

The following precautions / tasks should be undertaken before purging commences:

(a) Field risk assessment;

(b) Do not commence any purging operation until a purge area has been defined, made safe and cleared of all ignition sources, e.g. naked flames, pilot lights, electrical switchgear, etc.; and

(c) Do not allow smoking or mobile phones in or near the purge area.

4.10.2 PURGING A SMALL VOLUME INSTALLATION WITH GAS TO REMOVE AIR

A small volume installation is one where the total installed pipe volume does not exceed 0.03 m³ (30L).

4.10.2.1 Recommended Purge Procedure

(a) Plan a method of purging (see Section 4.10.2.2 - Methods of Purging) that will ensure no pockets of air will be left within any part of the consumer service;

(b) Ensure that there are no open ends;

(c) Ensure the area is well ventilated, unconfined and free of possible ignition sources, mechanical air inlets or other potential hazards;

(d) Where adequate ventilation cannot be assured use flexible piping to direct the purged gas to a suitable open area;

(e) Any branches off the main run will also require separate individual purging. Ensure such branches are fitted with a plug or cap; and

(f) Ensuring the minimum velocity of gas flow within pipes is greater than 0.6m/s to minimise mixing of air and gas during purges.

4.10.2.2 Methods of Purging

To ensure a complete purge one of the following methods must be used:

(a) Purge burner;

(b) Gas detector; or

(c) Timed purge.

Purging must be conducted as a single continuous process from start to end.

4.10.3 PURGING A LARGE VOLUME INSTALLATION WITH GAS TO REMOVE AIR

A large volume installation is one with a total installed pipe volume exceeding 0.03m³ (30L).

Where the volume of the pipe exceeds 0.03m³ Jemena must be contacted for approval of a suitable method.

4.11 PATH VALVE

A path valve must be installed by the licensed person when:

(a) The consumer service enters a building;

(b) The basic metering equipment is difficult to reach in an emergency (e.g. where it is located inside a building, or behind a locked gate);
(c) The pipework connecting the premises to the network service crosses private land not included in the title of the property served;

(d) Two or more consumer service risers are extended to different floor levels of a multi-storey building; or

(e) The consumer service is for high-rise / medium density / commercial and industrial buildings.

4.12 PATH VALVE LOCATION AND DESIGN

A path valve must be of the quarter turn type and located in an accessible place in the public thoroughfare 225mm out from the property boundary. Path valves below ground must be of an AGA approved spherical ball design and be tested at the maximum test pressure for its location. The valve drive must be a 40mm tall square head socket and meet the standard dimensions of 28.5mm square at the top tapering to 31.75mm at the base.

The valve shall be constructed of bronze, DR brass or steel. For steel valves, low temperature carbon steel is recommended and coating system suitable for buried service shall be applied. For valve size of 50mm or less, it shall have a tapered thread connection and above this size, a flange connection is required.

4.13 VALVE BOX AND COVER

The path valve must be located in a Jemena valve box. The valve box must have a hinged or removable lid, identified by the letter ‘G’ or ‘Gas’ on the top. The valve box cover must be flush with the finished ground surface.

4.14 INTERNAL INSTALLATION REQUIREMENTS

Wherever a consumer service enters a building a master isolation valve shall be installed by the licensed person in an accessible location as close as practical to the point of entry inside the building to enable straightforward isolation of the downstream supply. However, if the basic metering equipment is located immediately inside the internal wall, a meter control valve shall be sufficient provided that this valve is easily accessible. The path valve does not suffice a master isolation valve.

The master isolation valve shall be of the quarter turn type, furnished with BSP tapered female threads and be certified with AGA, SAI Global, IAPMO or other accredited body. The design must be suitable for the conditions of use. The material used shall be brass or stainless steel.

In addition, the master isolation valve shall be painted in a distinctive red colour and fitted with a signage containing the following notes,

To isolate gas supply in case of emergencies, close the RED VALVE
For Gas Emergency, call 131 909
5  BASIC METERING EQUIPMENT

5.1  JEMENA’S REQUIREMENTS

All work carried out to install or replace all or any part of basic metering equipment must be in accordance with AS/NZS 4645.1 – Gas Distribution Networks (Network Management), any other applicable Australian Standard, the Gas Supply Regulation and these Rules.

Any person installing or replacing all or any part of basic metering equipment owned or managed by Jemena, where that work is not being done by Jemena, must meet the relevant criteria before undertaking the work as prescribed in Section 2 – Performing Gasfitting Work of these Rules.

5.2  GENERAL

Meter / boundary regulator sets or meter / boundary regulator kits are issued to the installer by Jemena as pre-designed, prefabricated assemblies equipped with all necessary fittings and components to be able to supply gas in accordance with specifications and procedures.

Meter / boundary regulator sets or meter / boundary regulator kits have their outlet pressure adjustments sealed to prevent unauthorised adjustment. The regulator setting must not be altered without prior approval from Jemena. Depending upon the connected gas load (appliances) and available supply pressure, the standard regulator settings are 1.38kPa, 2.75kPa, 5kPa, 35kPa or 100kPa.

5.3  BASIC METERING EQUIPMENT LOCATION REQUIREMENTS

The location of installation of basic metering equipment shall be determined based upon the following factors:

1. The gas inlet pressure (the maximum operating pressure within the building);
2. Whether the preferred location of the basic metering equipment is internal or external to the relevant building;
3. Ventilation (natural or mechanical);
4. Clearances from sources of ignition;
5. Clearances from building features;
6. Requirements for pressure relief devices; and
7. Compliance with Section 5.4 – Prohibited Basic Metering Equipment Locations

Basic metering equipment inlet pressure and ventilation play a primary role in determining the requirements for the meter location.

Where possible, basic metering equipment should be located externally to a building.

Typically, external installations provide sufficient ventilation and as a consequence have less onerous design requirements.

Internal installation may require a combination of risk controls (gas inlet pressure and ventilation), to ensure a compliant installation.

Any assessment for ventilation must be undertaken in the design phase.

The following flow chart has been developed to assist stakeholders in identifying the requirements for an installation.
5.4 PROHIBITED BASIC METERING EQUIPMENT LOCATIONS

In accordance to these **Rules** and subject to the additional requirements of **AS/NZS 4645.1 - Gas Distribution Network (Network Management)**, **basic metering equipment** must not be installed in the following locations:

1) In a location where commercial, household items, including combustible or discarded materials are stored around or in-front of the **basic metering equipment** restricting access of **Jemena’s** meter readers and maintenance crews;

2) Shall not be used as storage racks. No items (e.g., mop, broomstick, ladder, garbage bin) shall be rested on or stored in close proximity;
3) Near a location where chemicals or corrosive agents such as chlorine or cleaning agents are stored or frequently used;
4) In a room in which an unsealed grease trap is located;
5) Near a source of ignition;
6) Near LPG bottles;
7) A lift shaft or lift motor room;
8) A room specifically intended for electrical switchgear;
9) A fire-isolated stairway or passage;
10) A fire hydrant duct or hose reel cabinet;
11) A sprinkler or hydrant pump room;
12) In a position that would obstruct egress from a building;
13) In a position where the basic metering equipment would be subject to physical damage unless adequately protected;
14) In an area where excessive temperatures or sudden excessive changes in temperature may occur;
15) In an area of excessive vibration;
16) In the foundation area under a building;
17) In a cavity wall, unless installed in a ventilated enclosure with external access and the cavity is sealed;
18) In an unventilated position;
19) On the ground, or on a floor which is frequently wetted or on a floor which contains material which may corrode the meter;
20) Where a service riser is not separated from an earth electrode by 500mm; and
21) A ceiling space

For additional requirements on the prohibited locations of the basic metering equipment, refer to AS/NZS 4645.1 - Gas Distribution Network (Network Management).

5.5 BOUNDARY REGULATOR KITS

Boundary regulator kit is a wall mounted unit supported by brackets. Refer to Section 5.7 – Meter Kits for installation requirements of boundary regulator kits.

Table 2 below is a list of the boundary regulator kit models installed on the consumer’s premises.

Table 2: List of boundary regulator kit models

<table>
<thead>
<tr>
<th>Pressure Type</th>
<th>Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary to medium pressure</td>
<td>BRS45</td>
</tr>
<tr>
<td>Medium to low pressure</td>
<td>BR25, BR60, BR140, BRMM30 and BRMM80</td>
</tr>
</tbody>
</table>
5.6 BOUNDARY REGULATOR SETS

**Boundary regulator** set is a self-supported unit bolted to the ground with supported piping. Refer to Section 5.8 – Meter Sets for installation requirements of **boundary regulator** sets.

Table 3 below is a list of the **boundary regulator** set models installed on the **consumer’s** premises.

**Table 3: List of boundary regulator set models:**

<table>
<thead>
<tr>
<th>Secondary to medium pressure</th>
<th>BRS115, BRS250, BRS430, BRS535, AND BRS800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary to low pressure</td>
<td>BRS215 and BRS650</td>
</tr>
<tr>
<td>Medium to low pressure</td>
<td>BR280, BR600, BRMM140 and BRMM250</td>
</tr>
</tbody>
</table>

5.7 METER KITS

5.7.1 METER KITS INSTALLATION

**Meter kit**s must be installed in accordance with the installation instructions provided in the **meter kit** packaging. The regulators in these kits are pre-set and sealed.

Where a **meter kit** is not installed by an authorised **Jemena** representative, a **licensed person** may commission a **meter kit** once **Jemena** has issued a meter for the installation. The **licensed person** needs to provide **Jemena’s** authorised contractor with the leak test certificate and certificate of compliance after installation of the kit for **Jemena** to issue the meter. No meter will be issued unless the **licensed person** has met all **Jemena’s meter kit** installation requirements.

5.7.1.1 Meter Supports

**Meter kits** shall be supported on the approved meter bar provided in the kit. The weight of the meter must not put any strain on the connecting piping.

5.7.1.2 Minimum height and spacing requirement

**Meter kits** must be installed with the minimum height and spacing requirements as stated in the installation instruction provided in the kit box.

Meters must not be installed higher than 1700mm from ground level to the top of the meter bar, unless specifically approved by **Jemena**.

5.7.1.3 List of Meter Kit Models

Table 4 below is a list of the **meter kit** models installed on the **consumer’s** premises.

**Table 4: List of meter kit models**

<table>
<thead>
<tr>
<th>Low Pressure</th>
<th>L8, L16, L40, LL8, LL12 and LL28</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium Pressure</td>
<td>M8, M10, M25, M25D, M30, M60, M60D, M75, MM8, MM16 and MM40</td>
</tr>
</tbody>
</table>
Meter kits:

(a) Shall be located in a position that enables ready and safe access to the meter for reading, maintenance, changing or removal;
(b) Shall be positioned away from any possible source of ignition;
(c) Shall be positioned to prevent accumulation of water (e.g. sprinkler water, rainwater) and other foreign matter;
(d) Shall be positioned where it will not be subjected to excessive temperature, corrosion, vibrations, corrosive substances, fumes and other likely causes of damage or deterioration;
(e) Shall be located to ensure noise is controlled to comply with requirements of any relevant authority;
(f) Shall not be located in a room with an unsealed grease trap;
(g) Shall be located in a position where it is not at risk of physical damage from nearby vehicular traffic, etc., unless it is adequately protected. Specifically, mechanical protection for the meter kit (including meters, regulators, filters, valves, meter bars, exposed inlet piping and vent line) must be installed where the meter kit location is within one (1) metre of roads, driveways, car parking areas, garages, loading docks etc., or other areas where there is mobile plant, equipment or vehicles moving within one (1) metre of the meter kit location. Mechanical protection shall be designed to the requirements of AS/NZS 1170.1;
(h) The meter kit assembly shall be installed so that the base of the meter is above finished ground level;
(i) Any accumulated dirt or contamination on the meter kit and its surrounding (such as floor or wall) shall be cleaned;
(j) Any damaged floor and/or wall which supports or provides passage to gas pipework shall be repaired; and
(k) Ensure all gas pipework is clearly labelled or identified by signage.

5.7.2 METER KITS EXTERNAL INSTALLATION REQUIREMENTS

In addition to the installation requirements specified in Section 5.7.1 – Meter Kits Installation, the following minimum clearances shall be maintained for meter kits in an external location:

(a) The clearance to source of ignition (including electrical meter box) and building openings shall be in accordance with Section 5.11 – Exclusion Zones for Basic Metering Equipment;
(b) 150mm away from any underground electrical supply cable that is indicated along its length with orange marking tape and is provided with mechanical protection in line within AS/NZS 3000 - Electrical installations, or 300mm away from any underground electrical supply cable neither indicated nor mechanically protected;
(c) 500mm away from any underground electrical earthing electrode for an electrical supply not exceeding 1000 volts. For an electrical supply exceeding 1000 volts, NSW Fair Trading shall be contacted for the clearance requirements;
(d) 150mm away from any underground communication cable;
(e) 150mm away from any cable or service other than above; and
(f) Piping not to be exposed to liquid discharge (e.g. from a water heater relief valve or appliance condensate drain).

Refer to Figure 2 below for illustration of the external installation clearance requirements to underground cables and earthing electrode.
5.7.3 METER KITS INTERNAL INSTALLATION REQUIREMENTS

In addition to the installation requirements specified in Section 5.7.1 - Meter Kits Installation, meter kits in an internal location shall be installed within a building/enclosure that complies with:

Where gas supply at ≤7kPa enters the building

(a) The ventilation requirements shall comply with AS/NZS 4645.1 - Gas Distribution Networks (Network Management), and
   a. Apply the clearance to source of ignition (including electrical meter box) and building openings in accordance with Section 5.11 – Exclusion Zones for Basic Metering Equipment; and
   b. Ensure the design and location of the ventilation openings of the enclosure are such that adequate ventilation is achieved in all parts of the enclosed area. Refer to Section 5.10 – Ventilation of an Enclosure for the requirements.
(b) If the ventilation requirements in AS/NZS 4645.1 - Gas Distribution Networks (Network Management) cannot be achieved, refer to Jemena for assessment; and/or
(c) Meter kits installed within high rise buildings shall comply with Section 5.9 - Basic Metering Equipment in High Rise Buildings.

Where gas supply at >7kPa enters the building

(a) The ventilation requirements shall comply with AS/NZS 4645.1 - Gas Distribution Networks (Network Management), and
   a. Apply the clearance to source of ignition (including electrical meter box) and building openings in accordance with Section 5.11 – Exclusion Zones for Basic Metering Equipment; and
   b. Ensure the design and location of the ventilation openings of the enclosure are such that adequate ventilation is achieved in all parts of the enclosed area. Refer to Section 5.10 – Ventilation of an Enclosure for the requirements.
(b) If the ventilation requirements in AS/NZS 4645.1 - Gas Distribution Networks (Network Management) cannot be achieved, the degree and availability of ventilation shall be classified in accordance to AS/NZS 60079.10.1: Explosive atmospheres - Classification of areas - Explosive gas atmosphere.
5.8 METER SETS

5.8.1 METER SETS INSTALLATION

**Meter sets** are supplied by Jemena and must be installed in accordance with these Rules and the applicable Jemena drawing(s) and instructions.

**Meter sets** are delivered to consumer premises by Jemena’s authorised contractors and, once installed, must be commissioned by authorised Jemena personnel.

5.8.1.1 List of Meter Set Models

Table 5 below is a list of the meter set models installed on the consumer’s premises.

| Low Pressure     | L56, L92, L102, L174, L267, L420, LL40, LL65, LL74, LL125, LL140 and LL190 |
| Medium Pressure  | M80, M100, M110, M135, M141, M175, M188, M241, M283, M300, M362, M380 and M528 |

5.8.2 METER SETS EXTERNAL INSTALLATION REQUIREMENTS

Unless otherwise authorised by Jemena, a meter set that is installed externally shall be located in a Type 1 enclosure complying with the following requirements:

1) The location of the Type 1 enclosure must be approved by Jemena at the site design stage;
2) The dimensions and clearances for a Type 1 enclosure must be consistent with the drawing in Appendix A – Enclosure Clearance Requirement for Meter Set or Jemena supplied meter set site layout drawings, whichever is the greater; to provide adequate clearance for maintenance work to be performed;
3) The clearance of the meter sets to source of ignition (including electrical meter box) and building openings shall be in accordance with Section 5.11 – Exclusion Zones for Basic Metering Equipment;
4) The Type 1 enclosure must have two entry points located at opposite sides of the enclosure;
5) The Type 1 enclosure must be fitted with a signage containing the following notes. The sign design must comply with AS/NZS 1319;

NO SMOKING
NO ENTRY AUTHORISED PERSONS ONLY
DANGER FLAMMABLE GAS
IN CASE OF EMERGENCY CALL 131 909

6) The floor of the Type 1 enclosure must be constructed of concrete and be level;
7) Appropriate permanent protection barriers (e.g., Armco railing) shall be designed and installed between a Type 1 enclosure and any nearby vehicular traffic path to the requirements of AS/NZS 1170.1. See Appendix B – Example of Appropriate Safety Barrier for an example;
8) The design and construction of the Type 1 enclosure must not restrict natural ventilation to ensure gas can freely escape;
9) The Type 1 enclosure must be fitted with a lock such as the Abloy utility lock that can be open by Jemena’s technicians;
10) If Type 1 enclosure is constructed of fencing, the fencing shall be designed and installed in accordance to AS 1725.1. For technical requirements of the fencing installation, refer to Jemena’s Metering Equipment Installation for more details;  
11) Meter set shall be installed on concrete footings to provide safe working surfaces for maintenance activities, prevent growth of vegetation, i.e., fire hazards, and provide support for fencing (if installed). For technical requirements of the footing installation, refer to Jemena’s Metering Equipment Installation for more details;  
12) Dimensions of footings in Type 1 enclosure shall match the site layout drawing for the specific meter set to be installed; and  
13) Meter set may be installed on existing footings, so long as inlet/outlet piping does not impede access to the equipment or pose a trip hazard.

5.8.3 METER SETS INTERNAL INSTALLATION REQUIREMENTS  

Unless otherwise authorised by Jemena, a meter set that is installed internally shall be located in a Type 2 enclosure complying with the following requirements. For meter sets in high rise building or plant room, refer to Section 5.9 - Basic Metering Equipment in High Rise Buildings.  

1) The location of the Type 2 enclosure must be approved by Jemena at the building/site design stage;  
2) The Type 2 enclosure shall be positioned on the external wall of a building at the point where the consumer service enters the building (point of entry) i.e., one (1) wall of the enclosure shall be formed by the external wall of the building;  
3) The Type 2 enclosure may be located at ground level or one level below ground. However, it must still be positioned on the external wall of the building as per point two (2) above;  
4) The Type 2 enclosure must meet the relevant Australian Standards and only be accessed via the external face of the customer’s building;  
5) The Type 2 enclosure must have adequate clearance for maintenance work to be performed. Clearance dimensions shall be as indicated in Appendix A - Enclosure Clearance Requirement for Meter Set or in Jemena supplied meter set site layout drawings, whichever is the greater. This requirement may be varied subject to specific approval from Jemena;  
6) The door of the Type 2 enclosure shall not impede access into the room, allowing maintenance activities to be undertaken on meter set;  
7) The building owner or the owner’s authorised representative shall be responsible for ensuring no obstructions are placed on either side of the door(s) of the Type 2 enclosure;  
8) Floor of the Type 2 enclosure must be constructed of concrete and be level;  
9) Meter set shall be installed on concrete footings to provide safe working surfaces for maintenance activities and prevent growth of vegetation i.e. fire hazards. For technical requirements of the footing installation, refer to Jemena’s Metering Equipment Installation for more details;  
10) Dimensions of footings in Type 2 enclosure shall match the site layout drawing for the specific meter set to be installed;  
11) Meter set may be installed on existing footings, so long as inlet/outlet piping does not impede access to the equipment or pose a trip hazard;  
12) The Type 2 enclosure must be fitted with a signage containing the following notes. The sign design must comply with AS/NZS 1319;
13) The **Type 2 enclosure** walls and door(s) must have the appropriate Building Code Australia (BCA) fire rating;

14) Where required by the BCA, the **Type 2 enclosure** will be fitted with a fire sprinkler;

15) A suitably rated, IECEx certified gas detector will be required within the **Type 2 enclosure** with Ex certified glands and fittings.

16) The **Type 2 enclosure** door(s) must be fitted with a lock such as the Abloy utility lock that can be open by Jemena’s technicians;

17) **Meter set** must not be installed in a **Type 2 enclosure** containing an unsealed grease trap;

18) The inlet and outlet piping of the **meter set** may run across the floor or onto walls. Any piping on the floor must be physically protected. Physical protection must be ramped to prevent trip hazards;

19) Any accumulated dirt or contamination on the **meter set** and its surrounding (such as floor or wall) shall be cleaned;

20) Any damaged floor and/or wall which supports or provides passage to gas pipework shall be repaired;

21) Ensure all gas pipework is clearly labelled or identified by signage;

22) Regulator breather/relief vent line terminal should be positioned such that gas discharge can be detected (i.e., smell or heard by the building owner, management staff or member of the public). The vent line terminal must be protected from rainwater and vermin ingress as indicated in Figure 5;

23) Ventilation ducts from the **Type 2 enclosure** that pass through a wall must be fitted with an appropriate fire damper;

24) Where gas supply at ≤ 7kPa enters the **Type 2 enclosure**,  
    a. The **Type 2 enclosure** shall be ventilated (naturally or mechanically) in accordance with AS/NZS 4645.1 - Gas Distribution Networks (Network Management). Refer to Section 5.10 – Ventilation of an Enclosure for more details;
    b. The clearance of the **meter sets** to source of ignition (including electrical meter box) and building openings shall be in accordance with Section 5.11 – Exclusion Zones for Basic Metering Equipment;
    c. Ensure the design and location of the ventilation openings of the **enclosure** are such that adequate ventilation is achieved in all parts of the enclosed area. Refer to Section 5.10 – Ventilation of an Enclosure for the requirements; and/or
    d. If the ventilation requirements in AS/NZS 4645.1 - Gas Distribution Networks (Network Management) cannot be achieved, refer to Jemena for assessment.

25) Where gas supply at > 7kPa enters the **Type 2 enclosure**,  
    a. The degree and availability of ventilation shall be used to classify the enclosure in accordance to AS/NZS 60079.10.1: Explosive atmospheres - Classification of areas - Explosive gas atmospheres. Classification should achieve a negligible extent (best case) classification or Zone two (2) (worst case) classification for the **enclosure**;
b. If an enclosure classification is Zone two (2) as per (25a) above, signage must be placed on the enclosure entry door(s) identifying the enclosure as a Zone two (2) hazardous area;

c. Type 2 enclosures will be required to undergo a Hazardous Area Classification assessment to establish zoning, gas type, ventilation etc. in accordance with Appendix A;

d. A suitably rated, IECEx certified gas detector will be required within the enclosure with Ex certified glands and fittings;

e. The building owner or its authorised representative shall ensure the gas detector is inspected no more than four (4) yearly by suitably trained and authorised personnel. Records of tests shall be kept and maintained;

f. Any other electrical equipment in the hazardous area shall be IECEx rated and maintained;

g. The building owner or its authorised representative shall be responsible for the maintenance and upkeep of fire protection systems, gas detection systems, hazardous area rated equipment, ventilation equipment and integrity of any vent lines. The maintenance record shall be kept for review by Jemena at any time;

h. The Hazardous Area Assessment/Classification Report plus the gas detector certification must be maintained by the owner of the enclosure;

i. A Hazardous Area Dossier will be required in accordance with AS/NZS 60079.14 and must be maintained by the building owner within the enclosure; and

j. Prior to gas supply, Jemena must sight the hazardous area assessment and dossier. Jemena reserves the right to withhold gas supply to an installation where the hazardous area assessment and dossier cannot be sighted.

5.9 BASIC METERING EQUIPMENT IN HIGH RISE BUILDINGS

5.9.1 GENERAL

Where basic metering equipment is located in an enclosure in a high rise building, the door of the enclosure must not open directly onto a fire stair or fire corridor.

For all high rise buildings of a residential nature, shopping centres or similar commercial centres where public may congregate, the gas pressure entering the building must be equal or less than 7kPa, unless explicitly approved otherwise by Jemena prior to final design.

5.9.2 RESIDENTIAL METER KITS FOR HIGH RISE BUILDINGS

Residential meter kits for high rise buildings shall comply with the following requirements:

(a) Meter kits to be accessible and allow unimpeded access for maintenance and meter reading;
(b) Meter kits for individual apartments may be grouped in a central location. In addition, they are not permitted to be located within individual apartments;
(c) Meter kits when grouped may be installed in a column configuration to a maximum height of 2200mm from floor to top of meter kit;
(d) Meter kits grouped internally in a meter room must comply with AS/NZS 4645.1 - Gas Distribution Networks (Network Management) ventilation requirements; and
(e) Must comply with Section 5.4 – Prohibited Basic Metering Equipment Locations.
5.9.3 METERS (RETAIL / COMMERCIAL) IN HIGH RISE BUILDINGS

**Basic metering equipment** for tenancies can be located within common areas or an agreed area within the development, generally as close as practicable to the point of entry of the building. Tenancy meters may be located in groups at a central location or may be in individual locations attached to a ring main. Metering locations shall comply with the following requirements:

(a) Accessible and allow unimpeded access for maintenance and meter reading;
(b) Located at a height as per the installation instruction of the **basic metering equipment**;
(c) In a location that is dry and ventilated in accordance to AS/NZS 4645.1 - Gas Distribution Networks (Network Management); and
(d) Must comply with Section 5.4 – Prohibited Basic Metering Equipment Locations.

5.9.4 METERS LOCATED ON ROOF TOPS

Where **basic metering equipment** is located on a roof top, the building design must consider safe access for service personnel, that complies with the following conditions:

(a) Not to be accessed via a ladder or other types of similar apparatus;
(b) Not to be installed near an unprotected ledge as per SafeWork NSW guidelines; and
(c) Consideration is given to lighting, pathway markers, safety barriers, etc.

Note: Drop down hatch / step ladder configurations are not an accepted means of access for maintenance personnel and equipment.

5.9.5 METERS IN PLANT ROOMS

**Basic metering equipment** with gas pressure equal or less than 7kPa may be located in plant rooms in which gas fired equipment is located. The following requirements must be complied.

(a) The enclosing walls and door must have a fire resistance rating of two (2) hours;
(b) Ventilation must comply with AS/NZS 4645.1 - Gas Distribution Networks (Network Management) requirements;
(c) The door of the plant room shall not impede access into the room, allowing maintenance activities to be undertaken on **basic metering equipment**;
(d) The building owner or the owner’s authorised representative shall be responsible for ensuring no obstructions are placed on either side of the door(s) of the plant room; and
(e) Refer also to requirements of Section 5.4 – Prohibited Basic Metering Equipment Locations.

5.10 VENTILATION OF AN ENCLOSURE

Where an **enclosure** containing a **basic metering equipment** is to be ventilated in accordance with AS/NZS 4645.1 - Gas Distribution Networks (Network Management), gas shall be vented in a way so that vent discharge does not create a hazard to the public or to building personnel.

The **enclosure** shall be ventilated by one of the methods below:

a) For natural ventilation to outside, the following applies:
   
i. Two permanent openings shall be provided directly to outside, each with a minimum free ventilation area provided as calculated:
      \[ A = R \times F \]
      
      \[ A = \text{the minimum free ventilation area (mm}^2\) \]
\[ R = \text{equipment rated capacity (m}^3/\text{h)} \]

\[ F = 1000 \text{ for pressures not exceeding 7 kPa; or} \]
\[ = 2000 \text{ for pressures exceeding 7 kPa but not exceeding 200 kPa; or} \]
\[ = 3000 \text{ for pressures exceeding 200 kPa but not exceeding 400 kPa} \]

ii. All or part of the required ventilation may be supplied by air ‘leaked’ into an \textit{enclosure} through gaps in the structure;

iii. Natural ventilation construction must not be of a type that restricts the flow of natural gas to the outside of the \textit{enclosure}. The design must take into account that natural gas is lighter than air to avoid gas entrapment within the \textit{enclosure};

iv. The openings shall be located to ensure the distance between the top of the upper opening and the ceiling of the \textit{enclosure}, and the distance between the bottom opening and the floor of the \textit{enclosure} does not exceed 5% of the height of the \textit{enclosure};

v. The openings shall be located such that the distance between those venting areas and any mechanical ventilation air intake to the building is at least three (3) m;

vi. The distance of any ventilation openings shall be at least one (1) m horizontally and three (3) m vertically from any opening to the building; and

vii. The distance of any \textit{enclosure} open ventilation openings and an electrical substation shall be at least three (3) m in any direction.

b) For mechanical ventilation, the following applies:

i. Where the ventilation for the \textit{enclosure} is to be provided by mechanical means, this shall be directly to outside and conform with the minimum airflow to outside calculation as follow;

\[ \text{Minimum airflow to outside in L/s (requires adequate airflow into the \textit{enclosure})} = \frac{\text{meter badge capacity (m}^3/\text{h (gas) at 125 Pa)}}{125} \times 0.1 \]

ii. Fan motors shall be remote from the exhaust duct or be rated to operate in a Zone one (1) hazardous area (refer to \textit{AS/NZS 60079.10.1});

iii. The openings shall be located such that the distance between those venting areas and any mechanical ventilation air intake to the building is at least three (3) m;

iv. Ventilation by mechanical means must service the \textit{enclosure} containing the \textit{basic metering equipment} only and not ventilate any other area of the building;

v. The distance of any ventilation openings shall be at least one (1) m horizontally and three (3) m vertically from any opening to the building; and

vi. The distance of any \textit{enclosure} open ventilation openings and an electrical substation shall be at least three (3) m in any direction.

c) Where a combination of natural and mechanical ventilation is to be used to ventilate an \textit{enclosure}, the following applies:

i. Exhaust air shall be provided by mechanical means;

ii. No open flued gas appliance shall be installed in the \textit{enclosure};

iii. The openings shall be located such that the distance between those venting areas and any mechanical ventilation air intake to the building is at least three (3) m;

iv. The distance of any ventilation openings shall be at least one (1) m horizontally and three (3) m vertically from any opening to the building; and

v. The distance of any \textit{enclosure} open ventilation openings and an electrical substation shall be at least three (3) m in any direction.
5.11 EXCLUSION ZONES FOR BASIC METERING EQUIPMENT

5.11.1 EXCLUSION ZONES FOR LOW PRESSURE BASIC METERING EQUIPMENT

For low pressure basic metering equipment, the following exclusion zones and clearances apply.

a) A distance of x and y shown in Figure 3 from any openings, e.g., door, window, mechanical air inlets or any other opening into a building where gas can accumulate, measured from the point of gas discharge (e.g. regulator vent or openings from a meter box) of the basic metering equipment; and

b) A distance of x and y shown in Figure 3 from source of ignition (including electricity meter box), measured from the point of gas discharge (e.g., regulator vent or openings from a meter box) of the basic metering equipment.

Figure 3: Basic metering equipment exclusion zones to openings and source of ignition

<table>
<thead>
<tr>
<th>Distance</th>
<th>Venting regulators</th>
<th>OPSO or non-venting regulators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source of ignition (mm)</td>
<td>Opening (mm)</td>
<td>Source of ignition (mm)</td>
</tr>
<tr>
<td>x</td>
<td>500</td>
<td>800</td>
</tr>
<tr>
<td>y</td>
<td>500</td>
<td>1000</td>
</tr>
</tbody>
</table>

Notes
1. For venting regulators the vent position is horizontal or downwards, if regulator vent discharges in an upwards direction, y shall be multiplied by 1.5.

5.11.2 EXCLUSION ZONES FOR MEDIUM PRESSURE BASIC METERING EQUIPMENT

For medium pressure basic metering equipment with a pressure relief valve installed, apply the clearances and exclusion zones in Section 5.11.1 as well as the exclusion zones in Section 5.12.2 for the relief vent terminal.

5.12 RELIEF VENT

5.12.1 GENERAL

All regulator set breathers/relief vents must be vented outside the enclosure according to the requirements in AS/NZS 4645.1 - Gas Distribution Networks (Network Management). This may require penetrations through the external face of the building for vent line installation. The exclusion zones for the vent terminal shall be in accordance with the requirements in Section 5.12.2 - Relief Vent Terminal Location.
Vent line diameter shall be sized to limit maximum backpressure at the relief valve to 10% above relief valve set pressure.

5.12.2 RELIEF VENT TERMINAL LOCATION

A relief vent terminal shall be located where gas discharge will dissipate without entering buildings or creating any hazard. The point of discharge shall:

a) Be located so there is no ignition source or opening into a building within the exclusion zone shown in Figure 4;

b) Be at least three (3) m from a mechanical air inlet unless calculations based on Figure 4 below give a greater distance;

c) In cases where there is any object (e.g. wall, ground, etc.) in the direction of discharge and within the exclusion zone of Figure 4, install a vent line to redirect the gas discharge so there is no ignition source or opening into a building within a sphere of radius L (of Figure 4) centred on the vent terminal discharge point.

Figure 4: Vent Terminal Exclusion Zone

(a) Vent terminal exclusion zone with no object in the discharge direction

(b) Vent terminal exclusion zone with an object in the discharge direction

<table>
<thead>
<tr>
<th>Vent terminal diameter (not shown)</th>
<th>Exclusion zone, m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L</td>
</tr>
<tr>
<td>Not exceeding 50 mm</td>
<td>1.5</td>
</tr>
<tr>
<td>Exceeding 50 mm</td>
<td>1.5T</td>
</tr>
</tbody>
</table>

Notes

1. \[ T = \frac{\text{Vent terminal diameter (mm)}}{50} \]

2. The exclusion zone shown in Figure 4 (a) and (b) depict a space consisting of a cylinder in the discharge direction and a hemisphere in the opposite direction of discharge from the vent terminal discharge point.
5.12.3 RELIEF VENT TERMINAL DESIGN

A relief vent terminal shall be designed as shown in Figure 5 and,

a) Be constructed such that it shall prevent the entry and accumulation of water (e.g. sprinkler water, rainwater etc.), birds, insects or other materials that could cause blockage;

b) The vent line will include a union near the device to be vented, unless the vent line can otherwise be readily removed; The mesh material shall be chemically compatible with the vent line material, e.g., for copper vent piping, brass mesh shall be used;

c) Minimum mesh size shall be 2mm x 2mm aperture;

d) Maximum mesh size shall be 3mm x 3mm aperture;

e) Due to flow restriction generated by the mesh, the vent terminal diameter must be increased one size larger than the vent line diameter;

f) Mesh shall be cut to match the elliptical shape of the vent terminal chamfer. Mesh shall be attached to vent terminal using tack brazing (silver solder).

Figure 5: Recommended Vent Terminal Geometry

5.12.4 PROHIBITED MATERIALS FOR VENT PIPE

Jemena prohibits the use of composite and plastic vent pipes.

5.13 RELIEF VALVES

All relief valves (including those fitted integrally to a regulator) on basic metering equipment installed inside a building must be vented to the outside atmosphere according to the requirements in AS/NZS 4645.1 - Gas Distribution Networks (Network Management) or as per Jemena drawings.
This requirement also applies to partial relief valves.

5.14 METER CONTROL VALVES

**Meter control valves** must be of the quarter turn type, furnished with BSP tapered female threads and be certified with AGA, SAI Global, IAPMO or other accredited body. The design must be suitable for the conditions of use. The material used shall be brass or stainless steel. The **licensed person** must provide the valve on the end of the riser when they install the **consumer service**.

5.15 OUTLET METER PRESSURE FOR SIZING CONSUMER PIPING SYSTEM

Pressure loss between the inlet of the meter (metering pressure) and the outlet of the meter should not exceed the values shown in Table 6 below:

<table>
<thead>
<tr>
<th>Inlet Meter Pressure (kPa)</th>
<th>Pressure drop across the meter (kPa)</th>
<th>Recommended Outlet Meter Pressure (kPa) to be used when sizing consumer piping system</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.38</td>
<td>0.125</td>
<td>1.255</td>
</tr>
<tr>
<td>2.75</td>
<td>0.25</td>
<td>2.5</td>
</tr>
<tr>
<td>5</td>
<td>0.5</td>
<td>4.5</td>
</tr>
<tr>
<td>35</td>
<td>0.5</td>
<td>34.5</td>
</tr>
<tr>
<td>100</td>
<td>0.5</td>
<td>99.5</td>
</tr>
</tbody>
</table>

5.16 METER IDENTIFICATION

Where two or more meters are installed in the same location, each meter must be identified by clear marking on the **meter kit** to indicate the building/premise/shop or part of the building/premise/shop supplied by the meter.

5.17 METER BY-PASS

If an uninterrupted supply of gas is essential **Jemena** must be notified at the time of requesting supply to enable **Jemena** to determine the suitability of a permanent meter by-pass. Meter by-passes are usually installed in the following conditions:

(a) Continuously operated industrial or commercial processes e.g. galvanising kettles;

(b) Public and large private hospitals;

(c) Processes carried out regularly during late evening and early morning, e.g. **gas installation** bread baking; or

(d) Air conditioning systems under continuous operation.

The authority to fit a by-pass must be obtained from **Jemena** prior to a by-pass being fitted.

Meter by-pass valves are sealed in the closed position and must not be operated unless authorised by **Jemena**.
5.18 METER OPERATING PRESSURE

The setting of basic metering equipment operating pressures is the responsibility of Jemena and should not be adjusted by any other parties unless authorised by Jemena.

5.19 METER HANDLING

When transporting, storing, moving, installing or changing meters:

(a) Handle with care to prevent damage, place carefully and do not drop;
(b) Cap or seal their inlet and outlet connections from the atmosphere;
(c) Keep in an upright position;
(d) Keep clear of ignition sources if the meter has previously contained gas;
(e) Prevent contamination by liquids or solids; and
(f) Install in accordance with relevant Jemena installation instructions/drawings.

5.20 METER CHANGE / METER UPGRADE

When the gas flow requirements change and a premises requires a smaller or larger meter to be installed, the licensed person performing the work must:

(a) Put in the application via gas portal;
(b) Contact Jemena's authorised contractor for the new meter to be issued;
(c) Install the new meter;
(d) Provide a leak test certificate (and a certificate of compliance if the work is not performed by Jemena) for the basic metering equipment to Jemena;
(e) Attach an identification label to the old meter stating the address from which the meter was disconnected; and
(f) Return the old meter to Jemena as per Section 5.21 – Returning a Gas Meter below.

5.21 RETURNING A GAS METER

Where explicitly given permission by Jemena, the licensed person may disconnect meters for return to Jemena. The licensed person performing the work must, after disconnecting the meter:

(a) Cap off the consumer piping system;
(b) Cap off the consumer service pipe;
(c) Cap off the meter inlet and outlet connection;
(d) Read, record and provide the final meter reading to Jemena;
(e) Attach an identification label stating the address from which the meter is being returned and the master meter number, if applicable;
(f) Return the meter to Jemena within two (2) business days of the disconnection occurring; and
(g) Complete a “Home of Meter” notice.
5.22 SAFETY SHUT OFF SYSTEMS

Automatic fast acting safety shut off valves and gas appliances installed close to the outlet of basic metering equipment can cause the over pressure protection devices fitted to basic metering equipment to activate prematurely. This may lead to unnecessary shutdown of supply.
6 COMPLETION OF GASFITTING WORK

6.1 LEAK TEST CERTIFICATE

Immediately before the licensed person performing any gasfitting work completes the work, that licensed person must conduct a leak test in accordance with Clause 8 (4) of the Gas Supply Regulation and Sections 4.8 – Leak Testing the Consumer Service and 4.9 - Pipework and Components not subjected to the Leak Test of these Rules to ensure that the gasfitting work is safe to connect to the network.

If the leak test demonstrates the gasfitting work is safe to connect to the network, then the licensed person must:

(a) Complete a leak test certificate which specifies that the gasfitting work has been tested and the gas supply to the premises has been established or re-established or is ready to be established or re-established; and

(b) Provide that leak test certificate to Jemena and the consumer within seven (7) days after the test is conducted.

If the leak test demonstrates that the gasfitting work is unsafe to connect to the gas network, then the licensed person must:

(a) Complete a leak test certificate which specifies that the gasfitting work is defective and unsafe to connect to the network, and

(b) Provide that leak test certificate to Jemena and the consumer as soon as practicable after the test is conducted.

The person who performs the test must keep a copy of the leak test certificate for five (5) years from the date on which it was issued.

Note: for a new consumer service, Jemena requires that the leak test certificate be provided before Jemena will issue the meter, install the network service and connect to the consumer service.

An example of a Leak Test Notification Form is set out in Appendix C - Example of Leak Test Certificate.

6.2 CERTIFICATE OF COMPLIANCE

After a licensed person completes any gas installation, the licensed person must issue a certificate of compliance with respect to that gas installation to both:

(a) The owner of the installation or a person having the control or management of the installation, and

(b) NSW Fair Trading,

as required by clause 26 of the Gas Supply (Consumer Safety) Regulation 2012.

A copy of the certificate of compliance must also be provided by the licensed person to Jemena within five (5) working days after the gas installation is completed.

The licensed person who issues the certificate must keep a copy of the certificate of compliance for five (5) years from the date on which it was issued.
Note: For a new consumer service, Jemena requires that the certificate of compliance be provided before Jemena will issue the meter, install the network service and connect to the consumer service.

An example of a Certificate of Compliance is set out in Appendix D – Example of Certificate of Compliance.

6.3 CORRECTION OF DEFECTIVE WORK

At the request of Jemena, a licensed person must:

(a) Correct any defects in any gasfitting work for which that licensed person is responsible,

(b) Carry out these corrections without undue delay; and

(c) Promptly issue certificates in respect of such work as required under Sections 6.1 – Leak Test Certificate and 6.2 – Certificate of Compliance.
APPENDIX A – ENCLOSURE CLEARANCE REQUIREMENT FOR METER SET
APPENDIX C – EXAMPLE OF LEAK TEST CERTIFICATE

Leak Test Notification Form
Jemena Asset Management Pty Ltd ABN 53 086 013 461

This form must be filled out by anyone who carries out a leak test on a gas installation.
A gas installation refers to all components from the boundary of the premises to the connection point of the appliance.

<table>
<thead>
<tr>
<th>Name of Gas Consumer (if not known, please state name of gas retailer)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Full Address of the Gas Installation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Meter Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of Person Carrying Out the Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of Employer of Person Carrying Out the Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>License No. &amp; Details of the above person or employer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

**RESULTS OF TEST**

<table>
<thead>
<tr>
<th>Tick One</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gas Installation Tested and is safe to connect; (if gas supply has been ready or is ready to be established or re-established)</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gas Installation is defective and unsafe to connect; NOTE: IF YOU TICK THIS BOX, PLEASE PROVIDE DETAILS BELOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Details of Faults Identified</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>White: Consumer Copy</th>
<th>Blue: Jemena Copy</th>
<th>Yellow: Copy must stay in book</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>95-1116</td>
</tr>
</tbody>
</table>

In respect of the gasfitting work I certify that,

1. The gasfitting work complies with the Jemena Network Operator Rules

2. I have tested the installation for defects immediately after completion and inspected all containers and appliances connected to the installation; where the gas work was undertaken by me, and

3. The installation is in safe working order____________ (signed) ________________ (date) __/__/____

OR,

4. The ☐ path valve, ☐ consumer service, ☐ basic metering equipment is/are defective for the following reason(s):
   __________________________________________________________________________________________________
   __________________________________________________________________________________________________
   __________________________________________________________________________________________________

5. I have attached a durable defect notice to the ______________ (signed) ________________ (date) __/__/____

and informed Jemena on (date) __/__/____
APPENDIX D - EXAMPLE OF CERTIFICATE OF COMPLIANCE

Form available from the [NSW Fair Trading](https://www.fairtrading.nsw.gov.au) web site.

---

<table>
<thead>
<tr>
<th>PROPERTY / VEHICLE OWNER DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>House/Unit No.</td>
</tr>
<tr>
<td>Lot No.</td>
</tr>
<tr>
<td>Owner's Name</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VEHICLE DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make</td>
</tr>
<tr>
<td>Engine Number</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LICENSEE'S DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
</tr>
<tr>
<td>Phone No.</td>
</tr>
<tr>
<td>Tradiespersons Certificate No. (MVTC)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INSTALLATION DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Work Commenced</td>
</tr>
<tr>
<td>Type of Work</td>
</tr>
<tr>
<td>New</td>
</tr>
<tr>
<td>Alteration</td>
</tr>
<tr>
<td>Extension</td>
</tr>
<tr>
<td>Repair (specify)</td>
</tr>
<tr>
<td>CNG Autogas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APPLIANCES</th>
<th>AUTOGAS CONTAINERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>Type of Appliance</td>
</tr>
<tr>
<td>0</td>
<td>Stationary engine power or air conditioner</td>
</tr>
<tr>
<td>1</td>
<td>Crank type water heater</td>
</tr>
<tr>
<td>2</td>
<td>Refrigeration or Absorption chiller</td>
</tr>
<tr>
<td>3</td>
<td>Instantaneous water, pool or spa heater</td>
</tr>
<tr>
<td>4</td>
<td>Tank hot water heater</td>
</tr>
<tr>
<td>5</td>
<td>Top plate, grill or BBQ</td>
</tr>
<tr>
<td>6</td>
<td>Oven for baking, curing or drying</td>
</tr>
<tr>
<td>7</td>
<td>Decorative flair or gas lights</td>
</tr>
<tr>
<td>8</td>
<td>Room heater or space heater</td>
</tr>
<tr>
<td>9</td>
<td>Other appliances</td>
</tr>
</tbody>
</table>

In respect of the gasfitting work I certify that,

1. The gasfitting work complies with □ AS5681 □ AS4841 □ AS1596 □ AS/NZ1425 □ AS/NZ2739, and
2. I have tested the installation for defects immediately after completion and inspected all containers and appliances connected to the installation; where the gas work was undertaken by me, and
3. The installation is in safe working order □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □
APPENDIX E - DIAGRAM OUTLINING NSW NETWORK CONNECTION JURISDICTIONS

Jurisdiction | Standard | Compliance with
---|---|---
NSW Trade & Investment | AS/NZS4645.1 | Network Operator's SAOP processes and procedures

Gas Supply Point | NSW Fair Trading | Gas Appliances
---|---|---
AS 5601 | | Gas Installation

Consumer Service
1) Work on the Consumer Service and Basic Metering Equipment is carried out by either:
   a. The Network Operator; or
   b. Licensed person authorised by the Network Operator in compliance with the Network Operator Rules
2) Upon completion of works the installation is to be leak tested
3) Provides a Certificate of Compliance

Note: Where work is done by other than Network Operator (or contractor), Network Operator Rules require leak test of Consumer Service.