ES PIPELINES

ESP/PM/MP6

PROCEDURE FOR

THE INSTALLATION, EXCHANGE, RELOCATION OR REMOVAL OF INDUSTRIAL AND COMMERCIAL METERING INSTALLATIONS (INLET PRESSURES NOT EXCEEDING 7 BAR GAUGE)

October 2022

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Audience

ESP staff and Service Providers who have responsibility for the design, installation and commissioning of gas meter installations.

Prepared by:	**Geoff Ansell – Compliance Officer**
Approved by:	**Rhodri Hughes – Safety & Compliance Engineer**
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APPENDICES

FOREWORD

ES Pipelines Limited's documents are reviewed and revised, when necessary, by the issue of new editions. Users should ensure that they are in possession of the latest edition by referring to the ES Pipelines Limited Register of Engineering Documents.

Compliance with this document does not confer immunity from prosecution for breach of statutory or other legal obligations.

Reference should also be made to IGEM/GM/8 Parts 1 to 5 in addition to this procedure to ensure compliance with all relevant industry legislation.

DISCLAIMER

This engineering document is provided for use by ES Pipelines Limited and such of its contractors as are obliged by the terms of their contracts to comply with this engineering document. Where this engineering document is used by any other party, it is the responsibility of that party to ensure that the engineering document is correctly applied.

BRIEF HISTORY

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MANDATORY AND NON-MANDATORY REQUIREMENTS

In this document:

must: indicates a mandatory requirement.
should: indicates best practice and is the preferred option. If an alternative method is used then a suitable and sufficient risk assessment must be completed to show that the alternative method delivers the same, or better, level of protection.

PROCEDURE FOR

THE INSTALLATION, EXCHANGE, RELOCATION OR REMOVAL OF INDUSTRIAL AND COMMERCIAL METERING INSTALLATIONS (INLET PRESSURES NOT EXCEEDING 7 BAR GAUGE)

INTRODUCTION

These Requirements have been prepared to provide an ES Pipelines Limited (ESP) standard covering the installation, exchange, relocation, and removal of meter installations, including their associated filters and regulators, serving industrial and commercial end users where the meters are used for billing purposes.

Persons undertaking meter work must be competent to do so, and hold the appropriate qualification to meet the criteria laid down in the Gas Safety (Installation and Use) Regulations 1998

All meters must be installed in accordance with the Gas Safety (Installation & Use) Regulations 1998.

These Requirements specify the minimum standards which shall be applied such that installations will operate safely and reliably whilst ensuring that the gas consumption is metered as accurately as possible commensurate with the costs and practicable means of achieving that accuracy.

At the time of publication, it is believed that these procedures when competently carried out satisfy the regulations currently in force relating to metering/pressure regulating installations.

All pressure references in this document refer to gauge pressure.

1. SCOPE

1.1 This document details procedures for the safe installation, exchange, relocation, or removal of industrial and commercial primary gas meters with capacities exceeding 6m^3/h and inlet pressures not exceeding 7 bar gauge

1.2 When a domestic sized meter supplied from a low-pressure system is fitted in industrial and commercial premises, the installation etc. should be in accordance with established procedures for domestic meter installations and ESP Procedure ESP/PM/MP3. Such installations are the subject of BS 6400 ‘Specification for the installation, exchange, relocation, maintenance, and removal of gas meters not exceeding 6m^3/h Part 1 Low Pressure (2nd family gases)’, and Part 2 Medium Pressure (2nd family gases), which covers meters up to 6 m^3 /h rating. As detailed within 1.1 these are outside the Scope of this document.

2. REFERENCES

This Procedure makes references to the documents listed in Appendix A unless otherwise specified the latest editions of the documents apply, including all amendments and revisions.

3. DEFINITIONS

The requirements and definitions applying to this Procedure are listed in Appendix B.

4. RESPONSIBILITIES

4.1 ES Pipelines Limited (the gas transporter)

ES Pipelines Limited will:

a) at the request of the shipper, install a service pipe, terminating with an Emergency Control Valve (ECV) in an agreed position. This ECV will be determined as the end of the distribution Network as designated within IGEM/G/1. The termination and route of the service will have been agreed with ESP (the gas transporter) and the consumer or the shipper/supplier.
b) ensure, under normal supply conditions, that ‘adequate’ pressure is made available at agreed flow rates to ensure a metering pressure of 21 mbar is maintained (refer to IGEM/TD/3, IGEM/TD/ 4 and IGEM/GL/1 for further information).

4.2 ES Pipelines Limited

ES Pipelines Limited will:

a) at the request of a shipper, install a meter installation which meets the requirements of this procedure
b) at the request of a shipper exchange a meter installation in accordance with these procedures
c) at the request of a shipper remove a meter installation in accordance with these procedures.

4.3 Consumer/developer

It is the responsibility of the consumer/developer to:

a) provide a suitable location and adequate housing for the installation and, where appropriate other associated equipment in accordance with the requirements of ESP (the gas transporter)
b) obtain, where necessary, planning approval from the appropriate authority for the siting of the meter housing
c) provide adequate details of the current and projected gas consumptions.

4.4 Shipper

It is the responsibility of the gas shipper to:

a) identify with the consumer/developer and notify ESP of the maximum projected peak hourly rate that the service and metering installation will supply
b) Negotiate with the consumer/developer and ESP a suitable meter position
c) Agree with ESP (the gas transporter) and the consumer/ developer the location, position/route and termination of the service
d) Inform the consumer of the meter housing requirements including minimum dimensions, and electrical, ventilation and security requirements.

4.5 Supplier

It is the responsibility of the gas supplier to:

a) Assume the responsibility of the shipper as specified above
b) Where the supplier is not a shipper, ensure that liaison has taken place between the shipper, supplier, and ESP with respect to these responsibilities.
c) Ensure the actions required under the Gas Safety (Installation and Use) Regulations 1998, Regulation 16(3) b are taken.

4.6 Utility Infrastructure Provider (UIP) organisation

4.6.1 The UIP organisation takes on the communication role of ES Pipelines Limited in 4.1, 4.4 and 4.5 of this document, however the UIP carries out the operational actions under the instruction of ESP or under an Asset Adoption Agreement, with ESP validating all designs and agreements.

4.6.2 Inherent within the process of ESP taking ownership of the service/main laid by a UIP organisation, the UIP organisation will have to have their design validated and accepted by ESP and enter into an Asset Adoption Agreement. On completion, provided that the service/main has been installed to an appropriate industry standard, and that all completion documentation has been correctly submitted, ESP will adopt the service/main.

4.6.3 For individual I&C services, ESP may be the liaison point between the customer/end user, and the self-lay/UIP organisation.

4.7 MCOP

4.7.1 ESP as the MAM shall Comply with notification processes and requirements as per the Code of Practice for Meter Asset Managers and Approved Meter Installers (MCoP).

5. METERING INSTALLATION COMPONENTS

5.1 Component Specifications

Components within the metering installation must comply with the Technical Requirements detailed in ESP document ESP/PM/MP4 ‘Specifications for Industrial and Commercial Metering Installations (Inlet pressures not exceeding 7 bar gauge)’.

5.2 Sizing of meters

5.2.1 The total capacity of the meter installation shall be determined in accordance with the requirements detailed in both of ESP/PM/MP4 and in ESP/PM/MP5.

6. SITING OF METER INSTALLATIONS

6.1 General

a) The installation of gas meters must comply with the Gas Safety (Installation and Use) Regulations 1998 and must comply with the requirements of IGEM/GM/6 Non-domestic meter installations. Standard designs, and IGEM/GM/8 Meter installations of Flow exceeding 6m^3/h. Part 2: Location, housings and compounds.

b) A newly installed meter must only be sited in a position where the consumer has:
   i) Adequate access to operate the emergency control.
   ii) Suitable access to read the meter.

c) The design and construction of the meter box, housing or compartment must be of a type approved by ESP.

d) Prior to the installation of a meter, there should be agreement on its location between the developer/property owner/consumer, agent or local authority, the gas supplier and ESP.

e) A risk assessment must be carried out by the operative prior to undertaking meter work.

f) Prior to undertaking meter work any exposed metalwork must be checked with an approved ‘Volt-Stick’ in accordance with ESP/PM/EL2.

g) Care must be taken to ensure that when drilling holes to fit brackets, clips etc.; electrical cables and/or pipes are not hidden in the wall.

h) The size of the service pipe will depend upon the required gas load and the acceptable pressure drop. It must be of sufficient size so that, under normal supply conditions, there is adequate pressure at the outlet of the emergency control to ensure a metering pressure of 21mbar (nominal) is achievable. It should terminate on the left-hand side of the meter position.

i) The gas supply to the meter must be controlled by an emergency control which must be sited upstream of any other associated controls, but as close as practicable to the inlet of the meter. The normal practice is for this emergency control to be the ECV at the defined end of the gas distribution network.

j) The agreed location must allow easy access for inspection, reading of index, operation of the emergency control, adjustment of the meter regulator, maintenance, and replacement of all metering components.

k) The metering installation must be installed in an adequately ventilated

location.

l) The siting of the meter must be such that it does not constitute a danger to any persons.

m) External meter installations must be located in a suitable meter housing that gives adequate protection from the weather or acts of vandalism.

n) The meter must be sited as near as practicable to where the service pipe enters the building or outbuilding.

o) The meter installation must not be sited in a location vulnerable to damage from flooding, weather conditions or acts of vandalism.

p) The meter must not be located where it will be in direct contact with cement or a floor that may be frequently wetted.

q) Where electrical apparatus and gas meters and their associated controls are to be fitted within 150mm of one another, a partition made of electrical insulating material (e.g., wood, plastic) must be securely fixed between them (See also ESP/PM/EL3).

r) There must be at least 25mm separation between any gas fitting and electrical cable.

s) Care should be taken in the handling and transportation of meters (see Clause 12 of this document).

t) For Multi Occupancy Buildings, the meter locations must be designed by a GIRS accredited D-MOB company (Design Multi Occupancy Buildings) and the distributed supply to the ECV or emergency control constructed by an accredited CMOB company (Construction Multi Occupancy Buildings). Refer to Lloyd's accreditations and IGEM/G/5 Gas in Multi Occupancy Buildings for further detail.

6.2 Meter locations

6.2.1 Pre-installation check

6.2.1.1 Before commencing the installation of a meter, complete the following checks. The meter must not be installed if the installation

a) Will adversely affect a means of escape in the event of a fire (see 6.2.5 of this document).

b) Does not have suitable separation from electrical apparatus (see 6.1q of this document).

c) Does not have a suitable weatherproof location (see 6.2.4 of this document).

d) Is not to the approved design, in the approved location, or does not have the required standard of fittings/ancillary equipment.

e) Is in a hazardous area/zone not identified and mitigated for in the original Design

6.2.1.2 Where there is doubt about the supply pressure tier of the service to which the installation is to be connected the supply pressure of the service must be verified**.**

6.2.2 Suitable locations

For Multi Occupancy Buildings specific controls apply, and reference must be made to IGEM/G/5 Gas in Multi Occupancy Buildings

6.2.2.1 The following locations are suitable for gas meter installations:

a) In a purpose-made meter box outside the building.
b) In a purpose-made meter compound or compartment outside or inside the building. Refer to IGEM/G/5 for Multi Occupancy Buildings
c) Inside the building. Refer to IGEM/G/5 for Multi Occupancy Buildings
e) At the boundary of the property, in a suitable enclosure.

6.2.3 Locations to be avoided

6.2.3.1 The meter should not be installed in the following locations:

a) In close proximity to any source of heat, or where it may be subjected to extremes of temperature.
b) Where food is stored.
c) Where it might be liable to mechanical damage.
d) Where it might cause an obstruction.
e) Where it might be affected by a corrosive atmosphere or liquid.
f) Where readily combustible material is stored.

6.2.4 Installations outside buildings

6.2.4.1 External installations for meters must be located in housings that give adequate protection against the weather and acts of vandalism.

6.2.4.2 Meters must not be installed into any lockable meter housing unless the consumer has been provided with a suitably labelled key for the lock.

a) Meter boxes

Meter boxes **must** be designed and constructed in such a manner that access to the meter may only be gained by using a special key which must be made available to the consumer.

The design of the box must be such that in the event of an escape, gas cannot enter the building and/or the cavity of its external wall. Surface mounted boxes **must** be installed so that they do not bridge damp proof courses.

b) Meter compartments/housings

A meter compartment/housing must be of sufficient size to accommodate the meter and associated controls and must be provided with adequate ventilation. For smaller installations the adventitious ventilation around the door may be sufficient but for larger meter installations purpose-built ventilation must be provided to comply with the requirements of IGEM/GM/8 Part 2. The compartment should be sized in order to minimise the likelihood of its use for storage of other items whilst providing adequate space around the meter installation for maintenance to be safely carried out.

6.2.5 Installations inside buildings

6.2.5.1 The meter can be installed inside a suitable outbuilding or inside the premise.

As well as meeting the requirements of 6.2.3.1, the following requirements must apply to meter installations inside the premises:

i) **New installations** - premises with two or more floors above ground floor.

Note: New installation means this is the first time a meter installation has been installed in this location

When requested to install a new meter installation in a premise with 2 or more floors above the ground floor, ESP must not install the gas meters on or under the stairway, or in any other part of the premise, where the stairway or that part of the building forms a sole means of escape in the event of a fire.

THIS MUST NOT BE DONE; IT IS AGAINST THE LAW

ii) **All other installations** - (including premises with less than two floors above the ground floor, and replacement meters in premises with two or more floors above ground floor).

Meters must be installed where reasonably practicable, in accordance with 6.1 of this document.

iii) If there is any doubt regarding the meter location then the job should be referred to the Design Team of ESP.

7. INSTALLATION

7.1 General

The installation of industrial and commercial metering equipment falls within one of three distinct categories:

Category 1 involves meter installations associated with small or medium sized commercial supplies and involves the installation of Diaphragm meters within the range of sizes U16 to U160 (G10 to G100) and covers a range of meter installation capacities of up to and including 16m^3/h to 160m^3/h and with meter inlet pressures not exceeding 75mbarg. Such installations will generally involve the fabrication of the various components associated with the installation on site by the installation engineer. It should be noted that installations within this category may include the installation of a small capacity Rotary Displacement meter in place of a diaphragm meter (this would generally only occur where the installation has a capacity requirement either equal to or greater than 65m^3/h).

Category 2 involves meter installations associated small or medium sized commercial supplies and involves the installation of Diaphragm meters within the range of sizes U16 to U160 (G10 to G100) and covers a range of meter installation capacities of up to and including 16m^3/h to 160m^3/h and with meter inlet pressures exceeding 75mbarg but not exceeding 7barg. Such installations generally involve the provision of pre-assembled factory-built meter modules, and the installation involves the connection of the pre-assembled module to the service termination associated with the incoming service infrastructure which will in all cases be operated by ESP. It should be noted that installations within this category may include the installation of a small capacity Rotary Displacement meter in place of a diaphragm meter (this would generally only

occur where the installation has a capacity requirement greater than 65m^3/h).

Category 3 involves meter installations associated with larger commercial supplies and industrial supplies requiring meter installations having capacities in excess of 160m^3/h and with meter inlet pressures up to 7barg. Such installations generally involve the provision of pre-assembled factory-built meter modules, and the installation involves the connection of the pre-assembled module to the service termination associated with the incoming service infrastructure which will in all cases be operated by ES Pipelines Limited. These installations will include either Rotary Displacement or Turbine meters.

This ESP/PM/MP6 procedure does not extend to the installation and commissioning of pressure regulating equipment associated with the meter installation where the inlet pressure to the installation exceeds 75 mbar (Categories 2 and 3). Such equipment will always be associated with pre-assembled meter modules and the commissioning of the pressure regulating equipment shall only be completed by a competent person in accordance with the manufacturers commissioning instructions. The metering equipment located downstream of the pressure regulating equipment shall be installed and commissioned as a separate activity in accordance with Section 7 of this ESP/PM/MP6 procedure.

7.1.1 Prior to undertaking meter-work, any exposed metalwork must be checked with an approved 'Volt-Stick'. Further guidance can be found in ESP/PM/EL2.

7.1.2 ESP owned meters must only be installed by competent persons acting on behalf of ES Pipelines Limited. All meters must carry the emergency notice as required by IGEM/GM/8 Part 5: Notices and labels. The date the meter was installed must be entered on to an appropriate label fitted to the meter. Also, the exchange/ fix details of the meter must be entered on to an appropriate label fitted to the meter. Where appropriate the 'On/Off' tape must also be attached on, or adjacent to the emergency control (see Figure 1 of this document), or for larger installations the ECV control mechanism (hand-wheel or similar) is clearly identified, and the direction of opening/closure is clearly indicated.

7.1.3 ESP will not connect a meter unless normal gas service pressure is available at the service termination at the time of the meter installation works, and a gas supply contract with a gas supplier is in place.

7.1.4 ESP will not connect a meter to existing installation pipework unless it has been established that the gas supply is currently in use and that any connected appliances have previously been commissioned.

7.1.5 In all other circumstances the meter must be installed with either its outlet capped, or where appropriate the outlet valve immediately downstream of the meter in the closed position.

7.1.6 If, in the course of carrying out meter work, a smell of gas is detected the appropriate actions as detailed in ESP/PM/MP1 must be followed.

7.1.7 When it is necessary to reposition an existing meter installation, it should be

treated as a new meter fix. However, when repositioning an existing meter installation, it may be necessary to either lengthen or shorten the main equipotential bond. Guidance of how to do this is contained in ESP/PM/EL3.

7.1.8 When it is necessary to reposition a service pipe, the relevant gas supplier and transporter must be consulted.

7.1.9 Before commencing the installation of the meter, a visual inspection must be made to ensure the meter shows no signs of damage and the official seals are present and intact. In either case if damage is found the meter must not be fitted and must be returned to the supplier.

7.1.10 Where a service pipe supplies more than one primary meter in the same premises, a notice indicating this must be fixed to the inlet of the primary meter.

7.1.11 Prior to installing a primary meter, checks will need to be undertaken to determine whether any secondary meters are fitted. Where secondary meters are fitted, the requirements of Regulation 17 of the Gas Safety (Installation and Use) Regulations 1998 must be complied with. This requires the Supplier or installer to provide a line diagram located at the primary meter, indicating the position of any secondary meters. Where secondary meters are installed, a label must be fixed to the inlet of the primary meter. The label must state the number and location of the primary meter. A line diagram indicating the position of the secondary meter(s) must also be displayed. **It should be noted that ESP do not install secondary meters**.

7.1.12 Whenever a meter is installed, the standard gas tightness test and purge procedure must be undertaken in accordance with either IGEM/UP/1 Edition 2 ‘Strength testing, tightness testing and direct purging of industrial and commercial gas installations’, IGEM/UP/1A Edition 2 ‘Strength testing, tightness testing and direct purging of small industrial and commercial gas installations’ and IGEM/UP/1B Edition 2 ‘Tightness testing and direct purging of small Natural Gas installations’ as appropriate.

7.1.13 If a leak on the installation identified during testing cannot be rectified or isolated, then the emergency control must be turned off and the outlet of the meter capped with an appropriate fitting. An ‘Immediately Dangerous’ warning label must be attached, and the consumer/responsible person informed. ESP procedure for dealing with ‘Unsafe Situations’ are contained in ESP/PM/MP2.

7.2. Pre-commissioning checks

It shall be ascertained that any relevant installation test certificates are available prior to commissioning the meter installation. These shall include but not be limited to:

a.) Installation completion certificates.
b.) Pressure test certificates.
c.) Tightness test certificate.
d.) Non-destructive testing (NDT) certificates.
e.) Electrical test certificates.
f.) Handover certificates.

The following physical pre-commissioning checks shall be completed prior to the commissioning of the meter installation to ensure that:

g.) Any pressure tappings are located correctly and that there are suitable test points provided to enable verification of the supply pressure, metering pressure and installation outlet pressure.
h.) There are adequate purge and vent points to enable strength and tightness testing and purging to be completed in a safe manner.
i.) The supply pressure is verified.
j.) Where no outlet valve is fitted immediately downstream of the meter and the meter is to be exchanged then the end users own appropriately qualified Gas Safe engineer should be available on site to complete the isolation, purging and subsequent re-commissioning of the downstream installation pipework and appliances. If no arrangements have been made for this by the end user, then the meter exchange works should not proceed and ES Pipelines Limited should be notified accordingly.
k.) Any vent terminations are in a suitable location, taking into account the extent of any hazardous area generated, proximity to buildings etc.
l.) Where applicable that any wiring terminations associated with Volume Conversion equipment e.g., the pressure transducer and temperature sensor, are in accordance with the manufacturer's instructions.
m.) Any electrical equipment and instrumentation is certified for the hazardous zone in which it has been installed.
n.) Any electrical equipment and instrumentation has been installed with due regard to the requirements of the hazardous area equipment certification.
o.) All relevant meter labels are available on site and where applicable that a line diagram of the end user's installation is available at the primary meter location.

7.3 Fit meter installation – capped outlet ('Limited Scope' install)

7.3.1 The meter installation must be fitted in accordance the procedure detailed in 7.6.2 with the outlet of the meter sealed, or where fitted the outlet valve immediately downstream of the meter (See 7.6.2.6) left in the closed position and sealed with an appropriate fitting.

7.3.2 On completion of the meter installation the gas tightness test and purge procedure must be carried out in accordance with IGEM/UP/1, IGEM/UP/1A or IGEM/UP/1B as appropriate. Where appropriate (inlet pressure less than 75 mbar) the meter Regulator must be checked in accordance with Clause 8 of this document. The emergency control must then be turned off and the appropriate warning labels attached as detailed in Appendix D of this document.

7.3.3 On completion of the meter work, it is essential that meter details are clearly and accurately recorded on the appropriate Data Recording form (See Appendix C).

7.4 Fit meter installation - connect outlet (exchange meter)

7.4.1 When required to connect the meter outlet to the existing installation pipework, and prior to installation of the meter, a survey must be undertaken to determine

what appliances are fitted, noting those which are in use. Any new appliances must be disconnected and capped prior to commencing the meter installation. The meter exchange should be carried out in accordance with the procedure detailed in 7.6.3.

7.4.2 ESP will not commission new appliances.

7.4.3 The outlet of the meter must be connected to the internal installation pipework with an appropriate fitting.

7.4.4 On completion of the meter installation the gas tightness test and purge procedure must be carried out in accordance with IGEM/UP/1, IGEM/UP/1A or IGEM/UP/1B as appropriate. Where appropriate the meter regulator must be checked in accordance with Clause 8 of this document. Any connected appliances must be relit. Relit appliances must be visually examined to establish that combustion is satisfactory, any connected flue is functioning correctly and where appropriate, purpose provided ventilation is present.

7.4.5 If it is established when relighting an appliance that it is not functioning in a safe manner, the ‘Unsafe situations’ procedure given in ESP/PM/MP2 must be followed.

7.4.6 The appropriate warning labels must then be attached, and the warning notice issued.

7.4.7 On completion of the meter work, it is essential that meter details are clearly and accurately recorded on the appropriate ESP systems. Where a meter is exchanged, details for both meters must be recorded.

7.5 Emergency and meter control

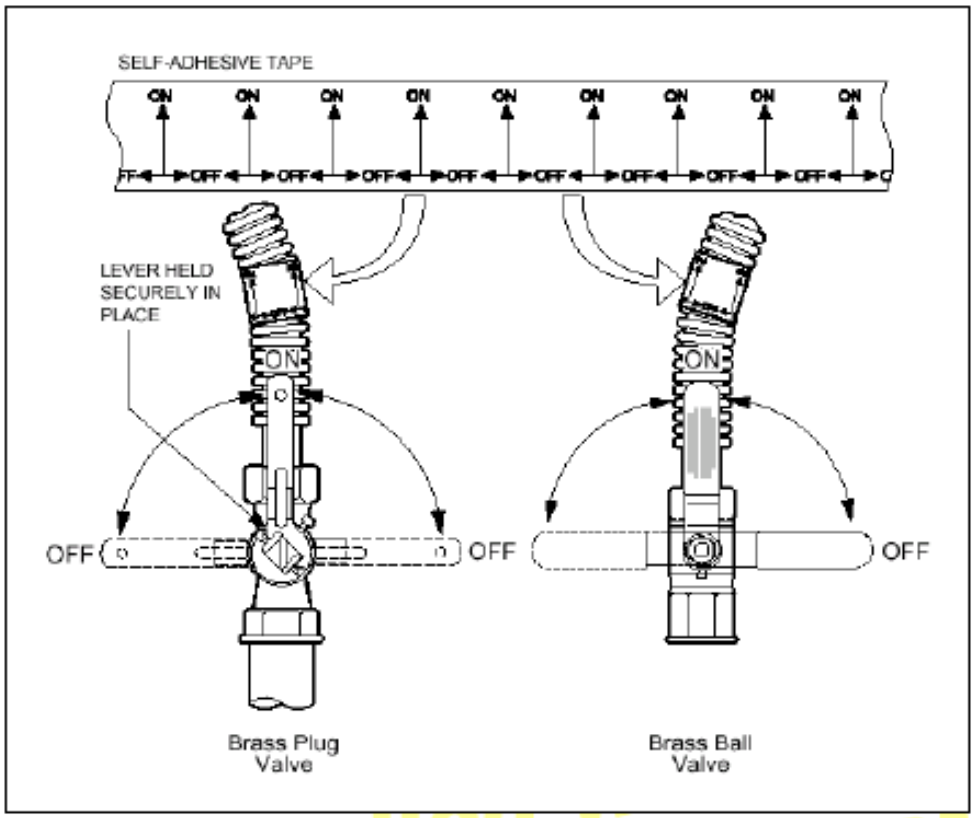
7.5.1 The Gas Safety (Installation and Use) Regulations 1998 require an appropriately sited ‘emergency control’, which is accessible, clearly labelled (see Figure 1) and intended for use by the consumer, for shutting off the supply of gas in an emergency.

7.5.2 A new supply of gas to premises must not be made available unless a suitable emergency control is installed. The emergency control must be located as near as practicable to the point where the gas supply enters the building or enters the dwelling within the building.

Note: The ‘emergency control’ may be referred to as the ‘meter control’.

7.5.3 Where the meter control is as near as practicable to the point where the gas supply enters the dwelling and is readily accessible, it may be designated and utilised as the ‘emergency control’.

FIGURE 1 - Emergency control (small bore (up to 50mm) lever type ECV shown)



7.5.4 Where a meter is installed more than 2 metres from, or out of sight of, the nearest upstream emergency control, a label must be fitted, on or near the meter, indicating the position of that emergency control.

7.5.5 Where the meter installation is remote from the premise or it is not readily accessible to the consumer, then a separate emergency control (Additional Emergency Control Valve, AECV) is required as near as practicable to the point where the gas supply enters the premise. A suitable notice/label must be displayed adjacent to any additional emergency control that does not form part of the primary meter installation stating, 'Gas Emergency Control'. It must be fixed in a prominent position on, or near to, the valve, indicating to the consumer(s) the action to be taken in the event of an escape of gas. The installer of the additional emergency control is responsible for the completion and display of this notice/label which must have provision for the installation date and the 'Gas Emergency Service' telephone number to be written on to it. These details must be completed at the time of installation.

FIGURE 2 - Emergency Warning label

7.5.6 The emergency control valve lever, if removable, must be securely held in place and must be in line with the pipe into which it is installed when the valve is in the 'open' position.

7.5.7 The emergency control valve must be fitted to ensure that the gas is turned off' when the lever is moved as far as possible in a downward direction. It must be clearly marked to indicate the 'on' and 'off' positions. Suitable self-adhesive tape is available (See Figure 1).

7.5.8 The meter installer must verify that the control valve key/lever can be operated freely to 'open' or 'shut' the valve.

7.5.9 Where the outlet union of an emergency or meter control is disconnected and is not to be reconnected immediately, the outlet of this valve must be sealed with an appropriate fitting. The ESP System must be updated accordingly in order that the supplier can be advised of his duties under Regulation 16 of the Gas Safety (Installation and Use) Regulations 1998. The installation pipe must be sealed with an appropriate fitting.

7.5.10 No emergency or meter control valve must be turned 'on' without first ensuring there are no unsealed pipes (open ends). The valve must not be left on without first ensuring the installation is gas tight and purged, in accordance with IGEM/UP/1, IGEM/UP/1A or IGEM/UP/1B as appropriate.

7.5.11 A pressure test point must be located downstream of each emergency control valve to facilitate gas tightness testing.

Where the emergency control valve does not form part of the primary meter installation, there must be a permanent notice stating ‘Gas Emergency Control’ fixed in a prominent position on, or near to, the valve, indicating to the consumer(s) the action to be taken in the event of an escape of gas, together with the telephone number of the gas emergency service and the date on which the notice was first displayed.

7.6 Installing new meters

7.6.1 Prior to installing a meter, checks must be undertaken to ensure the siting of the meter installation meets Clause 6, and the installation will meet 7.1, and the emergency control meets 7.2 of this document.

7.6.2 New meter installations – general principles for all installation categories

Reference should also be made to ESP/PM/MP4 which provides more specific details for the commissioning of industrial and commercial meter installations.

7.6.2.1 On arrival at site register with the site management and if necessary complete any site-specific induction course.

7.6.2.2 Complete a site-specific risk assessment to include an assessment of the meter location for safe access and egress, adequate size, and adequate ventilation requirements etc. If unsatisfactory contact ESP for further guidance.

7.6.2.3 Ensure that there is an operational service isolation valve (SIV) on the inlet supply in a suitable position as per the requirements under current legislation

7.6.2.4 If the meter is to be wall mounted ensure that only the bracket or shelf supplied by the manufacturer is used.

7.6.2.5 If the meter is to be floor mounted ensure that the floor is level and clean of any debris. A meter shall not be fitted so as to sit on a concrete floor that may be subject to damp.

7.6.2.6 Fit meter using the components provided with the meter kit and ensure that an outlet valve is fitted where the meter installation capacity exceeds 25m^3/h.

7.6.2.7 If the meter is to be commissioned and its outlet capped then ensure that a suitable label is attached to the meter installation upon completion and advise the responsible person/consumer accordingly. See 7.6.2.8 to 7.6.2.11 below.

7.6.2.8 Complete a tightness test on the meter installation in accordance with IGEM/UP/1, IGEM/UP/1A or IGEM/UP/1B as appropriate and where necessary complete the appropriate test certificate for the meter installation.

7.6.2.9 Purge the meter installation in accordance with IGEM/UP/1, IGEM/UP/1A or IGEM/UP/1B as appropriate ensuring that a meter reading is taken at the start and finish of the purge. Cap or seal the meter outlet as required and where no meter outlet valve is fitted close the emergency control valve. If an outlet valve is fitted immediately downstream of the meter, then the meter installation can be commissioned up to this valve and the emergency control

valve left in the open position provided that where appropriate the outlet valve is both in the closed position and its outlet connection sealed with an appropriate fitting.

7.6.2.10 Attach appropriate labels to ensure compliance with IGEM/GM/8 Part 5 and Appendix D of this document.

7.6.2.11 Record the meter serial number and complete all other installation details on the relevant meter installation form.

7.6.3 Exchange of meters – general principles for all installation categories

Reference should also be made to ESP/PM/MP4 which provides more specific details for the commissioning of industrial and commercial meter installations.

7.6.3.1 On arrival at site register with the site management and if necessary complete any site-specific induction course.

7.6.3.2 Complete a site-specific risk assessment to include an assessment of the meter location for safe access and egress, adequate size, and adequate ventilation requirements etc. If unsatisfactory contact ESP for further guidance.

7.6.3.3 If an outlet valve is fitted at the meter installation and the downstream pipework system is to remain charged with a positive gas pressure whilst the meter exchange is carried out then, with the responsible person, carry out a survey for all appliances installed on the downstream pipework system sited downstream of the meter installation to be isolated and record them on an 'Appliance Safety Form'. Advise the responsible person on site that these appliances will be isolated. If no outlet valve is fitted at the meter, then the end users Gas Safe engineer shall be responsible for this activity (See 7.6.3.6).

7.6.3.4 Isolate all appliances and attach 'Do not use Labels'.

7.6.3.5 Where a meter outlet valve is fitted it should be closed and a tightness test on the downstream installation pipework carried out in accordance with IGEM/ UP/l, IGEM/UP/1A or IGEM/UP/1B as appropriate. On completion of successful tightness test close the emergency control valve on the inlet to the meter installation and check valve for let by. If it is not possible to attain a satisfactory tightness test, then do not proceed with the meter exchange until further consultation with ES Pipelines Limited who will provide further guidance as to how to proceed.

7.6.3.6 Where no meter outlet valve is fitted then close the emergency control valve and carry out a tightness test on the downstream installation pipework **AND** the meter installation in accordance with IGEM/ UP/l, IGEM/UP/1A or IGEM/UP/1B as appropriate. If it is not possible to attain a satisfactory tightness test, then do not proceed with the meter exchange until further consultation with ES Pipelines Limited who will provide further guidance. The downstream installation pipework must then be purged in accordance with IGEM/ UP/l, IGEM/UP/1A or IGEM/UP/1B as appropriate and the end users own appropriately qualified Gas Safe engineer shall be required to carry out

this aspect of the works (See 7.2 j).

7.6.3.7 Take the final reading and details of meter that is to be removed.

7.6.3.8 Purge the meter installation in accordance with IGEM/UP/1, IGEM/UP/1A or IGEM/UP/1B as appropriate

7.6.3.9 Attach a continuity bond across suitable point either side of the meter ensuring that any paintwork is removed before hand to enable sound connection

7.6.3.10 Remove meter to suitable area and purge with nitrogen. Seal inlet and outlet connections.

7.6.3.11 Install new meter and take meter reading.

7.6.3.12 Complete a tightness test on meter installation in accordance with IGEM/UP/1, IGEM/UP/1A or IGEM/UP/1B as appropriate (between the emergency control valve and the meter outlet valve or the capped meter outlet connection as appropriate) ensuring that the meter regulator is by-passed so as not to affect the tightness test and where necessary complete the appropriate test certificate for the meter installation.

7.6.3.13 Purge the meter installation (between the emergency control valve and the meter outlet valve or the capped meter outlet connection as appropriate) in accordance with IGEM/UP/1, IGEM/UP/1A or IGEM/UP/1B as appropriate and take and record a second meter reading upon completion of purge.

7.6.2.14 Attach appropriate labels to ensure compliance with IGEM/GM/8 Part 5 and ESP/PM/MP4.

7.6.3.15 Re-visit all appliances recorded on the ‘Appliance Safety form’, carry out visual check on each appliance and if satisfactory re-light all appliances OR where appropriate instruct the end users Gas Safe engineer that it is safe to re-commission the downstream pipework and re-light all appliances.

7.6.3.16 Record the meter serial number and complete all other installation details on the relevant meter installation form.

8. CHECKING AND ADJUSTING THE METER REGULATOR

8.1 Checking the regulator setting (inlet pressure not exceeding 75mbarg)

The procedure for checking the regulator setting (for normal 21mbarg ±2mbarg outlet pressure) is as follows:

a) Ensure all appliances are turned off.

Turn the emergency control off. Remove the screw from the meter pressure test point and attach a ‘U’ gauge.

b) Carefully turn on the emergency control and observe the lock-up pressure. This pressure must not rise above 29mbarg; if it does then the regulator must be replaced. Light sufficient appliances to achieve an

adequate gas rate and observe the gauge reading, which will now indicate working pressure.

If the working pressure reading is not 21mbarg ±2 mbarg, the regulator must be adjusted in accordance with 8.2 of this document.

Note: at low flow rates the reading can tend towards 23mbarg and at high flows can tend towards 19mbarg.

8.2 Adjusting the regulator setting

The procedure for adjusting the regulator setting is as follows:

a) Light sufficient appliances to achieve an adequate gas rate. Remove the seal and cap from the regulator and then adjust the loading screw until 21mbarg is obtained on the 'U' gauge.
b) Following adjustment, the cap must be replaced, and the appropriate seal must be fitted. If the regulator cannot be adjusted to provide the required outlet pressure, further investigation of the inlet pressure to the meter installation should be considered prior to replacement of the regulator.
c) If a metering pressure of 19mbarg cannot be achieved because of low supply pressures, further advice should be sought. If a metering pressure above 15mbarg cannot be achieved, the meter installation must be temporarily isolated until normal supply pressures are restored.

9. TESTING FOR GAS TIGHTNESS, PURGING & APPLIANCE COMMISSIONING

Prior to making gas available, the installation downstream of the meter installation shall be tested for gas tightness and purged in accordance with IGEM/UP/1, IGEM/UP/1A or IGEM/UP/1B as appropriate.

9.1 Commissioning of the meter installation Regulator

For installations provided as pre-assembled factory-made meter modules where the inlet pressure at the inlet to the pressure regulating equipment exceeds 75mbarg then the pressure regulating equipment upstream of the meter should be set and commissioned by a competent person and the commissioning engineer should ensure that the required design pressure is provided at the inlet to the meter installation in accordance with the design of the meter installation. This process shall be subject to a bespoke procedure agreed by the commissioning engineer and ESP.
For all other installation where the inlet pressure at the emergency control valve does not exceed 75mbarg and the metering pressure requirement is 21mbarg then:

9.1.1 The installer shall ensure the following.

a) The regulator gives an operating pressure at the outlet of the meter of between 19mbarg and 23mbarg at corresponding flow rates. If the pressure is outside this range an Approved Meter Installer (AMI) shall follow the procedure in 9.1.2.

Note: Regulation 14(6) of the Gas Safety (Installation and Use) Regulations 1998 requires that no person except the gas transporter, or person authorized to act on the transporter's behalf, may break the seal on a primary meter regulator. In practice any adjustment of the primary meter regulator is only carried out by the relevant gas transporter or by an AMI who has been granted specific authorization from the transporter to act on the transporter's behalf.

b) The regulator locks up at a pressure not exceeding 29mbarg, with no flow through the installation;

c) The regulator shall be sealed to prevent its setting from being interfered with without breaking the seal.

9.1.2 Sufficient appliances shall be lit to achieve an adequate gas flow rate, or a vent shall be set up whereby an adequate gas rate can be simulated. An AMI shall remove the seal and adjust the regulator until the pressure gauge reads 21mbarg.

9.1.3 Following any adjustment by an AMI, the regulator shall be sealed to prevent unauthorized adjustment with a seal marked with the AMI's registration number.

9.2 Meter

The installer shall ensure that:

a) the index is incrementing correctly.
b) for an E6 ultrasonic meter that is not new or does not have an index reading of between 99 997.000 and 99 999.999 the diagnostic functions are reset after installation.
c) the meter index is read and recorded.

9.3 Testing for gas tightness and purging

9.3.1 When a new meter is fitted, or an existing meter is replaced, or a supply is restored, the installation downstream of the emergency control must be tested for gas tightness and purged in accordance with IGEM/UP/1, IGEM/UP/1A or IGEM/UP/1B as appropriate.

9.3.2 All pressure test equipment shall be fit for purpose and within calibration period prior to use. All pressure test equipment shall be suitable for safe operation within the environment for which they are to be used.

9.4 Appliance commissioning

9.4.1 ESP will only undertake the re-lighting of appliances when carrying out meter exchange works at the request of a gas shipper or supplier and where there is a requirement to re-light appliances at the consumers premise. For all other meter works then a capped outlet ('Limited Scope') install only shall be carried out. **ESP will not commission new appliances**.

Note: 'Limited Scope' meter fixing is where the meter installation is completed before any appliances are installed. Whoever finally connects the supply to the appliance is responsible for commissioning the appliance. {See Regulation 33 of the Gas Safety (Installation & Use) Regulations 1998}

9.4.2 When a gas supply is to be provided to premises e.g., when fixing a meter, and un-commissioned gas appliances are already installed, the meter installation must be completed, with its installation capped/sealed at its outlet with an appropriate fitting, tested for gas tightness and purged.

9.4.3 The meter installation must be labelled appropriately in accordance with IGEM/GM/8 Part 5.

9.4.4 The consumer must be advised of the action taken and the need for an appropriately registered Gas Safe registered installer to reconnect the installation and commission appliances.

9.4.5 Un-commissioned appliances must be labelled appropriately.

10. METER SEALING

10.1 Temporary termination for bad debt or for contractual reasons

10.1.1 ESP will only carry out this work when a representative from the gas supplier is in attendance.

10.1.2 The gas supplier will instruct the ESP operative on the method of termination.

10.1.3 One of the following methods must be used:

a) remove the complete meter installation, seal the emergency control and the installation pipework with an appropriate fitting; or
b) fit an emergency control locking device.

10.1.4 Meter details (number, size and index reading including the status of the supply point) must be clearly and accurately recorded.

10.1.5 The meter installation must be labelled appropriately (See Appendix D of this document).

10.1.6 Whichever of these methods is adopted, it is the gas supplier's responsibility to give clear instructions to the consumer regarding the action to be taken to enable restoration of the gas supply.

10.2 Restoration of gas supply following termination

10.2.1 When requested by the gas supplier to re-install a meter or restore the gas supply following termination for bad debt, the meter must be installed, and its outlet sealed with an appropriate fitting. The consumer must be advised of the action taken and the need for an appropriately registered Gas Safe installer to reconnect the installation and commission appliances.

10.2.2 Emergency control locking devices must not be removed without prior instruction from the gas supplier.

10.2.3 After removal of the locking device fitted to the emergency control, the outlet of the meter must be capped/sealed with an appropriate fitting and the meter installation must be tested for gas tightness and purged, in accordance with IGEM/UP/1, IGEM/UP/1A or IGEM/UP/1B as appropriate.

Appropriate labels must be attached to the installation (See Appendix D of this document).

10.2.4 The consumer must be advised of the action taken and the need for appropriately registered Gas Safe installer to reconnect the installation and commission appliances.

11. METER REMOVAL

11.1 General procedure

The procedure for the removal of a meter is as detailed in 7.6.2 for meter exchange works with the exception that upon completion of the removal of the meter both the meter outlet connection or the outlet valve and the emergency control valve must be sealed in accordance with this Clause 11.

11.1.1 Where a primary meter is removed and is not forthwith re-installed or exchanged for another meter, then the emergency control and the installation pipework must be capped with an appropriate fitting. The emergency control must then be fitted with a seal to prevent unauthorized use of gas. Meter details (number, size and index reading including the status of the supply point and the data captured relating to the service pipe) must be clearly and accurately recorded on the appropriate ESP System(s). The removed meter installation must be purged, and its inlet and outlet connections sealed and must not be left on the premises but retained and disposed of in accordance with ESP procedures.

11.1.2 The ESP System must be updated accordingly in order that the supplier can be advised of his duties under Regulation 16 of the Gas Safety (Installation and Use) Regulations 1998, and ESP/CoS/1 can be followed.

11.1.3 When not connected, a meter must always be sealed from the atmosphere using suitable meter caps.

11.1.4 Clearly mark any live gas pipe in the premises in which the meter was installed to the effect that the pipe contains gas. This is normally satisfied by fitting yellow ‘GAS’ tape to the pipework.

11.1.5 Where a meter is permanently removed and the remaining pipe ends could be simultaneously touched, a permanent bond to earth must be maintained using appropriately sized earthing cable.

This practice is not necessary if one side of the disconnection is short and not earthed, e.g., a PE service pipe with only an emergency control valve or short length of installation pipe.

12. HANDLING AND TRANSPORTING OF METERS

For further clarification, also refer to ESP/PM/MP/MH2, Safe and Secure Handling of Meters and Associated components.

12.1 A gas meter is a precision sensitive measuring device. Care must be exercised during the handling and transportation of meters to avoid mechanical shock.

12.2 When not connected, meters must be sealed using the appropriate meter caps.

12.3 When transporting meters, they must be kept secure in an upright position.

12.4 Some ≥16m^3/hr meters may be supplied in individual boxes for protection. They must not be removed until the time of installation. Whenever practicable, these meters should always be contained and carried in their individual packaging.

12.5 Particular care should be taken with meters that have been exchanged due to disputed gas accounts and are in transit to the Official Testing Laboratory for testing purposes. The disputed meter must be placed in a container specifically made for the purpose to ensure that it arrives in the same condition as when removed. Any liquids that are present within the meter upon its removal must not be drained and the meter inlet and outlet connections must be adequately sealed so as to prevent the leakage of any liquids during transit of the meter.

13. MAINTENANCE PROCEDURES

13.1 For maintenance of ESP Industrial and Commercial supply meter installations, reference should be made to the ESP/PL/MM1 and ESP/PM/MM9 Policy and Procedures respectively.

APPENDIX A - REFERENCES

This Procedure makes reference to the documents listed below (see Clause 2).

A.1 STATUTES AND REGULATIONS

Gas Safety (Installation and Use) Regulations 1998

A.2 BRITISH STANDARDS

BS6400:	Specification for the installation, exchange, relocation, and removal of domestic-sized gas meters (2nd family gases). Part 1. Low Pressure 2nd family gases Part 2. Medium Pressure 2nd family gases

A.3 ES PIPELINES LIMITED DOCUMENTS

ESP/PL/MM1	Policy for the Management of the Maintenance of Gas Supply Meter Installations with inlet pressures not exceeding 7 bar gauge
ESP/PM/MM9	Management Procedure for the Maintenance of Gas Supply Meter Installations
ESPPM/MP1	Dealing with gas escapes during meter work
ESP/PM/MP2	Unsafe situations
ESP/PM/MP3	Procedure for the Installation, Exchange, Relocation or Removal of Low-Pressure Gas Meters not Exceeding 6 m^3/h
ESP/PM/MP4	Specification for Industrial and Commercial Metering Installations (Inlet pressures not exceeding 7 bar gauge)
ESP/PM/MP5	Supplement to ESP MP4 for The Design of Industrial and Commercial Metering Installations (Inlet pressures not exceeding 7 bar gauge)
ESP/PM/TOG	Theft of Gas Procedure
ESP/PM/EL2	Procedure for Volt-stick testing at Consumers Premises
ESP/CoS/1	IGT Meter Removal requests GS(I&U)R requirements.

A.4 OFGEM DOCUMENTS

COP/1a	Code of practice for low pressure diaphragm and electronic meter installations with badged meter capacities not exceeding 6m^3/h (212ft^3/h) *Note: Ofgas CoP1/a and other Ofgas CoP are now obsolete, containing references to CORGI, etc.*
COP/1b	Displacement Meter Installations with Badged Meter capacities exceeding 6m^3/h (212 ft^3/h) but not exceeding 1076 m3/h (38000 ft^3/h) *Note: Ofgas CoP1/b and other Ofgas CoP are now obsolete, containing references to*

CORGI, etc.

COP/1c Code of practice for all higher pressure and all other low pressure meter installations not covered by COP/1a and COP/1b *Note: Ofgas CoP1/c and other Ofgas CoP are now obsolete, containing references to CORGI, etc.*

A.5 IGEM DOCUMENTS (all Latest Edition)

IGEM/TD/3	Steel and PE pipelines for gas distribution
IGEM/TD/4	PE and Steel Gas services and Service pipework
IGEM/GL/1	Planning of Gas Distribution Systems of MOP not exceeding 16bar,
IGEM/UP/1	Strength testing, tightness testing and direct purging of industrial and commercial gas installations
IGEM/UP/1A	Strength testing, tightness testing and direct purging of small, low pressure industrial and commercial Natural Gas installations
IGEM/UP/1B	Tightness testing and direct purging of small Liquefied Petroleum Gas/Air, Natural Gas and Liquefied Petroleum Gas installations
IGEM/GM/8	Meter installations of flow exceeding 6m3/h Parts 1 to 5.
IGEM/G/5	Gas in Multi Occupancy buildings
IGEM/G/11	Gas industry Unsafe Situations procedure

APPENDIX B - DEFINITIONS

The definitions applying to this specification are given below (see Clause 3).

B.1 METER INSTALLATION

meter installation apparatus through which a consumer takes a gas supply into their premises. It includes the meter, filter (if fitted), regulator, interconnecting pipework, semi-rigid, connection, fittings and all necessary supports. The installation commences at the above ground valve nearest to, and controlling the inlet to, the whole installation (which is usually the emergency control) and terminates at the outlet connection of the meter or Meter Outlet Valve if this is fitted and adjacent to the meter.

B.2 METERS

gas meter instrument for measuring and recording the volume of gas that passes through it.

badged meter gas meter which has been ‘stamped’ and/or approved by Ofgem or other metrological authority acceptable to them, as legal metrology and operates within prescribed statutory limits.

credit meter meter that registers the volume of gas on the index and is the basis of a periodic account rendered to the consumer.

diaphragm meter positive displacement meter in which the measuring chambers have deformable walls, e.g., U16 or G10 through to U160 or G100.

imperial meter meter that records a volume of gas in cubic feet.

meter index series of dials or rows of figures indicating the volume of gas that has passed through the meter.

metric meter meter that records a volume of gas in cubic metres.

primary meter meter connected to the service pipe, the index reading of which constitutes the basis of charge for all gas supplied through that pipe.

Note: This definition is the legal definition taken from the Gas Safety (Installation & Use) Regulations 1998. Where no meters are fitted downstream of this primary meter, ES Pipelines Limited for business purposes will refer to this meter as ‘Freestanding’

secondary meter meter fitted downstream of a primary meter, used by the end user to measure gas flows to separate parts of the premises or individual appliances.

B.3 METER COMPONENTS

electronic index an electronic record of gas consumption, obtained by recording pulses and displayed in an identical format as the mechanical index (to 2 decimal places). The mechanical and electronic indexes are synchronized at the time of manufacture or meter refurbishment.

measuring unit the measuring part of unit constructed diaphragm meter.

B.4 ANCILLARY EQUIPMENT

appropriate fitting which has been designed for the purpose of effecting a gas-fitting tight seal in a pipe or other gas-way, achieves that purpose when fitted, and is secure, so far as is reasonably practicable against unauthorised opening or removal.

emergency control valve for shutting off the supply of gas in an emergency, being a valve intended for use by the consumer of gas (see also meter control).

emergency control locking device (clamp) device which clamps and locks around the body of a emergency control to prevent unauthorised use of gas. (See also meter**.**

gas fitting pipework, valve, regulator, meter, fitting, apparatus or appliance.

house entry tee purpose-made tee piece, sited in the service, against and passing through the external wall of the building and incorporating a device which can be used to shut off the supply of gas to the premises.

Note: This fitting can also act as the service valve.

installation pipework all components forming the route by which gas passes from the meter outlet connection to the points at which appliances are to be connected.

main equipotential bonding (electrical cross bonding) electrical conductor connected between a point close to the outlet of a meter and the earth terminal of the property.

meter board purpose-made wall board fitted with a meter bracket.

meter box purpose-made compartment, designed and prefabricated, to accommodate a meter, associated connections and controls.

meter bracket purpose-made support, incorporating a means of securing the meter unions, fro which a meter can be suspended.

meter clamp device which clamps and locks around the body of a emergency

	control to prevent unauthorised use of gas.
meter compound, compartment or housing	area/room designed to accommodate one or more meters, associated connections and controls.
meter control	valve or cock fitted upstream of, and adjacent to a meter, to shut off the supply of gas. *Note: In most cases, the meter control acts as the 'emergency control'.*
meter filter	filter fitted between the emergency control and the meter.
meter regulator	device that maintains a controlled meter inlet pressure within pre-determined limits of accuracy and ensures that the downstream pressure is kept within acceptable limits under no flow conditions.
meter sealing disc	metallic disc inserted between gas fittings to form a gas tight closure of the gas path.
non-return valve	device to prevent the reverse flow of gas, or air, or other extraneous gas.
pressure test point	fitting provided for the temporary connection of a pressure gauge.
semi-rigid connector	stainless steel tube formed with annular corrugations and having factory - fitted end connections.
service pipe	pipe for distributing gas to premises from a distribution main, being any pipe between the distribution main and the outlet of the first emergency control downstream from the distribution main. *Note: The service pipe is normally owned by the gas transporter.*
Service valve	valve (other than an emergency control) for controlling a supply of gas, being a valve. a) incorporated in a service pipe; and b) intended for use by a transporter of gas; and c) not situated inside a building *Note: This valve can be the service isolation valve or the house entry tee*
sleeve	duct, tube or pipe embedded in the structure through which a pipe passes or will pass.
spin-cap	sealing device for fitting to the spindle or outlet of an emergency control that provides a gastight closure and prevents the unauthorised use of gas. *Note: This device can only be removed by the use of a special release tool, and whilst found in the field, it is no longer a preferred fitting for use by ESP.*

thermal cut-off device	safety device designed to stop the flow of gas when the air temperature in the vicinity of the device has exceeded a pre-determined value.

B.5 OTHER

adequate ventilation	sufficient ventilation to ensure that any minor escape of gas does not build up to an unacceptable level.
consumer	End-user of the gas.
developer	company working on behalf of a client that requires either a new gas supply or the alteration of an existing gas supply to a building or dwelling.
gas tightness test	method of verifying that gas fittings are gas tight. *Note: This has previously been referred to as 'gas soundness test'.*
gas transporter (GT)	company licensed by Ofgem which transports gas through its network on behalf of a shipper.
lock-up pressure	outlet pressure at which the meter regulator shuts off completely, when the flow-rate is reduced to zero.
Ofgem	Office of Gas and Electricity Markets.
meter owner	responsible authority owning the meter and/or meter installation.
meter operator	company that works on behalf of the meter owner to install, replace, repair or maintain the meter and/or meter installation.
meter rating	maximum volumetric rate of flow at which the performance of a meter is certified to be within statutory requirements. *Note: This is often referred to as 'badged capacity'.*
meterwork	work carried out on a meter installation which involves the breaking of any gas joints and thereby establishes the need for subsequent testing and purging of that installation.
Utility infrastructure provider (UIP)	company, not a Gas Transporter, who designs and installs gas services on behalf of a developer, consumer or supplier.
shipper	any company licensed by Ofgem which uses or wishes to use ES Pipelines Limited's network and/or storage facilities to provide a supply of gas to a supplier.
supplier	any company licensed by Ofgem which receives gas from a shipper for supply to a consumer. A shipper can also be a supplier.

Standing Pressure	the pressure measured when no gas is flowing.
Working pressure	the pressure measured when gas is flowing.

APPENDIX C - DATA RECORDING FOR GAS SUPPLY METERS

Data recording forms have been developed for completion by operational contractors who are carrying out meter works on behalf of ESP. The completed form(s) are returned to the Company's office to enable staff to input the data recorded on these forms on to the Supply Point Administration (SPA) database operated by ESP.

The relevant form references are SPA1 for new meter installation works and MW1 for meter exchange or removal works. These forms are available from the SPA team on request.

APPENDIX D – NOTICES AND LABELS

IGEM/GM/8 Part 5 deals with the provision of notices and labels for Industrial and Commercial metering installations.

Section 5 of IGEM/GM/8 Part 5 specifically details the use of Composite Notices, and it is ESP preference that a Composite Notice should be used wherever possible in order to comply with the requirements of these recommendations.

Where a Composite Notice does not provide compliance with the recommendations then the use of Individual Notices as detailed in Sections 6 and 7 of IGEM/GM/8 Part 5 will be implemented as required. Consideration will also be given to the use of the Optional Notices detailed in Section 8 of IGEM/GM/8 Part 5 where applicable.

General Health and Safety Notices will be provided at all installations as detailed in Section 10 of IGEM/GM/8 Part 5.

Further warning and advisory labels are detailed and obtainable direct from Gas Safe Register. The AMI/MAM should obtain these direct and use them as directed within GS(I&U) R, IGEM/G/11, etc.